INTRODUCTION

Cultural landscapes are an important cultural resource in the national park system. As recognition of their significance to the national heritage grows and as technology becomes available to aid in research, the need for information about how to conduct cultural landscape research becomes clear. In response to this need, the National Park Service (NPS) has published *A Guide to Cultural Landscape Reports*. This three-volume set includes this binder of Appendices, which provide examples and general reference materials related to the two "parent" documents:

- *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* provides a general history of landscape research in the NPS; describes the relationship of the Cultural Landscape Report (CLR) to park planning, design, and resource management; and describes the content and format of a comprehensive CLR.
- *A Guide to Cultural Landscape Reports: Landscape Lines* provides detailed and up-to-date technical information on cultural landscape research topics and techniques that apply directly to the development of CLR.

The above two documents are available for purchase as a set from the Superintendent of Documents, Government Printing Office, Washington, DC, 20402-9325, Stock Number 0245-005-01187-1.

The information contained in both the *Landscape Lines* and *Appendices* binders is intended to be expanded and updated over time. Additional publications will be released as topics are refined and experts are available to develop content.

The 12 appendices contained in this first release include the following:

Appendix Letter	Title	Materials Included
A	Professional Qualification Standards	• *Cultural Resource Management Guideline*, Release No. 5, Appendix E. • *The Secretary of the Interior's Historic Preservation Qualification Standards*
B	Cultural Landscape Bibliographies	• *Cultural Landscapes Bibliography: An Annotated Bibliography on Resources in the National Park System.*
C	National Register Bulletins	• *15: How to Apply the National Register Criteria for Evaluation* • *18: How to Evaluate and Nominate Designed Historic Landscapes* • *23: How to Improve the Quality of Photographs for National Register Nominations* • *30: Guidelines for Evaluating and Documenting Rural Historic Landscapes* • *38: Guidelines for Evaluating and Documenting Traditional Cultural Properties* • *39: Researching Historic Properties* • *40: Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields* • *41: Guidelines for Evaluating and Registering Cemeteries and Burial Places* • *42: Guidelines for Identifying, Evaluating, and Registering Historic Mining Properties*
D	Preservation Briefs	• *32: Making Historic Properties Accessible* • *36: Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes*

E	Oral History Guidelines	*Oral History Guidelines for Landscape Historians*
F	Preservation Tech Notes	*Site, No. 1: Restoring Vine coverage to Historic Buildings*
G	Biotic Cultural Resources	• *Biotic Cultural Resources: Management Considerations for Historic Districts in the National Park System, Southeast Region* • *A Guide to Preparing a Plant Inventory for a Historic Property* • *Principals for Preserving Historic Plant Material*
H	Treatment Policy, Guidelines, and Standards	• *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* • *Cultural Resource Management Guideline*, Release No. 5, Chapter 7
I	Preservation Maintenance	*Guide to Developing a Preservation Maintenance Plan for a Historic Landscape*
J	Project Agreements	• An outline of content for a typical CLR project agreement. • A sample project agreement for contracting phototgrammetry services. • A sample project agreement for contracting geophysical survey services.
K	Library of Congress Forms	• Request for Preassignment of Library of Congress Catalog Card Number • Request for Library of Congress Cataloging in Publication (CIP) Data
L	Government Printing Office Forms	• Form 2511 • Form 3868 • Form 95 • Form SFI

APPENDIX E: QUALIFICATION STANDARDS AND SELECTIVE OR QUALITY RANKING FACTORS FOR CULTURAL RESOURCE SPECIALISTS

The Office of Personnel Management's *Personnel Qualifications Standards Handbook (X-118)* contains the minimal qualifications for personnel in cultural resource positions. Various knowledges, skills and abilities may be needed for cultural resources specialists positions. Some selective or quality ranking factors *not* cited in Handbook X-118 follow.

Anthropologist/Applied Ethnographer (GS-190), 13-15: a Ph.D. or the equivalent in cultural anthropology/applied ethnography with coursework in North American ethnography, applied anthropology, and cultural ecology; at least two years of independent field research in a cross-cultural setting involving the application of anthropological theory and method to the study of contemporary Native American or other North American peoples; demonstrated ability to analyze data for practical implications and to plan, conduct, provide written reports on, and evaluate field research; at least one year of full-time professional supervisory experience in anthropological research management; at least one year of administrative experience; demonstrated ability to design, develop, implement, and evaluate programs affecting cultural systems of contemporary North Americans; demonstrated experience with current applied anthropological methodologies; demonstrated experience working in multidisciplinary settings; evidence of contributions to the field of applied cultural anthropology through program planning and development, teaching, research, publication, and participation in professional anthropological associations.

Anthropologist/Applied Ethnographer (GS-190), 11-12: same as above but with at least one year of independent field research, six months of professional supervisory experience, and six months of administrative experience.

Anthropologist/Applied Ethnographer (GS-190), 7-9: an M.A. in cultural anthropology/applied ethnography with coursework in North American ethnography, applied anthropology, and cultural ecology; at least one month of supervised fieldwork in a cross-cultural setting involving the application of anthropological theory and method to the study of contemporary Native American or other North American peoples; familiarity with major anthropological theories and applied methods, evidence of writing skills, and ability to conduct field and documentary research under supervision; ability to work in multidisciplinary settings.

Anthropologist/Archeologist (GS-193), 9-15: a bachelor's degree or the equivalent in anthropology, relevant course work in archeology, plus two years of graduate study or a master's degree; and demonstrated ability to conduct archeological work. Must meet additional conditions set forth in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. In addition, a professional in prehistoric archeology must have at least one year of full-time professional experience at a supervisory level in the study of prehistoric resources, and a professional in historical archeology must have at least one year of full-time professional experience at a supervisory level in the study of historic-period resources.

Historian (GS-170), 9-15: a graduate degree in history or closely related field; or a bachelor's degree in history or closely related field plus at least two years of full-time experience in research, writing, teaching, interpretation, or other professional activity with an academic institution, historical

organization or agency, museum, or other professional institution; or substantial contribution through research and publication to the body of scholarly knowledge in the field of history.

Architectural Historian (GS-170), 9-15: a graduate degree in architectural history, art history, or historic preservation, with course work in American architectural history; or a bachelor's degree in architectural history with concentration in American architecture; or a bachelor's degree in architectural history, art history, or historic preservation, and at least two years of full-time experience in research, writing, or teaching in American architectural history or preservation architecture with an academic institution, historical organization or agency, museum, or other professional institution; or a bachelor's degree in architectural history, art history, or historic preservation, and substantial contribution through research and publication to the body of scholarly knowledge in the field of American architectural history.

Landscape Historian (GS-170), 9-15: a graduate degree in American studies, art history, architectural history, or historic preservation with course work in American landscape history and a knowledge of field techniques associated with the examination and evaluation of cultural landscapes; or a bachelor's degree in American studies, art history, architectural history, or historic preservation with course work in American landscape history, and at least two years of full-time experience in research, writing, or teaching American landscape history with an academic institution, and knowledge of field techniques associated with the examination and evaluation of cultural landscapes.

Historical Architect (GS-808), 9-15: a degree in architecture; a license to practice architecture; at least one year of graduate study in architectural preservation, American architectural history, or preservation planning, and at least one year of full-time professional experience on preservation and restoration projects, or at least two years of full-time professional experience on preservation and restoration projects, which must include detailed investigations of historic structures, preparation of historic structure research projects, and preparation of construction documents for preservation projects.

Intern Historical Architect (GS-808), 5-7: a degree in architecture; at least one year of graduate study in architectural preservation, American architectural history, or preservation planning, or at least one year of full-time professional experience on preservation projects.

Historical Landscape Architect (GS-807), 9-15: a graduate degree in landscape architecture (MLA), a license to practice landscape architecture, and at least two years of full-time professional experience in landscape preservation projects; or an undergraduate degree in landscape architecture (BLA) and six years of full-time professional experience in landscape preservation projects and knowledge of landscape architectural history, practice, preservation technologies.

Intern Historical Landscape Architect (GS-807), 5-7: a bachelor's degree in landscape architecture or a student in an accredited landscape architecture academic program.

Architectural Conservator (GS-1001), 5-11: a degree with emphasis in the scientific analysis of structure materials.

Conservator (Museum Specialist) (GS-1016): a graduate degree in one or more specializations in museum conservation plus a one-year internship; or a formal apprenticeship with a qualified

conservator or supervised experience in conservation work in an established conservation laboratory for a period of four years.

Intern Conservator (in summer work projects): a degree in fine arts, sciences, or a closely related field plus at least one year of graduate study in a museum conservation program; or at least one year of full-time professionally supervised experience in an established conservation laboratory; intern conservators will be under day-to-day supervision of a qualified conservator or will work within a scope of work approved by a professional conservator, concurred in by the regional curator, and monitored at least monthly by the approving conservator.

Curator (GS-1015), 9-15: a full four-year course of study in an accredited college or university leading to a bachelor's degree with major study in museum work or an applicable subject matter field; or four years of experience, or education and experience, that provided knowledge and ability comparable to that normally acquired through the successful completion of the four-year course of study described above. Acceptable experience may have been gained in a museum or other type of research organization, in a variety of scholarly pursuits including teaching, writing, or study in an appropriate field, or in other types of professional or technical occupations if it has provided the requisite knowledge. Applicants must also have three years of professional experience or appropriate graduate education in the subject matter applicable to the position.

Preservation Horticulturist (GS-437), 7-13: a bachelor's degree in horticulture and two years of experience in the coordination, maintenance, and treatment of cultural landscapes; and knowledge of historic plant materials, historic maintenance practices and technologies.

Preservation Specialist (Exhibit Specialist) (GS-1010), 11-13: factors include an understanding of historic preservation methods and philosophy plus (1) the ability to demonstrate journeyman-level skills in two crafts and the knowledge and ability to act as a project supervisor or (2) the ability to demonstrate master-level skills in one craft with the ability for training others.

Historical Craftsperson (Mason, Carpenter, Painter, Shipwright, etc.) (WG): factors are the ability to demonstrate journeyman-level skills in one craft and an exposure to historic preservation methods and philosophy.

Historical Maintenanceperson (WG): factors are the ability to demonstrate apprentice-level skills in one craft and an exposure to historic preservation methods and philosophy.

Preservation Gardener (WG, 4-8): an associate degree in horticulture or completion of a program; or certification offered through a professionally recognized or accredited institution offering a gardening/horticulture curriculum; or four years of field experience in the area of cultural landscape preservation maintenance.

federal register

Friday
June 20, 1997

Part II

Department of the Interior

National Park Service

The Secretary of the Interior's Historic Preservation Professional Qualification Standards; Notice

DEPARTMENT OF THE INTERIOR

National Park Service

The Secretary of the Interior's Historic Preservation Professional Qualification Standards

AGENCY: National Park Service, DOI.

ACTION: Proposed renaming of and revisions to "the Secretary of the Interior's Professional Qualification Standards."

SUMMARY: The National Park Service (NPS) proposes to rename and revise "the Secretary of the Interior's Professional Qualification Standards" which are part of the larger "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation." The statutory authority for the Secretary's development of these can be found in sections 101(g), 101(h), 101(i), and 101(j)(2)(A) of the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*). These Standards and Guidelines (including the Professional Qualification Standards) were published in the **Federal Register** in 1983 (48 FR 44716, September 29) as the Secretary's best guidance for historic preservation practice nationally. This remains their preeminent function.

The Standards are renamed "the Secretary of the Interior's Historic Preservation Professional Qualification Standards." This change reflects the fact that the Standards are designed to apply to each discipline as it is practiced in historic preservation; e.g., in the identification, evaluation, documentation, registration, and treatment of historic properties.

The proposed revisions update the standards for the five disciplines included in the 1983 publication and add standards for seven other disciplines mentioned in the National Historic Preservation Act as being important to historic preservation. The proposed revisions also provide (for the first time) published guidance on how to use and interpret the Standards.

These revisions are necessary because the old professional qualification standards had become out-of-date, did not include many disciplines important in the practice of historic preservation, and provided no guidance on their use and interpretation. This absence of national guidance led to confusion and inconsistency in the application of the Standards by Federal, State, Tribal, and local government agencies and other organizations and individuals. The Standards are designed to be a tool to help recognize the minimum expertise generally necessary for performing professionally credible historic preservation work.

The Standards are not designed to identify the best or ideal person for any position. The effective application of any of these national Standards will require the development of a detailed job description containing additional information to suit a particular situation and need. These Standards do not apply to "entry-level" applicants or to preeminent professionals in the field. Rather, they outline the minimum education and experience and products that together provide an assurance that the applicant, employee, consultant, or advisor will be able to perform competently on the job and be respected within the larger historic preservation community.

All responses to this notice will be summarized as part of the publication of the official issuance of the "Secretary's Historic Preservation Professional Qualification Standards." All comments will also become a matter of public record.

DATES: Comments on this notice must be received by August 19, 1997 to be assured of consideration.

ADDRESSES: Send comments to: Mr. Joe Wallis, Chief, Branch of State, Tribal, and Local Programs, Heritage Preservation Services, National Center for Cultural Resource Stewardship and Partnership Programs, National Park Service, U.S. Department of the Interior, 1849 C Street, NW., Washington, DC 20240. Comments may be hand-delivered or overnight mailed to 800 North Capitol Street, NW., Suite 200, Washington, DC 20002. Comments may be sent by fax to 202–343–6004 or by E-mail to John_Renaud@nps.gov.

FOR FURTHER INFORMATION CONTACT: Mr. John Renaud, Branch of State, Tribal, and Local Programs, Heritage Preservation Services Division, National Center for Cultural Resource Stewardship and Partnership Programs, National Park Service, 202–343–1055, FAX 202–343–6004, or John_Renaud@nps.gov (E-mail).

SUPPLEMENTARY INFORMATION:

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- Applicability

How to Use the Historic Preservation Qualification Standards
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- Archeology
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Introduction

Background

The identification, evaluation, protection, and preservation of America's important historic and cultural properties depends upon the participation of all citizens; however, certain decisions must involve individuals who meet nationally accepted professional standards in order to assure credibility in the practice of historic preservation at the Federal, State, and local levels, as well as in the private sector.

The Secretary of the Interior is responsible for establishing standards for all programs under Departmental authority. In accordance with this responsibility, "the Secretary of the Interior's Professional Qualification Standards" were developed by the National Park Service (NPS) 20 years ago to ensure that a consistent level of expertise would be applied nationally to the identification, evaluation, documentation, registration, treatment, and interpretation of historic and archeological resources.

The National Historic Preservation Act of 1966 (Pub. L. 89–665) gave the Secretary authority to set criteria for State grants, surveys, and plans. The National Park Service administratively required State Historic Preservation Officers (SHPOs) to maintain professionally qualified staff (in 1976), and to appoint qualified individuals as advisors to serve on State Review Boards (in 1977). The professional qualification standards have not changed since then. The 1980 Amendments to the National Historic Preservation Act (Pub. L. 96–515) statutorily affirmed the previous regulatory requirement for professionally qualified staff. Congress also reiterated the regulation's requirement that State Review Boards include a majority of members qualified in one of the professional disciplines which met minimum Professional

Qualification Standards defined in regulation in 36 CFR part 61 (Architecture, Architectural History, Prehistoric Archeology or Historic Archeology, and History). In addition, the 1980 amendments created the Certified Local Government (CLG) program to recognize the role of local governments in the national partnership, and stipulated that the CLG Review Commission membership needed to be adequate and qualified. The Congressional Committee Report for the 1980 amendments (H.R. Rept. 96–1457) called for "professional bodies which can objectively evaluate the historic significance of properties and provide professional advice on historic preservation matters." Finally, States, local governments, Federal agencies, and the private sector often require that proposals from historic preservation contractors or work submitted by them meet these same professional practice Standards.

How To use the Historic preservation professional qualification standards provides background and general information in a question and answer format about the three basic components of each Standard: academic or comparable training; professional experience; and products and activities that demonstrate proficiency in the field of historic preservation.

Discipline and historic preservation proficiencies consists of a series of general proficiencies (knowledge, skills, and abilities) that are needed by historic preservation program applicants, employees, consultants, and advisors. The first set of proficiencies is related to disciplines; the second, to historic preservation.

Following the standard for each discipline is guidance about meeting the standard for that specific discipline, including a list of some of the most common "closely related fields" within academic degree programs; information on documenting professional experience; and a list of typical products and activities that may be used to document acquired proficiencies in the field of historic preservation.

Finally, a list of Professional Organizations is included to assist users in obtaining additional information about the disciplines, college and university departments, and publications on the practice of each discipline.

Program Evolution/Current Changes

In its 1992 amendments to the Act (Pub. L. 102–575), Congress recognized the evolution and growth of the professional practice of historic preservation, and an expanded role for Indian tribes in implementing the National Historic Preservation Act. Accordingly, the number of disciplines acknowledged as key to the responsible practice of historic preservation has been increased by the Act and therefore by the National Park Service from the five identified almost 20 years earlier to 12, now including Archeology (Prehistoric and Historic), Architectural History, Conservation, Cultural Anthropology, Curation, Engineering, Folklore, Historic Architecture, Historic Landscape Architecture, Historic Preservation, Historic Preservation Planning, and History.

As a result, NPS consulted at length with Federal agencies, SHPOs, CLGs, and professional societies involved in historic preservation about issuing updated and expanded Professional Qualification Standards that recognize the evolution and development of the disciplines in the field.

"The Secretary of the Interior's Historic Preservation Professional Qualification Standards" are designed to be national measures for determining minimum requirements for professionals practicing in the field of historic preservation. The format for the Standards provides a consistent, yet flexible, framework for establishing sound professionalism in the twelve disciplines. There is one Standard for each of the disciplines.

Each Standard defines:

- Academic degrees or comparable training
- Professional experience; and
- Products and activities that demonstrate proficiency in historic preservation.

These Standards do not apply to "entry-level" applicants or to preeminent professionals in the field. Rather, they outline the minimum education and experience and products that together provide an assurance that the applicant, employee, consultant, or advisor will be able to perform competently on the job and be respected within the larger historic preservation community. The effective application of any of these national Standards will require the development of a detailed job description containing additional information to suit a particular situation and need.

Note: In each discipline, the most common method of meeting that Professional Qualifications Standard is discussed first. Less common alternatives follow. Typically, a graduate degree or professional license is listed first.

Applicability

It should be emphasized that the "Historic Preservation Professional Qualification Standards" that follow are, in most instances, advisory in nature and may thus be used by anyone hiring personnel or consultants or appointing advisory boards or commissions. Because use of the Standards can help ensure appropriate, informed decisions about protecting and preserving our nation's historic and archeological resources, NPS strongly encourages their adoption and implementation.

However, under well-defined circumstances discussed below, "the Secretary's Historic Preservation Professional Qualification Standards" are requirements by statute and regulation. In those instances, a note is added at the end of the required Standard.

First, the National Historic Preservation Act, Section 101, requires that a professionally qualified staff be appointed or employed by State Historic Preservation Offices. Indian tribes that have executed a Memorandum of Agreement with NPS and assumed responsibilities pursuant to Section 101(d) of the Act also must employ or consult with professionally qualified individuals in carrying out those responsibilities. The performance and supervision of Historic Preservation Fund grant-assisted work must be performed and/or supervised by professionally qualified staff and/or contractors. In accordance with 36 CFR part 61 and NPS policy, three of twelve disciplines are required for State program staff and for staff of Tribes with Section 101(d) status: History, Archeology, and Architectural History. States and Tribes with 101(d) status may propose an alternative minimum staff composition for NPS concurrence if their historic resources, needs, or circumstances would be better served or met. States and Tribes with 101(d) status are expected to obtain the services of other qualified professionals as needed for different types of resources.

Second, section 101(b)(1)(B) and section 301(12) of the Act requires that a majority of State Review Board members be professionally qualified. As specified in 36 CFR part 61, this majority must include, but need not be limited, to the required disciplines of History, Archeology, and Architectural History. One person may meet the Standards for more than one required discipline.

Third, section 101(c)(1)(B) and section 301(13) of the Act requires that State programs encourage CLG Review Commissions to include individuals who are professionally qualified, to the extent that such individuals are

available in the community. The State may specify the minimum number of Commission members that must meet the Standards and decide which, if any, of the disciplines listed in the Standards need to be represented on the Commission.

An accompanying guidance section, Applying the Historic Preservation Professional Qualification Standards, has been prepared to assist the consistent application of the "Historic Preservation Professional Qualification Standards" when selecting an employee, consultant, or advisor. As such, the guidance provides additional information and recommendations, but never constitutes a requirement.

How To Use the Historic Preservation Professional Qualification Standards

There are three basic components of each Historic Preservation Professional Qualification Standard: academic degrees or comparable training; professional experience; and products and activities that demonstrate proficiency in the field of historic preservation. A number of commonly asked questions about the design and content of the Standards, as well as their application and implementation, are answered below in order to assist anyone applying for a position or anyone charged with obtaining the services of a professional in the field of historic preservation.

1. *Under what authority are these Standards developed?* "The Secretary of the Interior's Historic Preservation Professional Qualification Standards and Guidance" are part of the larger "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation." The statutory authority for the Secretary's development of these can be found in sections 101(g), 101(h), 101(i), and 101(j)(2)(A) of the National Historic Preservation Act, as amended. These Standards and Guidance (including the Professional Qualification Standards) were published in the **Federal Register** in 1983 as the Secretary's best guidance for historic preservation practice nationally. This remains their preeminent function.

2. *What about the requirements in Section 112 of the National Historic Preservation Act?* Section 112 is not the statutory authority for the "Secretary of the Interior's Historic Preservation Professional Qualification Standards and Guidance" (see the preceding paragraph). Section 112 splits Federal agency requirements for meeting "professional standards" into two parts. Section 112(a)(1)(A) mandates that Federal "actions" meet professional standards; it is not directed at establishing professional qualification requirements. It is section 112(a)(1)(B) that requires the Federal Office of Personnel Management (OPM) to devise professional qualification requirements for Federal employees and contractors in seven disciplines. OPM is required by statute to consult with the National Park Service (NPS) and others in creating these requirements. When completed, NPS will offer the Professional Qualification Standards and Guidance as its best advice to OPM for their use.

3. *Are the Standards regulatory or are they advisory?* The Standards are not in and of themselves regulatory. A separate regulation or other official action which references or otherwise adopts part or all of them is necessary to give any force to any language in the Standards. In a number of instances, this has occurred. For example, the Standards for Rehabilitation are regulatory in the Federal Preservation Tax Incentives program through 36 CFR part 67. Likewise, the Professional Qualification Standards are regulatory for States, local historic preservation programs, and participating tribes through 36 CFR part 61. The guidance ("Academic Background" and "Documenting Professional Experience") accompanying the Professional Qualification Standards is intended to assist users in the application of the Standards; the guidance is not regulatory.

4. *How were these Standards developed? Who was consulted?* Consultation has been extensive over the four years of this project. The wide range of constituents that use the Standards dictates a broad consultation process, which, not surprisingly, results in widely varying opinions and recommendations. To date, NPS has consulted with: (1) Federal, tribal, State, and local government historic preservation programs as well as related organizations; (2) professional societies and organizations of professional societies; (3) academic programs in historic preservation and organizations of such programs; (4) individuals and companies in the private practice of historic preservation as well as related organizations; and, (5) individuals working in the public sector as well as organizations of such people.

5. *Why did the National Park Service choose the disciplines it did?* These disciplines were selected because each is specifically mentioned in the National Historic Preservation Act. [See sections 112(a)(1)(A), 112(a)(1)(B), 201(a)(9), 301(12)(B), 301(13), and 401(c)(3).]

6. *How are these Standards to be used?* The Standards are designed to be a tool to help recognize the minimum expertise generally necessary for performing professionally credible historic preservation work. The Standards are not designed to identify the best or ideal person for any position or the preeminent practitioners in any discipline, nor are they developed to qualify apprentice or entry level workers. The Standards are designed to describe the typical expertise held by credible mid-level journeymen working in historic preservation.

7. *Do the Standards apply to "entry level" or "technician" level positions?* Although the work of "entry-level" or "technician-level" personnel is critical to the success of historic preservation projects, these professional levels are not addressed in the Secretary's Standards. The Standards apply only to the "journeyman" professional and define the minimum level of expertise necessary to provide reliable technical opinions relating to historic properties (without in-depth oversight or review by another professional in the discipline).

8. *Do Federal agencies have to meet these Professional Qualification Standards?* For Federal employees and Federal contractors, the Historic Preservation Professional Qualification Standards are regulatory only if they are specifically adopted by: (1) The Federal Office of Personnel Management (OPM) pursuant to its responsibility under Section 112(a)(1)(B) of the Act; (2) a Federal agency in its own agency-wide regulations, requirements, or policy; or (3) a Federal agency as part of a program or project agreement with another party.

9. *How are general Standards applied in specific situations?* General standards are intended to define minimum professional qualifications for identifying, evaluating, registering, treating, and interpreting historic properties nationwide; however, the best historic preservation professional for a particular office, program, project, or property depends upon the situation. Different skills and expertise are needed for different geographical areas and resource types. In most cases where the Standards are applied in hiring or contracting, job descriptions and qualifications will have to be tailored to specific situations and locations so that experience and training are relevant to the needs of the resources and the work to be done. Where there is a need for specialized expertise in a project, application of the Standards will necessarily focus upon specialized training and demonstrated experience and products. For example, a person may be highly skilled in restoring a

particular kind of resource (such as covered bridges), but that person would not be an appropriate choice to work on other types of resources.

10. *Do all staff, consultants, and appointed advisors need to meet the Standards?* SHPOs, CLGs, and tribes hire staff, select consultants, and appoint advisors to perform historic preservation work. However, it is NPS policy that historic preservation activity supported by the Historic Preservation Fund must be conducted, supervised, overseen, evaluated, or signed off by someone who meets the appropriate Professional Qualification Standard. Therefore, NPS requires the use of some of these Standards in certain circumstances by State Historic Preservation Offices, State Review Boards, and Certified Local Government Commissions (see 36 CFR part 61). Consequently, in some offices there could be no staff meeting the Professional Qualification Standards as long as there is access somewhere along the line to the appropriate expertise. For offices (e.g., States) required to have professionally qualified staff and Review Board membership, the requirement is usually to have at least one qualified individual in the three specified core disciplines. States and Tribes with 101(d) status are expected to obtain the services of professionals qualified in other disciplines as needed. It is possible that an individual may meet the Professional Qualification Standards for more than one discipline. Other staff members working in the discipline do not have to meet the Standards.

11. *What about professionals who were hired under the old Standards?* For programs administered by the National Park Service, each State staff, State Review Board member and Certified Local Government Commission member approved by the Secretary as meeting the Professional Qualification Standards will retain that status, regardless of any subsequent changes in the Standards, until such time as that individual no longer is employed by the State office, serves on the State Review Board, or serves on the Certified Local Government Commission with which that individual was affiliated as of the date of that individual's approval. Contractors qualified in a specified discipline under the old requirements will be deemed qualified in that discipline by NPS under the new rules as long as the contract, cooperative agreement, or other third-party agreement remains in effect. New contractual agreements would apply the new standards. Other organizations using the Professional Qualification Standards are encouraged to adopt a similar approach.

12. *Why aren't the Standards for each discipline exactly the same?* Because each discipline is different and makes its own distinct contribution to historic preservation, the Professional Qualification Standards differ somewhat according to discipline. Each set of Standards includes educational and experience equivalencies to assure fairness in hiring practices; thus, a graduate or undergraduate degree, or other certification, registration, or professional license or training is given full consideration, when combined with differing periods of full-time professional experience. Documenting a record of high quality products and activities during past employment is required in every Standard; however, the type of products and activities will necessarily differ within each discipline.

13. *Why does one have to demonstrate proficiency in a specific discipline as well as in historic preservation?* When decision makers lack the expertise required to make informed decisions, historic and cultural resources can be overlooked, mis-identified, mis-evaluated, damaged, or lost. Partial expertise can be just as harmful, whether a person is well-grounded in historic preservation, but lacks professional discipline skills, or, alternatively, is an expert in a professional discipline, but fails to understand its important connection to historic preservation. Involvement of people with expertise in both a professional discipline and historic preservation will greatly improve the reliability of decisions affecting our nation's heritage.

14. *What constitutes full-time professional experience?* Full-time professional experience generally refers to experience received after the degree was awarded or education was completed. Full-time professional experience can be acquired in blocks of time that, together, add up to the number of years called for in the Standard. In some disciplines, a portion of this experience must have been earned under the direct supervision of a recognized professional. It is possible that some education and experience received outside the United States is relevant to the identification, evaluation, documentation, registration, treatment, and interpretation of United States historic and cultural properties.

15. *Does the required experience have to occur subsequent to obtaining the requisite educational or licensing credentials?* Although it is preferable to have the practical experience after obtaining the academic training in a particular discipline, there is no such national requirement. The hiring, choosing, selecting, or contracting office must determine for itself how much experience, of what sort, and in what sequence, is appropriate for the job or position.

16. *How many and what types of products and activities are routinely used to document the quality of professional experience?* The applicant, employee, consultant, or advisor may cite products such as peer-reviewed articles and publications, audio-visual materials, awards, and National Register documentation. Activities could include teaching the theory or practices of a specific discipline; administrative, project review, or supervisory experience in a historic preservation program or office; and field or laboratory work. In any event, products and activities should demonstrate the appropriate use of the applicable "Secretary of the Interior's Standards for Archeology and Historic Preservation." Examples are provided in the Documenting Professional Experience section of the guidance for Applying the Standard for each discipline.

17. *In determining academic qualifications, what is a "closely related field of study?"* To provide flexibility in determining academic credentials, the Standards recognize that a graduate or undergraduate degree may have been attained in either the identified discipline or in a related discipline. Thus a candidate for the position of Architectural Historian may have an undergraduate degree in a closely related field of study, such as Art History or Historic Preservation.

Merely having a degree in a closely related field does not automatically meet the Standard. The course work taken to earn a degree in a related field should be weighed against the course requirements in the Standard's "main" discipline. For example, a degree in Art History does not necessarily, on its own, meet the Standard for Architectural History, unless course work relevant to the Standard can be documented, such as American architectural history. (See the Academic Background guidance given after each Standard, which discusses the typical closely related fields of study for each historic preservation discipline.)

18. *How much and what kind of course work in a "closely related field" is required to meet the Professional Qualifications Standards?* There is no set amount of credit hours. The office hiring or selecting must make a determination that the person with course work in a closely related field has enough relevant education to be

equivalent to that necessary for the standard degree in that discipline, and to enable that person to make judgments about the identification, evaluation, documentation, registration, or treatment of historic or archeological properties in the United States and its Territories.

19. *When is "exceptional experience" a factor?* In general, an applicant, employee, consultant, contractor, or advisor who does not possess a combination of education or training, experience, and products would not meet the Standards. However, in some cases, a person's experience and contributions have been so exceptional that he or she demonstrates the level of expertise that meets the Standards. In particular, this may apply in those situations where persons embarked upon their careers before recognized academic programs were established, and their education or training was thus attained in alternative ways. In such instances, exceptional experience would be substituted for an academic degree or other training. It is up to the organization with administrative oversight responsibility for the program or project to determine whether the individual meets the Standards. For example, in a program under the purview of 36 CFR part 61, the State Historic Preservation Office would request an exception from the National Park Service for the person under consideration for a "professional" position on the State staff or Review Board. Otherwise, the organization doing the hiring or selecting of personnel would determine whether the individual meets the Standards.

Discipline and Historic Preservation Proficiencies

The Historic Preservation Professional Qualification Standards call for an understanding of the general principles, procedures, and practices in the discipline as they are applied to historic preservation. This type of expertise is necessary for historic preservation programs in which the employee, consultant, or advisor is expected to deal with a range of historic resources and issues. Proficiencies in the disciplines and in the practice of historic preservation are outlined below.

Recommended Discipline Proficiencies

The following discipline proficiencies (knowledge, skills, and abilities) should be possessed by applicants, employees, consultants, and advisors:

- Knowledge of the history of the discipline.
- Knowledge of current theories, principles, practices, methods, and techniques of the discipline.
- Familiarity with diverse specializations within the discipline.
- Skills in applying the discipline's techniques of practice, including critical analysis skills.
- Understanding of the discipline's relationships with other disciplines and the ability to design and carry out interdisciplinary projects.
- Understanding of complex research questions.
- Ability to place a specific project in a broader context.
- Knowledge of current scholarly research and its applicability to a given issue.
- Familiarity with the process of rigorous professional peer review that occurs before work is published.

Recommended Historic Preservation Proficiencies

The following historic preservation proficiencies (knowledge, skills, and abilities) should be possessed by applicants, employees, consultants, and advisors:

- Familiarity with the origins and development of the historic preservation movement.
- Knowledge of the field of historic preservation as it is practiced in the United States, including its philosophies, theories, practices, laws, regulations, policies, and standards, and relationship to the discipline as a whole.
- Ability to apply Federal and relevant State and local historic preservation laws, regulations, policies, and standards in the public and private sectors, including Federal, State, and local government agencies, and private organizations.
- Ability to apply the appropriate set(s) of the "Secretary of the Interior's Standards for Archeology and Historic Preservation," and/or the National Register of Historic Places criteria.

In consideration of the foregoing, the "Secretary of the Interior's Professional Qualification Standards" are proposed to read as follows:

Historic Preservation Professional Qualification Standards

Archeology
(A) Prehistoric Archeology
(B) Historic Archeology
Architectural History
Conservation
Cultural Anthropology
Curation
Engineering
Folklore
Historic Architecture
Historic Landscape Architecture
Historic Preservation Planning
Historic Preservation
History

Archeology; Historic Preservation Professional Qualification Standards

Archeology is the study of past human lifeways through the systematic observation, analysis, and protection of the material remains of human activities.

Standard for Archeologist

(A) Prehistoric

The applicant, employee, consultant, or advisor will have a graduate degree in Anthropology with a specialization in Prehistoric Archeology, or a graduate degree in Archeology with a specialization in Prehistoric Archeology, or a graduate degree in a closely related field (see Academic Background for Archeology), PLUS a minimum of two and one-half (2½) years of full-time professional experience in applying the theories, methods, and practices of Archeology that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of prehistoric archeological properties in the United States and its Territories (at least six months of experience must have been acquired in the performance of field and analytical activities under the supervision of a professional prehistoric archeologist, and one year of experience in the study of the archeological resources of the prehistoric period must have been at a supervisory level); and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Archeologists).

(B) Historical

The applicant, employee, consultant, or advisor will have a graduate degree in Anthropology with a specialization in Historical Archeology, or a graduate degree in Archeology with a specialization in Historical Archeology, or a graduate degree in a closely related field (see Academic Background for Archeology), plus a minimum of two and one-half (2½) years of full-time professional experience applying the theories, methods, and practices of Archeology that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic archeological properties in the United States and its Territories (at least six months of experience must have been acquired in

the performance of field and analytical activities under the supervision of a professional Historical Archeologist, and one year of experience in the study of the archeological resources of the historic period must have been at a supervisory level); and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Archeologists).

(Note: Pursuant to 36 CFR part 61, a person meeting this Standard (either Prehistoric or Historic Archeology) is required as part of the core staff for each State Historic Preservation Office (SHPO) and as part of each State Review Board. Expertise described by this standard is also needed for Tribal Preservation Office staff or consultants of tribes that have executed a Memorandum of Agreement to implement Section 101(d) of the National Historic Preservation Act. It also may be needed for consultants hired with HPF grant funds and for members of Certified Local Government Commissions.)

Archeology—Academic Background

Closely related fields: Anthropology, with a specialization in Archeology, is the typical degree discipline for archeologists practicing in the United States. One of the usual requirements for receiving the degree is completion of an archeological field school in which the student learns about techniques of survey, excavation, and laboratory processing. However, degree programs have also been established in Archeology, Cultural Resources Management, Historical Archeology, and Public Archeology. Some Historical Archeology programs are housed in History, Public History, or American Studies Departments. For these degrees, a list of courses taken should be reviewed to determine if the program is equivalent to that typically provided for a degree in Anthropology with a specialization in Archeology, including course work in archeological methods and theory, archeology of a geographic region (e.g., North America), and the field school.

Discipline specializations: The most prevalent specializations in Archeology include Historical Archeology or Prehistoric Archeology, i.e., the specialization in resources of either the prehistoric period or the historic period. These specializations necessarily require expertise in different types of sites and different sources of information about past human activities. For example, a prehistoric archeologist usually requires a knowledge of environmental sciences, while a historical archeologist needs to understand the techniques of archival research. Additional specialized training and experience is also required for those specializing in, for example, underwater archeology, physical anthropology (human bones and burials), forensic archeology, or zooarcheology (non-human bones). In addition, archeologists typically specialize in the archeological resources of a particular time period, geographic region, resource type, or research subject.

Applying the Standard for Archeologist—Documenting Professional Experience

A professional archeologist typically has experience in field survey, site testing, site excavation, artifact identification and analysis, documents research, and report preparation. Supervised field experience as a graduate student may be counted as part of the overall 2½ year professional experience requirement.

A Prehistoric Archeologist meeting this Standard would document one year of supervisory experience in the study of prehistoric archeological sites; a Historical Archeologist would document one year of supervisory experience in the study of sites of the historic period.

The two archeologist specializations of Prehistoric Archeology and Historic Archeology are not interchangeable. Documentation to show that someone qualifies in both Prehistoric and Historic Archeology should include a minimum of one additional year of supervisory experience on resources of the other specialty, for a total of 3½ years of experience, with products and activities in both specializations.

Products and Activities.

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the appropriate Secretary Standards for Archeology and Historic Preservation may include:

- Survey and excavation reports of cultural resource management or Section 106 (or other compliance) projects. These reports are typically called "grey literature;" they often have multiple authors and are usually produced in limited quantities by consulting firms.
- National Register documentation resulting in property listings or Determinations of Eligibility.
- Materials such as presentations, booklets, brochures, lesson plans, or videos that interpret the results of archeological investigation for the general public.
- Publications including articles in professional journals, monographs, books, or chapters in edited books, related to the preservation of historic or archeological properties.
- Presentations at regional, national, or international professional conferences related to the preservation of historic or archeological properties.
- Professional service on boards or committees of regional, national, or international professional organizations concerned with the preservation of historic or archeological properties.
- Awards, research grants, research fellowships, or invitations to teaching posts.

This list is not comprehensive. Furthermore, it is not expected that all of these products and activities will need to be documented in order to meet the Standard; rather, a combination of several of these products and activities would be more typical. However, if the applicant were documenting professional experience in one of the specializations, the majority of products and activities should reflect that specialization.

Architectural History; Historic Preservation Professional Qualification Standards

Architectural History is the study of the development of building practices through written records and design and the examination of structures, sites, and objects in order to determine their relationship to preceding, contemporary, and subsequent architecture and events.

Standard for Architectural Historian

(a) The applicant, employee, consultant, or advisor will have a graduate degree in Architectural History or a closely related field of study (see Academic Background for Architectural History), plus a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Architectural History that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Architectural Historians); or * * *

(b) An undergraduate degree in Architectural History or a closely

related field of study (see Academic Background for Architectural History), plus a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of Architectural History that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historians).

(**Note:** Pursuant to 36 CFR part 61, a person meeting this Standard is required as part of the core staff for each State Historic Preservation Office (SHPO) and as part of each State Review Board. Expertise described by this standard is also needed for Tribal Preservation Office staff or consultants of tribes that have executed a Memorandum of Agreement to implement Section 101(d) of the National Historic Preservation Act. It also may be needed for consultants hired with HPF grant funds and for members of Certified Local Government Commissions.)

Architectural History—Academic Background

Closely related fields: Professional Architectural Historians typically receive their formal training through Architectural History, Art History, or Historic Preservation programs, which include course work in American Architectural History. Other fields of study may offer relevant training, provided that course work in American Architectural History is taken. These other fields may include American Studies, American Civilization, Architecture, Landscape Architecture, Urban and Regional Planning, American History, Historic Preservation, and Public History.

Discipline specializations: Architectural Historians tend to be generalists, although specializations within Architectural History are typically based on time periods (such as 18th century), on a particular architectural style (such as Georgian or vernacular), or a combination of these (such as plantation architecture in the antebellum South).

Applying the Standard for Architectural Historian—Documenting Professional Experience

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." A professional Architectural Historian typically has expertise in research, survey, documentation, and evaluation, of architectural resources, including buildings, structures, objects, and districts. Documentation of such experience is desirable. Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

- Survey reports assessing the significance of historic properties.
- Historic structure reports.
- National Register documentation resulting in property listings or Determinations of Eligibility.
- Documentation that meets HABS/HAER standards for recording historic properties.
- Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books, related to the preservation of historic structures.
- Presentations at regional, national, or international professional conferences related to the preservation of historic structures.
- Professional service on boards or committees of regional, national, or international professional organizations concerned with the preservation of historic structures.
- Awards, research grants, research fellowships, or invitations to teaching posts.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical. If the applicant were documenting professional experience in one of the specializations, however, the majority of products and activities would naturally reflect that specialization.

Conservation; Historic Preservation Professional Qualification Standards

Conservation is the practice of prolonging the physical and aesthetic life of prehistoric and historic material culture through documentation, preventive care, treatment, and research.

Standard for Conservator

(a) The applicant, employee, consultant, or advisor will have a graduate degree in Conservation or a graduate degree in a closely related field of study with a certificate in Conservation (see Academic Background for Conservation), plus a minimum of three (3) years of full-time professional experience applying the theories, methods, and practices of Conservation that enables professional judgments to be made about the identification, evaluation, documentation or treatment of objects associated with historic and prehistoric properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Conservators); or * * *

(b) An undergraduate degree in Art History, or Natural or Physical Science, or another closely related field to Conservation (see Academic Background for Conservation), with an additional (3) years of full-time enrollment in an apprenticeship program equivalent to graduate studies in Conservation and supervised by a professional Conservator; plus a minimum of three (3) years full-time professional experience applying the theories, methods, and practices of Conservation that enables professional judgments to be made about the identification, evaluation, documentation, or treatment of objects associated with historic and prehistoric properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Conservators).

Conservation—Academic Background

Closely related fields: Since Conservators tend to specialize in a particular class of objects, closely related fields will be diverse, and could include Art, Art Conservation, Art History, Architecture, Historic Preservation, Museum Studies, Chemistry, Physics, Engineering (or a related scientific field), Archeology, Anthropology, or other fields related to the conservation specialization. If a closely related field is being claimed, the degree in the closely related field should be accompanied by a certificate in Conservation, or the completion of course work equivalent to that typically offered in graduate Conservation programs. This course work should include examination, documentation, and treatment of objects; history and technology of objects; and conservation science. In addition, such a program should include the completion of a two-semester internship.

Discipline specializations: Professional conservators specialize in the treatment and maintenance of a

specific class of objects or materials, such as archeological artifacts, architectural elements or fragments, or collections, books, ceramics, glass, decorative arts, ethnographic objects, furniture, metals, paintings, paper, photographs, sculpture, and textiles. Some conservators have studied more than one specialty, and have accumulated experience which allows them to practice in several of these specialties (although they are often closely related, such as books, drawings, prints or paper; decorative arts and furniture; sculpture and archeological artifacts). In these cases, the time period that distinguishes the materials is often the specialty. Each of these specialties requires focused training and experience, since each represents unique problems which are not always necessarily shared with other materials or time periods. Hence, a professional conservator should be able to perform according to professional standards of practice within the claimed area of specialty and should be both capable and willing to recognize his or her limitations. The professional conservator, moreover, should be generally knowledgeable about the issues of other specialties and the benefit of effective communication among the specialties. A broad understanding of the general principles of the conservation discipline is paramount as well, particularly in the area of technological and philosophical concerns that govern the ethics of the profession.

A note on Conservation education: Many professional Conservators received their training by serving apprenticeships with professional Conservators. For some time, however, graduate conservation programs have been established in academic institutions; these require an internship in recognition of the critical importance of hands-on training and experience in preparing students for professional practice.

Applying the Standard for Conservator—Documenting Professional Experience

A professional Conservator typically possesses specialized technical skills and has experience in the examination, analysis, documentation, treatment, and preventive care of a specific class, or classes, of objects.

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

- A portfolio of current and past conservation work, including written and photographic documentation.
- Reports of examination, condition, or treatment of objects.
- Publications, which might include articles in professional journals, monographs, books, or chapters in edited books, related to the care and treatment of objects.
- Presentations at regional, national, or international professional conferences, workshops or other educational venues related to the care and treatment of objects.
- Professional service on boards or committees of regional, national, or international professional organizations concerned with the conservation of objects.
- Awards, research grants, research fellowships, or invitations to teaching posts.

This list is not comprehensive. Futhermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical. If the applicant were documenting professional experience in one of the specializations, however, the majority of products and activities would naturally reflect that specialization.

Cultural Anthropology; Historic Preservation Professional Qualification Standards

Cultural anthropology is the description and analysis of cultural systems, which include systems of behaviors (economic, religious, social), values, ideologies, and social arrangements.

Standard for Cultural Anthropologist

(a) The applicant, employee, consultant, or advisor will have a graduate degree in Anthropology with a specialization in Applied Cultural Anthropology, or a closely related field (see Academic Background for Cultural Anthropology), plus a minimum of two (2) years of full-time professional experience (including at least six months of field work supervised by a professional Cultural Anthropologist) applying the theories, methods, and practices of Cultural Anthropology that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic, prehistoric, or traditional cultural properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Cultural Anthropologists); or * * *

(b) An undergraduate degree in Anthropology or a closely related field (see Academic Background for Cultural Anthropology), with a specialization in Applied Cultural Anthropology, plus a minimum of four (4) years of full-time professional experience (including at least twelve months of field work supervised by a professional Cultural Anthropologist) applying the theories, methods, and practices of Cultural Anthropology that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic, prehistoric, or traditional cultural properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (See Documenting Professional Experience for Cultural Anthropologists).

Cultural Anthropology—Academic Background

Closely related fields: A degree in Anthropology with a specialization in Applied Cultural Anthropology is the typical degree discipline for Cultural Anthropologists practicing in the United States. Closely related fields of study may include Sociology, Cultural Geography, Folklife, History, and American Studies.

Discipline specializations: Specializations in this discipline include Applied Cultural Anthropology, and Social Anthropology (which may be considered the most closely related to Cultural Anthropology; some academic programs even combine them, referring to Sociocultural Anthropology). Departments of Anthropology typically provide training in Archeology, Physical Anthropology, Ethnography, and Sociocultural Anthropology, and they may offer Applied Anthropology concentrations in one or more of these fields. Professional Cultural Anthropologists tend to specialize geographically (such as in the Southwest United States, Micronesia or New England) or topically (such as Medical Anthropology or Urban Anthropology), or in working with particular cultural or linguistic groups (such as fishermen, Irish immigrants, or Northwest Coast Indians).

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the Secretary Standards for Archeology and Historic Preservation may include:

- Plans and Specifications for the preservation, rehabilitation, or restoration of historic structures, such as bridges, dams, canal locks, and for the structural rehabilitation or seismic stabilization of buildings.
- Adaptive reuse or feasibility studies that make recommendations for preserving or structurally stabilizing historic structures, including bridges.
- Historic Structure Reports or Condition Assessments of historic structures or machines.
- Documentation that meets HABS/HAER standards for recording historic structures or machines.
- Experience applying the Secretary of the Interior's Standards for the Treatment of Historic Properties to the review of work on historic structures, sites or machines.
- Awards for historic structure preservation, rehabilitation, or restoration received from local, regional, national, or international professional organizations.
- Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books about the preservation of historic structures or machines.
- Presentations at regional, national, or international professional conferences, symposia, workshops, or exhibits about the preservation of historic structures or machines.
- Professional service on boards or committees or regional, national, or international professional organizations concerned with the preservation of historic structures or machines.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical.

Folklore; Historic Preservation Professional Qualification Standards

Folklore is the study and documentation of traditional, expressive culture shared within various ethnic, familial, occupational, religious, and regional groups.

Standard for Folklorist

(a) The applicant, employee, consultant, or advisor will have a graduate degree in Folklore, Folklife Studies, Anthropology or a closely related field of study (see Academic Experience for Folklore), with a specialization in Folklore or Folklife Studies, plus a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Folklore that enables professional judgments to be made about the identification, evaluation, or documentation of folk cultures or lifeways associated with historic or prehistoric properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Folklorists); or * * *

(b) An undergraduate degree in Anthropology or a closely related field of study (see Academic Experience for Folklore), plus a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of Folklore that enables professional judgments to be made about the identification, evaluation, or documentation of folk cultures or lifeways associated with historic or prehistoric properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation. (see Documenting Professional Experience for Folklorists).

Folklore—Academic Background

Closely related fields: Typically, a professional Folklorist has a graduate degree in Folklore or Folklife Studies, or from highly specialized study within other disciplines such as Anthropology, English, Linguistics, or Sociology, provided that such study included training in theory, research and fieldwork techniques, and in the diverse categories of expressive culture.

Discipline specializations: A graduate degree in Anthropology may be combined with a specialization in Folklore and Folklife Studies. Other specializations may include: English, Cultural Anthropology, Ethnohistory, Ethnobotany, Ethnozoology, Ethnoarcheology, Cultural Geography, Sociology, and Oral History.

A professional Folklore specialist, or Folklorist, may specialize in any of the categories of traditional expressive culture, such as music (ethnomusicology), spoken word traditions, material culture, customs, or religious and belief systems; or specialization may focus on the study of a particular contemporary group (such as the Pennsylvania Amish) or region of the United States (such as Appalachia).

Applying the Standard for Folklorist—Documenting Professional Experience

A professional Folklorist typically demonstrates professional knowledge and skills in established methods and techniques of folklore and folklife research in the collection, evaluation, documentation, analysis, and/or presentation of grassroots and traditional cultural expression, including folk music, spoken word, dance, craftsmanship and artistic traditions, folkways, customs, belief systems, traditional foodways, and regional and/or occupational groups and communities. Experience would typically include fieldwork, with on-site interviews, observation, and documentation of contemporary human cultural activities.

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

- Field studies and survey reports, oral histories, or assessments of the significance of historic properties.
- Publications, which might include articles in regional, national, or international professional journals; monographs, books, or chapters in edited books, related to assessing the significance of historic or traditional cultural properties.
- Presentations at regional, national, or international professional conferences, symposia, workshops, exhibitions, or other educational venues related to analyzing cultural traditions in evaluating the significance of historic or traditional cultural properties.
- Professional service on boards or committees of regional, national, or international professional organizations concerned with documenting and analyzing cultural traditions.
- Awards, research grants, research fellowships, or invitations to teaching posts.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet

the Standard; rather, a combination of several products and activities would be more typical. If the applicant were documenting professional experience in one of the specializations, however, the majority of products and activities would naturally reflect that specialization.

Historic Architecture; Historic Preservation Professional Qualification Standards

Historic Architecture is the practice of applying artistic and scientific principles to the research, planning, design, and management of the built environment with specialized training in the principles, theories, concepts, methods, and techniques of preserving historic buildings and structures.

Standard for Historical Architect

(a) The applicant, employee, consultant, or advisor will have a State Government-recognized license to practice Architecture, plus, a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Architecture that enables professional judgments to be made about the evaluation, documentation, or treatment of historic structures in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historical Architects); or * * *

(b) A Masters of Architecture degree with demonstrable course work in Architectural Preservation, Architectural History, Historic Preservation, Historic Preservation Planning, or a closely related field (see Academic Background for Historic Architecture), plus a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Historic Architecture that enables professional judgments to be made about the evaluation, documentation, or treatment of historic structures in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historical Architects); or * * *

(c) A Bachelors of Architecture degree with at least one year of graduate study in Architectural Preservation, Architectural History, Historic Preservation, Historic Preservation Planning, or a closely related field (see Academic Experience for Historic Architecture), plus a minimum of two (2) years of full-time professional experience applying the theories, methods and practices of Historic Architecture that enables professional judgments to be made about the evaluation, documentation, or treatment of historic structures in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historical Architects).

(**Note:** Only persons who are licensed to practice Architecture in that State may prepare and seal plans and specifications in order to obtain construction permits, authorize payments to contractors, and certify that the work is completed. However, State staff, State Review Board members, and CLG staff or Commission members who are not licensed, but who meet the Standard for Historical Architect under (b) or (c) above, can review proposed and completed work for compliance with the applicable Secretary's Standards for Tax Act, HPF Grant, or other related programs.)

Historic Architecture—Academic Background

Closely related fields: The Bachelor of Architecture degree is a five-year degree that does not always include historic preservation course work. The same may be true of a Masters of Architecture degree. An Historical Architect is first an Architect and, as such, is well grounded in all aspects of architectural practice, including architectural design, planning, construction specifications, and contract administration. Although this background is essential, additional training is needed in order to understand and work with historic structures, with their complex material evolution and treatment problems. Specialized training, to supplement that provided by the professional Architecture program, should be acquired in such areas as American Architectural History, Architectural Preservation, Conservation, Historic Construction Technologies, Historic Building Materials, and Historic Preservation.

Discipline specialization: Historic Architecture is a specialization within the broader discipline of Architecture.

Applying the Standard for Historical Architect—Documenting Professional Experience

To be licensed by a State Government as a professional Architect, an individual must pass a written exam and successfully fulfill education, training, and experience requirements. In addition, a professional Historical Architect has both theoretical knowledge and technical skill associated with preserving historic structures, and with the application of Architecture theories, methods, and practices that enables professional judgments to be made about the evaluation, documentation, or treatment of historic properties in the United States and its Territories. A professional Historical Architect typically has gained experience on structural preservation projects, which have included research and detailed investigations of historic structures and preparation of recommendations for the treatment of properties in order to preserve them in accordance with the appropriate Secretary's Standards for Archeology and Historic Preservation (particularly the Secretary's Standards for the Treatment of Historic Properties).

Products and activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the Secretary Standards for Archeology and Historic Preservation may include:

- Plans and Specifications for the preservation, rehabilitation, or restoration of historic structures.
- Adaptive reuse or feasibility studies that make recommendations for preserving historic structures.
- Historic Structure Reports or Condition Assessments of historic structures.
- Documentation that meets HABS/HAER standards for recording historic structures.
- Experience applying the Secretary of the Interior's Standards for the Treatment of Historic Properties to the review of work on historic structures.
- Awards for historic structure preservation, rehabilitation, or restoration received from local, regional, national, or international professional organizations.
- Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books about the preservation of historic structures.
- Presentations at regional, national, or international professional conferences, symposia, workshops, or exhibits about the preservation of historic structures.
- Professional service on boards or committees or regional, national, or international professional organizations

concerned with the preservation of historic structures.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical.

Historic Landscape Architecture; Historic Preservation Professional Qualification Standards

Historic Landscape Architecture is the practice of applying artistic and scientific principles to the research, planning, design, and management of both natural and built environments with specialized training in the principles, theories, concepts, methods, and techniques of preserving cultural landscapes.

Standard for Historical Landscape Architect

(a) The applicant, employee, consultant, or advisor will have a State Government-recognized license to practice Landscape Architecture, plus, a minimum of two (2) years full-time professional experience applying the theories, methods, and practices of Landscape Architecture that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Landscape Architects); or

* * *

(b) A Masters degree in Landscape Architecture with demonstrable course work in the principles, theories, concepts, methods, and techniques of preserving cultural landscapes, plus a minimum or two (2) years of full-time professional experience applying the theories, methods, and practices of Landscape Architecture that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Landscape Architects); or

* * *

(c) A four-year or five-year Bachelors degree in Landscape Architecture, plus a minimum of three (3) years of full-time professional experience applying the theories, methods, and practices of Landscape Architecture that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Landscape Architects).

(Note: Only persons who are licensed to practice Landscape Architecture in that State may prepare and seal plans and specifications in order to obtain construction permits, authorize payments to contractors, and certify that the work is completed. However, State staff, State Review Board members, and CLG staff or commission members who are not licensed, but who meet the Standard for Historical Landscape Architect under (b) or (c) above, can review proposed and completed work for compliance with the applicable Secretary's Standards for Tax Act, HPF Grant, Grant, or other related programs.)

Historic Landscape Architecture—Academic Background

Closely related fields: Landscape Architecture is the typical professional Bachelors degree, which is awarded after successful completion of a four-year or five-year undergraduate program. However, the Bachelors or Masters in Landscape Architecture may not always include historic preservation course work. While the standard Landscape Architecture degree program addresses all general aspects of landscape architectural practice (including design, planning, construction specifications, and professional practice), additional training is needed for Historical Landscape Architects. They may need training in landscape research, documentation, analysis, evaluation, and treatment techniques. This additional training is achieved through additional course work and/or professional experience.

Graduate study: The Masters in Landscape Architecture degree is the typical graduate degree, which is awarded after successful completion of a two-year or three-year graduate program. This degree should include studies in the principles, theories, concepts, methods, and techniques of preserving cultural landscapes. Course work may include cultural geography; landscape history; archival research techniques; historic preservation theory, principles, and practice; and preservation technologies.

Discipline specialization: Historic Landscape Architecture is a specialization within the broader field of Landscape Architecture. Historical Landscape Architects should have completed training in the principles, theories, concepts, methods, and techniques of preserving cultural landscapes. Cultural landscape preservation focuses on preserving a landscape's physical attributes, biotic systems, and use (especially when that use contributes to its historical significance). Graduate study and/or professional experience provides the specialized training needed by the Historical Landscape Architect.

Applying the Standard for Historical Landscape Architect—Documenting Professional Experience

To be licensed by a State Government as a professional Landscape Architect, an individual typically must pass a written exam and successfully fulfill education, training, and experience requirements. In addition, an Historical Landscape Architect must have two years of experience in the application of Landscape Architecture theories, methods, and practices to the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories. A professional Historical Landscape Architect has both theoretical knowledge and technical skill associated with the preservation of cultural landscapes in accordance with the Secretary's Standards for Archeology and Historic Preservation. Cultural landscapes include historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes.

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

- Surveys and inventories of cultural landscapes.
- Documentation of cultural landscapes that meets the Secretary's Standards for Documentation.
- National Register nominations or Determinations of Eligibility for cultural landscapes.
- Cultural Landscape treatment and maintenance plans.
- Cultural Landscape Reports.

• Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books about cultural landscape preservation.

• Presentations at regional, national, or international professional conferences, symposia, workshops, or exhibits about cultural landscape preservation.

• Professional service on boards or committees or regional, national, or international professional organizations concerned with cultural landscape preservation.

• Awards, research grants, research fellowships, or invitations to teaching posts associated with cultural landscape preservation.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical.

Historic Preservation Planning; Historic Preservation Professional Qualification Standards

Historic Preservation Planning, a specialization within Planning, is the practice of identifying and carrying out particular goals and strategies to protect historic and archeological resources at the local, regional, State, or national level.

Standard for Historic Preservation Planner

(a) The applicant, employee, consultant, or advisor will have a State Government-recognized certification or license in Land-use Planning, plus, minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Historic Preservation Planning that enables professional judgments to be made about the identification, evaluation, documentation, registration, protection, or treatment of historic and archeological properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Preservation Planner); or * * *.

(b) A graduate degree in Planning with demonstrable course work in Historic Preservation, or a graduate degree in a closely related field of study with demonstrable course work in Historic Preservation (see Academic Background for Historic Preservation Planning), plus a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Historic Preservation Planning that enables professional judgments to be made about the identification, evaluation, documentation, registration, protection, or treatment of historic and archeological properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Preservation Planner); or * * *.

(c) An undergraduate degree in Planning with demonstrable course work in Historic Preservation or an undergraduate degree in a closely related field of study with demonstrable course work in Historic Preservation (see Academic Background for Historic Preservation Planning), plus a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of Historic Preservation Planning that enables professional judgments to be made about the identification, evaluation, documentation, registration, protection, or treatment of historic and archeological properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Preservation Planner).

Historic Preservation Planning—Academic Background

Closely related fields: Professional Historic Preservation Planners typically receive their education through academic Planning programs, although increasingly Historic Preservation programs are offering Historic Preservation Planning as a concentration in which degrees are awarded. Other fields that may be closely related, provided that training relevant to Historic Preservation Planning is obtained, include Historical or Cultural Geography, Architecture, Urban Design, and Historic Preservation.

Discipline specializations: Historic Preservation Planning is a specialization within the broader discipline of Planning. Other specializations include Urban, City, Town, or Community Planning; Regional Planning; Land Use Planning; Environmental Planning; Recreation Planning; Transportation Planning; and Housing Planning.

Applying the Standard for Historic Preservation Planner—Documenting Professional Experience

In order to receive a license or be registered or certified as a professional Planner, an individual typically must pass a written exam and have completed a specified number of years of experience. A professional Historic Preservation Planner typically has gained experience in data collection and analysis; survey and evaluation of existing conditions; consultation with elected and appointed officials and the general public; identification of alternative strategies; enforcement or administration of relevant statutes and regulations; and the preparation of planning documents.

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

• Preservation plans adopted by government officials; and/or results of preservation planning studies incorporated into the local comprehensive or master plan.

• Ordinances for the protection of historic and/or archeological resources.

• Economic Feasibility Studies that make recommendations for preserving historic or archeological properties.

• Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books, related to preservation planning.

• Presentations at regional, national, or international professional conferences, symposia, workshops, or exhibits related to preservation planning.

• Professional service on boards of committees or regional, national, or international professional organizations concerned with preservation planning.

• Planning awards received from local, regional, national, or international professional organizations.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical. If the applicant were documenting professional experience in one of the specializations, however, the

majority of products and activities would naturally reflect that specialization.

Historic Preservation; Historic Preservation Professional Qualification Standards

Historic Preservation is the application of strategies that promote the identification, evaluation, documentation, registration, protection, treatment, continued use, and interpretation of prehistoric and historic resources.

Standard for Historic Preservationist

(a) The applicant, employee, consultant, or advisor will have a graduate degree in Historic Preservation or a closely related field of study (see Academic Background for the Historic Preservation discipline), plus a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of Historic Preservation that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic and prehistoric properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Preservationists); or * * *.

(b) An undergraduate degree in Historic Preservation or a closely related field of study (see Academic Background for the Historic Preservation discipline), plus a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of Historic Preservation that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic and prehistoric properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historic Preservationists).

Historic Preservation—Academic Background

Closely related fields: Various fields of study may be considered closely related to Historic Preservation, such as American Studies, Architecture, Architectural History, Archeology, History, and Historical or Cultural Geography, provided that such programs of study include course work in the history of the designed environment, history and theory of preservation, historic preservation methods, techniques, and legislation (Federal, State and local), plus a formal supervised practicum or internship for hands-on application of knowledge and technical skills in the field.

Discipline specializations: While most Historic Preservationists tend to be generalists, many specialize in such areas as Architectural, Landscape, and Community Design, Historic Building Technology, Preservation Economics, Preservation Law, Historic Preservation Planning, and Site Interpretation and Management.

Applying the Standard for Historic Preservationist—Documenting Professional Experience

A professional Historic Preservationist typically has experience that demonstrates a well-grounded understanding of the principles, practices, laws and regulations, and diverse resources of historic preservation.

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation of historic or archeological resources." Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

- National Register documentation that has resulted in property listings or Determinations of Eligibility.
- Survey reports assessing the significance of historic properties.
- Historic Structure Reports.
- Adaptive reuse plans or feasibility studies that make recommendations for preserving historic properties.
- Written opinions that have been accepted that assess the impact that an undertaking will have on historic or archeological properties.
- Historic District Ordinances that have been adopted by a local government.
- Documentation that meets HABS/HAER standards for recording historic properties.
- Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books, related to historic preservation.
- Presentations at regional, national, or international professional conferences, symposia, workshops, or exhibits related to historic preservation.
- Professional service on boards or committees or regional, national, or international professional organizations concerned with historic preservation.
- Awards, research grants, research fellowships, or invitations to teaching posts.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical. If the applicant were documenting professional experience in one of the specializations, however, the majority of products and activities would naturally reflect that specialization.

History; Historic Preservation Professional Qualification Standards

History is the study of the past through written records, oral history, and material culture and the examination of that evidence within a chronological or topical sequence in order to interpret its relationship to preceding, contemporary and subsequent events.

Standard for Historian

(a) The applicant, employee, consultant, or advisor will have a graduate degree in History or a closely related field of study (see Academic Background for History), plus a minimum of two (2) years of full-time professional experience applying the theories, methods, and practices of History that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation (see Documenting Professional Experience for Historians); or * * *

(b) An undergraduate degree in History or a closely related field of study (see Academic Background for History), plus a minimum of four (4) years of full-time professional experience applying the theories, methods, and practices of History that enables professional judgments to be made about the identification, evaluation, documentation, registration, or treatment of historic properties in the United States and its Territories; and products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the

practice of historic preservation (see Documenting Professional Experience for Historians).

(**Note:** Pursuant to 36 CFR part 61 a person meeting this Standard is required as part of the core staff for each State Historic Preservation Office (SHPO) and as part of each State Review Board. Expertise described by this standard is also needed for Tribal Preservation Office staff or consultants of tribes that have executed a Memorandum of Agreement to implement Section 101(d) of the National Historic Preservation Act. It also may be needed for consultants hired with HPF grant funds and for members of Certified Local Government Commissions.)

History—Academic Background

Closely related fields: For this Standard, the professional degree is typically awarded in History, American History, or Public History. Relevant training can be obtained in programs of American Studies, American Civilization, Historical or Cultural Geography, Anthropology, Ethnohistory, and Historic Preservation, providing that course work is offered in historical research methods and techniques. Education in the social and cultural history of countries other than North America may be relevant when dealing with the histories of immigrant, ethnic or minority groups in the United States.

Discipline specializations: Professional Historians tend to concentrate their education and experience in one of the many chronological, regional, and topical specializations within American History (such as colonial history, southern history, community history, women's history, military history, history of technology, or industrial history).

Applying the Standard for Historian—Documenting Professional Experience

A professional Historian has experience in archival and primary documents research, evaluating and synthesizing this information, and preparation of scholarly narrative histories. Historic research experience in countries other than North America may be relevant when researching the histories of immigrant, ethnic or minority groups in the United States of America.

Products and Activities

Professional experience and expertise must be documented through "products and activities that demonstrate the successful application of acquired proficiencies in the discipline to the practice of historic preservation." Products and activities that meet the appropriate Secretary's Standards for Archeology and Historic Preservation may include:

- National Register documentation that has resulted in property listings or Determinations of Eligibility.
- Documentation that meets HABS/HAER standards for recording historic properties.
- Survey reports assessing the significance of historic properties.
- Publications, which might include articles in regional, national, or international professional journals, monographs, books, or chapters in edited books, related to documenting and evaluating the significance of historic properties.
- Presentations at regional, national or international professional conferences, symposia, workshops, or exhibits related to documenting and evaluating historic properties.
- Professional service on boards or committees of regional, national, or international professional organizations concerned with documenting and evaluating the significance of historic properties.
- Awards, research grants, research fellowships, or invitations to teaching posts.

This list is not comprehensive. Furthermore, it should be understood that not all of these products and activities are needed in order to meet the Standard; rather, a combination of several products and activities would be more typical. If the applicant were documenting professional experience in one of the specializations, however, the majority of products and activities would naturally reflect that specialization.

Sources of Additional Information—Professional Organizations

The following organizations may be contacted to request additional information about the specific disciplines, college and university departments, workshops, and conferences and publications about the practice of each discipline.

American Anthropological Association, 4350 North Fairfax Drive, Suite 630, Arlington, VA 22203–1621
American Association of Museums, P.O. Box 4002, Washington, D.C. 20042–4002
American Association for State Federal and Local History, 530 Church Street, Suite 600, Nashville, TN 37219–2325
American Cultural Resources Association, c/o New South Associates, 6150 Ponce de Leon Avenue, Stone Mountain, GA 30083
American Folklife Center, Library of Congress, Washington, D.C. 20540–8100
American Historical Association, 400 A Street, SE., Washington, D.C. 20003
American Institute for the Conservation of Historic & Artistic Works, 1717 K Street, NW., Suite 301, Washington, D.C. 20006
American Institute of Architects, 1735 New York Avenue, NW., Washington, D.C. 20006
American Institute of Certified Planners, 1776 Massachusetts Avenue, NW., Washington, D.C. 20036
American Planning Association, 122 S. Michigan Avenue, Suite 1200, Chicago, IL 60603–6107
American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191–4400
American Society of Landscape Architects, 4401 Connecticut Avenue, NW.,Washington, D.C. 20008–2302
American Society of Mechanical Engineers, P.O. Box 2900, Fairfield, NJ 07007–2900
American Studies Association, 1120 19th Street, NW., Suite 301, Washington, D.C. 20036
Association for Preservation Technology, P.O. Box 3511, Williamsburg, VA 23187
Association of American Geographers, 1710 16th Street, NW., Washington, D.C. 20009
Center for Museum Studies, Smithsonian Institution, Arts and Industries Building, Suite 2235, MRC, 427, Washington, D.C. 20560
The Institute for Electrical and Electronic Engineers, 445 Hoes Lane, Piscataway, NJ 08855–1331
National Council on Preservation Education, c/o Center for Historic Architecture and Engineering, University of Delaware, Newark, DE 19716
National Council on Public History, 327 Cavanaugh Hall-IUPUI, 425 University Blvd., Indianapolis, IN 46202–5140
National Society of Professional Engineers, 1420 King Street, Alexandria, VA 22314–2794
National Trust for Historic Preservation, 1785 Massachusetts Avenue, NW., Washington, D.C. 20036
Organization of American Historians, 112 North Bryan Street, Bloomington, IN 47408–4199
Society for American Archaeology, 900 2nd Street, NE., Suite 12, Washington, D.C. 20002
Society for Applied Anthropology, P.O. Box 24083, Oklahoma City, OK 73124
Society of Architectural Historians, Charnley-Persky House, 1365 North Astor Street, Chicago, IL 60610–2144
Society for Historical Archeology, P.O. Box 30446, Tucson, AZ 85751
Society of Professional Archeologists, Department of Anthropology, Southern Methodist University, Dallas, TX 75275

Dated: June 12, 1997.

Katherine H. Stevenson,

Associate Director, Cultural Resource Stewardship and Partnerships, National Park Service.

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BILLING CODE 4310–70–P

Cultural Landscape Bibliography: An Annotated Bibliography on Resources in the National Park System (1992) is being revised and reprinted and should be available in the spring of 1999. Once the revised bibliography is available, a copy will be sent to you for inclusion in this appendix.

NATIONAL REGISTER BULLETIN

Technical information on the the National Register of Historic Places: survey, evaluation, registration, and preservation of cultural resources

U.S. Department of the Interior
National Park Service
Cultural Resources
National Register, History and Education

How to Apply the National Register Criteria for Evaluation

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

This material is partially based upon work conducted under a cooperative agreement with the National Conference of State Historic Preservation Officers and the U.S. Department of the Interior.

Date of publication: 1990; revised 1991, 1995, 1997. Revised for Internet 1995.

Cover

(Top Left) ***Criterion B - Frederick Douglass Home,*** *Washington, D.C. From 1877-1899, this was the home of Frederick Douglass, the former slave who rose to become a prominent author, abolitionist, editor, orator, and diplomat. (Walter Smalling, Jr.)*

(Top Right) ***Criterion D - Francis Canyon Ruin,*** *Blanco vicinity, Rio Arriba County, New Mexico. A fortified village site composed of 40 masonry-walled rooms arranged in a cluster of four house blocks. Constructed ca. 1716-1742 for protection against raiding Utes and Comanches, the site has information potential related to Navajo, Pueblo, and Spanish cultures. (Jon Samuelson)*

(Bottom Left) ***Criterion C - Bridge in Cherrytree Township,*** *Venago County, Pennsylvania. Built in 1882, this Pratt through truss bridge is significant for engineering as a well preserved example of a type of bridge frequently used in northwestern Pennsylvania in the late 19th century. (Pennsylvania Department of Transportation)*

(Bottom Right) ***Criterion A - Main Street/Market Square Historic District,*** *Houston, Harris County, Texas. Until well into the 20th century this district marked the bounds of public and business life in Houston. Constructed between the 1870s and 1920s, the district includes Houston's municipal and county buildings, and served as the city's wholesale, retail, and financial center. (Paul Hester)*

PREFACE

Preserving historic properties as important reflections of our American heritage became a national policy through passage of the Antiquities Act of 1906, the Historic Sites Act of 1935, and the National Historic Preservation Act of 1966, as amended. The Historic Sites Act authorized the Secretary of the Interior to identify and recognize properties of national significance (National Historic Landmarks) in United States history and archeology. The National Historic Preservation Act of 1966 authorized the Secretary to expand this recognition to properties of local and State significance in American history, architecture, archeology, engineering, and culture, and worthy of preservation. The National Register of Historic Places is the official list of these recognized properties, and is maintained and expanded by the National Park Service on behalf of the Secretary of the Interior.[1]

The National Register of Historic Places documents the appearance and importance of districts, sites, buildings, structures, and objects significant in our prehistory and history. These properties represent the major patterns of our shared local, State, and national experience. To guide the selection of properties included in the National Register, the National Park Service has developed the National Register Criteria for Evaluation. These criteria are standards by which every property that is nominated to the National Register is judged. In addition, the National Park Service has developed criteria for the recognition of nationally significant properties, which are designated National Historic Landmarks and prehistoric and historic units of the National Park System. Both these sets of criteria were developed to be consistent with the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, which are uniform, national standards for preservation activities.[2]

This publication explains how the National Park Service applies these criteria in evaluating the wide range of properties that may be significant in local, State, and national history.

It should be used by anyone who must decide if a particular property qualifies for the National Register of Historic Places.

Listing properties in the National Register is an important step in a nationwide preservation process. The responsibility for the identification, initial evaluation, nomination, and treatment of historic resources lies with private individuals, State historic preservation offices, and Federal preservation offices, local governments, and Indian tribes. The final evaluation and listing of properties in the National Register is the responsibility of the Keeper of the National Register.

This bulletin was prepared by staff of the National Register Branch, Interagency Resources Division, National Park Service, with the assistance of the History Division. It was originally issued in draft form in 1982. The draft was revised into final form by Patrick W. Andrus, Historian, National Park Service, and edited by Rebecca H. Shrimpton, Consulting Historian.

[1]Properties listed in the National Register receive limited Federal protection and certain benefits. For more information concerning the effects of listing, and how the National Register may be used by the general public and Certified Local Governments, as well as by local, State, and Federal agencies, and for copies of National Register Bulletins, write the National Register of Historic Places, National Park Service, 1849 C Street, NW, Washington, D.C., 20240, or any of the historic preservation offices in the States and territories.

[2]The *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* are found in the *Federal Register*, Vol. 48, No. 190 (Thursday, September 29, 1983). A copy can be obtained by writing the National Park Service, National Reigster, History and Education (address above).

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I. INTRODUCTION

The National Register is the nation's inventory of historic places and the national repository of documentation on the variety of historic property types, significance, abundance, condition, ownership, needs, and other information. It is the beginning of a national census of historic properties. The National Register Criteria for Evaluation define the scope of the National Register of Historic Places; they identify the range of resources and kinds of significance that will qualify properties for listing in the National Register. The Criteria are written broadly to recognize the wide variety of historic properties associated with our prehistory and history.

Decisions concerning the significance, historic integrity, documentation, and treatment of properties can be made reliably only when the resource is evaluated within its historic context. The historic context serves as the framework within which the National Register Criteria are applied to specific properties or property types. (See *Part V* for a brief discussion of historic contexts. Detailed guidance for developing and applying historic contexts is contained in *National Register Bulletin 16A: How to Complete the National Register Registration Form* and *National Register Bulletin 16B: How to Complete the National Register Multiple Property Documentation Form*)

The guidelines provided here are intended to help you understand the National Park Service's use of the Criteria for Evaluation, historic contexts, integrity, and Criteria Considerations, and how they apply to properties under consideration for listing in the National Register. Examples are provided throughout, illustrating specific circumstances in which properties are and are not eligible for the National Register. This bulletin should be used by anyone who is:

- Preparing to nominate a property to the National Register,
- Seeking a determination of a property's eligibility,
- Evaluating the comparable significance of a property to those listed in the National Register, or
- Expecting to nominate a property as a National Historic Landmark in addition to nominating it to the National Register.

This bulletin also contains a summary of the National Historic Landmarks Criteria for Evaluation (see *Part IX*). National Historic Landmarks are those districts, sites, buildings, structures, and objects designated by the Secretary of the Interior as possessing national significance in American history, architecture, archeology, engineering, and culture. Although National Register documentation includes a recommendation about whether a property is significant at the local, State, or national level, the only official designation of national significance is as a result of National Historic Landmark designation by the Secretary of the Interior, National Monument designation by the President of the United States, or establishment as a unit of the National Park System by Congress. These properties are automatically listed in the National Register.

II. THE NATIONAL REGISTER CRITERIA FOR EVALUATION

CRITERIA FOR EVALUATION:[3]

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

CRITERIA CONSIDERATIONS:

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties *will qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

a. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

b. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

c. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life; or

d. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

e. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

f. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

g. A property achieving significance within the past 50 years if it is of exceptional importance.

[3]The Criteria for Evaluation are found in the *Code of Federal Regulations, Title 36, Part 60*, and are reprinted here in full.

III. HOW TO USE THIS BULLETIN TO EVALUATE A PROPERTY

For a property to qualify for the National Register it must meet one of the National Register Criteria for Evaluation by:

- **Being associated with an important historic context** *and*
- **Retaining historic integrity of those features necessary to convey its significance.**

Information about the property based on physical examination and documentary research is necessary to evaluate a property's eligibility for the National Register. Evaluation of a property is most efficiently made when following this sequence:

1. Categorize the property (Part IV). A property must be classified as a district, site, building, structure, or object for inclusion in the National Register.
2. **Determine which prehistoric or historic context(s) the property represents** (Part V). A property must possess significance in American history, architecture, archeology, engineering, or culture when evaluated within the historic context of a relevant geographic area.
3. Determine whether the property is significant under the National Register Criteria (Part VI). This is done by identifying the links to important events or persons, design or construction features, or information potential that make the property important.
4. Determine if the property represents a type usually excluded from the National Register (Part VII). If so, determine if it meets any of the Criteria Considerations.
5. Determine whether the property retains integrity (Part VIII). Evaluate the aspects of location, design, setting, workmanship, materials, feeling, and association that the property must retain to convey its historic significance.

If, after completing these steps, the property appears to qualify for the National Register, the next step is to prepare a written nomination. (Refer to *National Register Bulletin: How to Complete the National Register Registration Form.*)

IV. HOW TO DEFINE CATEGORIES OF HISTORIC PROPERTIES

The National Register of Historic Places includes significant properties, classified as buildings, sites, districts, structures, or objects. It is not used to list intangible values, except in so far as they are associated with or reflected by historic properties. The National Register does not list cultural events, or skilled or talented individuals, as is done in some countries. Rather, the National Register is oriented to recognizing physically concrete properties that are relatively fixed in location.

For purposes of National Register nominations, small groups of properties are listed under a single category, using the primary resource. For example, a city hall and fountain would be categorized by the city hall (building), a farmhouse with two outbuildings would be categorized by the farmhouse (building), and a city park with a gazebo would be categorized by the park (site). Properties with large acreage or a number of resources are usually considered districts. Common sense and reason should dictate the selection of categories.

BUILDING

A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.

Buildings eligible for the National Register must include all of their basic structural elements. Parts of buildings, such as interiors, facades, or wings, are not eligible independent of the rest of the existing building. The whole building must be considered, and its significant features must be identified.

If a building has lost any of its basic structural elements, it is usually considered a "ruin" and is categorized as a site.

Examples of buildings include:

administration building
carriage house
church
city or town hall
courthouse
detached kitchen, barn, and privy
dormitory
fort
garage
hotel
house
library
mill building
office building
post office
school
social hall
shed
stable
store
theater
train station

STRUCTURE

The term "structure" is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.

Structures nominated to the National Register must include all of the extant basic structural elements. Parts of structures can not be considered eligible if the whole structure remains. For example, a truss bridge is composed of the metal or wooden truss, the abutments, and supporting piers, all of which, if extant, must be included when considering the property for eligibility.

If a structure has lost its historic configuration or pattern of organization through deterioration or demolition, it is usually considered a "ruin" and is categorized as a site.

Examples of structures include:

aircraft
apiary
automobile
bandstand
boats and ships
bridge
cairn
canal
carousel
corncrib
dam
earthwork
fence
gazebo
grain elevator
highway
irrigation system
kiln
lighthouse
railroad grade
silo
trolley car
tunnel
windmill

OBJECT

The term "object" is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.

Small objects not designed for a specific location are normally not eligible. Such works include transportable sculpture, furniture, and other decorative arts that, unlike a fixed outdoor sculpture, do not possess association with a specific place.

Objects should be in a setting appropriate to their significant historic use, roles, or character. Objects relocated to a museum are inappropriate for listing in the National Register.

Examples of objects include:

boundary marker
fountain
milepost
monument
sculpture
statuary

SITE

A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.

A site can possess associative significance or information potential or both, and can be significant under any or all of the four criteria. A site need not be marked by physical remains if it is the location of a prehistoric or historic event or pattern of events and if no buildings, structures, or objects marked it at the time of the events. However, when the location of a prehistoric or historic event cannot be conclusively determined because no other cultural materials were present or survive, documentation must be carefully evaluated to determine whether the traditionally recognized or identified site is accurate.

A site may be a natural landmark strongly associated with significant prehistoric or historic events or patterns of events, if the significance of the natural feature is well documented through scholarly research. Generally, though, the National Register excludes from the definition of "site" natural waterways or bodies of water that served as determinants in the location of communities or were significant in the locality's subsequent economic development. While they may have been "avenues of exploration," the features most appropriate to document this significance are the properties built in association with the waterways.

Examples of sites include:

battlefield
campsite
cemeteries significant for information potential or historic association
ceremonial site
designed landscape
habitation site
natural feature (such as a rock formation) having cultural significance
petroglyph
rock carving
rock shelter
ruins of a building or structure
shipwreck
trail
village site

DISTRICT

A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

CONCENTRATION, LINKAGE, & CONTINUITY OF FEATURES

A district derives its importance from being a unified entity, even though it is often composed of a wide variety of resources. The identity of a district results from the interrelationship of its resources, which can convey a visual sense of the overall historic environment or be an arrangement of historically or functionally related properties. For example, a district can reflect one principal activity, such as a mill or a ranch, or it can encompass several interrelated activities, such as an area that includes industrial, residential, or commercial buildings, sites, structures, or objects. A district can also be a grouping of archeological sites related primarily by their common components; these types of districts often will not visually represent a specific historic environment.

SIGNIFICANCE

A district must be significant, as well as being an identifiable entity. It must be important for historical, architectural, archeological, engineering, or cultural values. Therefore, districts that are significant will usually meet the last portion of Criterion C plus Criterion A, Criterion B, other portions of Criterion C, or Criterion D.

TYPES OF FEATURES

A district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. It may even be considered eligible if all of the components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context. In either case, the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole.

A district can contain buildings, structures, sites, objects, or open spaces that do not contribute to the significance of the district. The number of noncontributing properties a district can contain yet still convey its sense of time and place and historical development depends on how these properties affect the district's integrity. In archeological districts, the primary factor to be considered is the effect of any disturbances on the information potential of the district as a whole.

GEOGRAPHICAL BOUNDARIES

A district must be a definable geographic area that can be distinguished from surrounding properties by changes such as density, scale, type, age, style of sites, buildings, structures, and objects, or by documented differences in patterns of historic development or associations. It is seldom defined, however, by the limits of current parcels of ownership, management, or planning boundaries. The boundaries must be based upon a shared relationship among the properties constituting the district.

DISCONTIGUOUS DISTRICTS

A district is usually a single geographic area of contiguous historic properties; however, a district can also be composed of two or more definable significant areas separated by nonsignificant areas. A discontiguous district is most appropriate where:

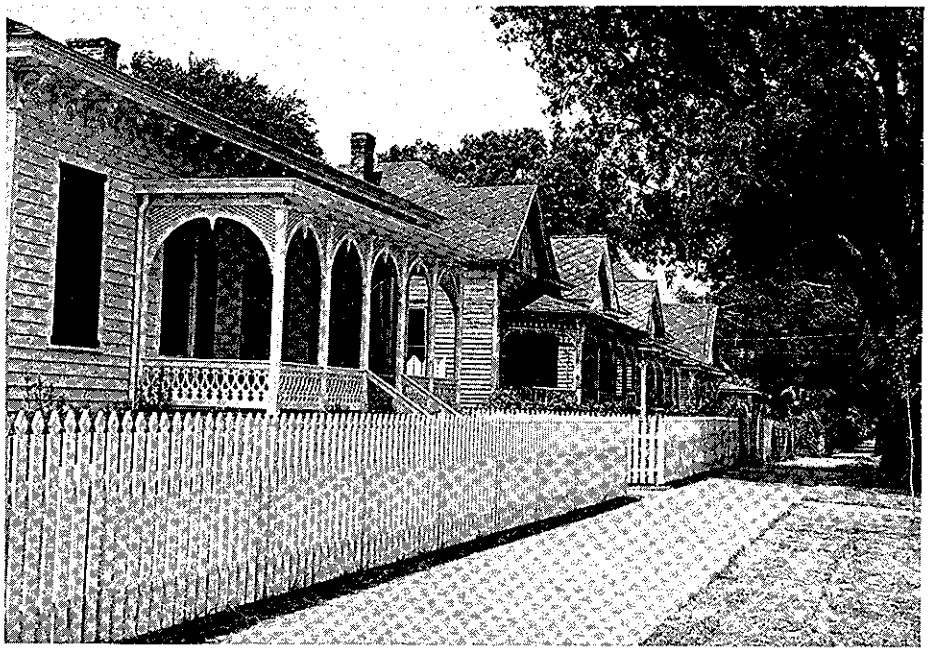
- Elements are spatially discrete;
- Space between the elements is not related to the significance of the district; and
- Visual continuity is not a factor in the significance.

In addition, a canal can be treated as a discontiguous district when the system consists of man-made sections of canal interspersed with sections of river navigation. For scattered archeological properties, a discontiguous district is appropriate when the deposits are related to each other through cultural affiliation, period of use, or site type.

It is not appropriate to use the discontiguous district format to include an isolated resource or small group of resources which were once connected to the district, but have since been separated either through demolition or new construction. For example, do not use the discontiguous district format to nominate individual buildings of a downtown commerical district that have become isolated through demolition.

Examples of districts include:

business districts
canal systems
groups of habitation sites
college campuses
estates and farms with large acreage/ numerous properties
industrial complexes
irrigation systems
residential areas
rural villages
transportation networks
rural historic districts



***Ordeman-Shaw Historic District**, Montgomery, Montgomery County, Alabama. Historic districts derive their identity from the interrationship of their resources. Part of the defining characteristics of this 19th century residential district in Montgomery, Alabama, is found in the rhythmic pattern of the rows of decorative porches. (Frank L. Thiermonge, III)*

V. HOW TO EVALUATE A PROPERTY WITHIN ITS HISTORIC CONTEXT

UNDERSTANDING HISTORIC CONTEXTS

To qualify for the National Register, a property must be significant; that is, it must represent a significant part of the history, architecture, archeology, engineering, or culture of an area, and it must have the characteristics that make it a good representative of properties associated with that aspect of the past. This section explains how to evaluate a property within its historic context.[4]

The significance of a historic property can be judged and explained only when it is evaluated within its historic context. Historic contexts are those patterns or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within history or prehistory is made clear. Historians, architectural historians, folklorists, archeologists, and anthropologists use different words to describe this phenomena such as trend, pattern, theme, or cultural affiliation, but ultimately the concept is the same.

The concept of historic context is not a new one; it has been fundamental to the study of history since the 18th century and, arguably, earlier than that. Its core premise is that resources, properties, or happenings in history do not occur in a vacuum but rather are part of larger trends or patterns.

In order to decide whether a property is significant within its historic context, the following five things must be determined:

- The facet of prehistory or history of the local area, State, or the nation that the property represents;
- Whether that facet of prehistory or history is significant;
- Whether it is a type of property that has relevance and importance in illustrating the historic context;
- How the property illustrates that history; and finally
- Whether the property possesses the physical features necessary to convey the aspect of prehistory or history with which it is associated.

These five steps are discussed in detail below. If the property being evaluated does represent an important aspect of the area's history or prehistory *and* possesses the requisite quality of integrity, then it qualifies for the National Register.

HOW TO EVALUATE A PROPERTY WITHIN ITS HISTORIC CONTEXT

Identify what the property represents: the theme(s), geographical limits, and chronological period that provide a perspective from which to evaluate the property's significance.

Historic contexts are historical patterns that can be identified through consideration of the history of the property and the history of the surrounding area. Historic contexts may have already been defined in your area by the State historic preservation office, Federal agencies, or local governments. In accordance with the National Register Criteria, the historic context may relate to one of the following:

- An event, a series of events or activities, or patterns of an area's development (Criterion A);
- Association with the life of an important person (Criterion B);
- A building form, architectural style, engineering technique, or artistic values, based on a stage of physical development, or the use of a material or method of construction that shaped the historic identity of an area (Criterion C); or
- A research topic (Criterion D).

[4] For a complete discussion of historic contexts, see *National Register Bulletin: Guidelines for Completing National Register of Historic Places Registration Forms.*

Determine how the theme of the context is significant in the history of the local area, the State, or the nation.

A theme is a means of organizing properties into coherent patterns based on elements such as environment, social/ethnic groups, transportation networks, technology, or political developments that have influenced the development of an area during one or more periods of prehistory or history. A theme is considered significant if it can be demonstrated, through scholarly research, to be important in American history. Many significant themes can be found in the following list of Areas of Significance used by the National Register.

AREAS OF SIGNIFICANCE

Agriculture
Architecture
Archeology
  Prehistoric
  Historic—Aboriginal
  Historic—Non-Aboriginal
Art
Commerce
Communications
Community Planning and Development
Conservation
Economics
Education
Engineering
Entertainment/Recreation
Ethnic Heritage
  Asian
  Black
  European
  Hispanic
  Native American
  Pacific Islander
  Other
Exploration/Settlement
Health/Medicine
Industry
Invention
Landscape Architecture
Law
Literature
Maritime History
Military
Performing Arts
Philosophy
Politics/Government
Religion
Science
Social History
Transportation
Other

Determine what the property type is and whether it is important in illustrating the historic context.

A context may be represented by a variety of important property types. For example, the context of "Civil War Military Activity in Northern Virginia" might be represented by such properties as: a group of mid-19th century fortification structures; an open field where a battle occurred; a knoll from which a general directed troop movements; a sunken transport ship; the residences or public buildings that served as company headquarters; a railroad bridge that served as a focal point for a battle; and earthworks exhibiting particular construction techniques.

Because a historic context for a community can be based on a distinct period of development, it might include numerous property types. For example, the context "Era of Industrialization in Grand Bay, Michigan, 1875 - 1900" could be represented by important property types as diverse as sawmills, paper mill sites, salt refining plants, flour mills, grain elevators, furniture factories, workers housing, commercial buildings, social halls, schools, churches, and transportation facilities.

A historic context can also be based on a single important type of property. The context "Development of County Government in Georgia, 1777 - 1861" might be represented solely by courthouses. Similarly, "Bridge Construction in Pittsburgh, 1870 - 1920" would probably only have one property type.

Determine how the property represents the context through specific historic associations, architectural or engineering values, or information potential (the Criteria for Evaluation).

For example, the context of county government expansion is represented under Criterion A by historic districts or buildings that reflect population growth, development patterns, the role of government in that society, and political events in the history of the State, as well as the impact of county government on the physical development of county seats. Under Criterion C, the context is represented by properties whose architectural treatments reflect their governmental functions, both practically and symbolically. (See *Part VI: How to Identify the Type of Significance of a Property.*)

Determine what physical features the property must possess in order for it to reflect the significance of the historic context.

These physical features can be determined after identifying the following:

- Which types of properties are associated with the historic context,
- The ways in which properties can represent the theme, and
- The applicable aspects of integrity.

Properties that have the defined characteristics are eligible for listing. (See *Part VIII: How to Evaluate the Integrity of a Property.*)

PROPERTIES SIGNIFICANT WITHIN MORE THAN ONE HISTORIC CONTEXT

A specific property can be significant within one or more historic contexts, and, if possible, all of these should be identified. For example, a public building constructed in the 1830s that is related to the historic context of Civil War campaigns in the area might also be related to the theme of political developments in the community during the 1880s. A property is only required, however, to be documented as significant in one context.

COMPARING RELATED PROPERTIES

Properties listed in the National Register must possess significance when evaluated in the perspective of their historic context. Once the historic context is established and the property type is determined, it is not necessary to evaluate the property in question against other properties *if*:

- It is the sole example of a property type that is important in illustrating the historic context or
- It clearly possesses the defined characteristics required to strongly represent the context.

If these two conditions do not apply, then the property will have to be evaluated against other examples of the property type to determine its eligibility. The geographic level (local, State, or national) at which this evaluation is made is the same as the level of the historic context. (See *Part V: How to Evaluate a Property Within Its Historic Context.*)

LOCAL, STATE, AND NATIONAL HISTORIC CONTEXTS

Historic contexts are found at a variety of geographical levels or scales. The geographic scale selected may relate to a pattern of historical development, a political division, or a cultural area. Regardless of the scale, the historic context establishes the framework from which decisions about the significance of related properties can be made.

LOCAL HISTORIC CONTEXTS

A local historic context represents an aspect of the history of a town, city, county, cultural area, or region, or any portions thereof. It is defined by the importance of the property, not necessarily the physical location of the property. For instance, if a property is of a type found throughout a State, or its boundaries extend over two States, but its importance relates only to a particular county, the property would be considered of local significance.

The level of context of archeological sites significant for their information potential depends on the scope of the applicable research design. For example, a Late Mississippian village site may yield information in a research design concerning one settlement system on a regional scale, while in another research design it may reveal information of local importance concerning a single group's stone tool manufacturing techniques or house forms. It is a question of how the available information potential is likely to be used.

STATE HISTORIC CONTEXTS

Properties are evaluated in a State context when they represent an aspect of the history of the State as a whole (or American Samoa, the District of Columbia, the Commonwealth of the Northern Mariana Islands, Guam, Puerto Rico, or the Virgin Islands). These properties do not necessarily have to belong to property types found throughout the entire State: they can be located in only a portion of the State's present political boundary. It is the property's historic context that must be important statewide. For example, the "cotton belt" extends through only a portion of Georgia, yet its historical development in the antebellum period affected the entire State. These State historic contexts may have associated properties that are statewide or locally significant representations. A cotton gin in a small town might be a locally significant representation of this context, while one of the largest cotton producing plantations might be of State significance.

A property whose historic associations or information potential appears to extend beyond a single local area might be significant at the State level. A property can be significant to more than one community or local area, however, without having achieved State significance.

A property that overlaps several State boundaries can possibly be significant to the State or local history of each of the States. Such a property is not necessarily of national significance, however, nor is it necessarily significant to all of the States in which it is located.

Prehistoric sites are not often considered to have "State" significance, per se, largely because States are relatively recent political entities and usually do not correspond closely to Native American political territories or cultural areas. Numerous sites, however, may be of significance to a large region that might geographically encompass parts of one, or usually several, States. Prehistoric resources that might be of State significance include regional sites that provide a diagnostic assemblage of artifacts for a particular cultural group or time period or that provide chronological control (specific dates or relative order in time) for a series of cultural groups.

NATIONAL HISTORIC CONTEXTS

Properties are evaluated in a national context when they represent an aspect of the history of the United States and its territories as a whole. These national historic contexts may have associated properties that are locally or statewide significant representations, as well as those of national significance.

Properties designated as nationally significant and listed in the National Register are the prehistoric and historic units of the National Park System and those properties that have been designated National Historic Landmarks. The National Historic Landmark criteria are the standards for nationally significant properties; they are found in the *Code of Federal Regulations, Title 36, Part 65* and are summarized in this bulletin in *Part IX: Summary of National Historic Landmarks Criteria for Evaluation.*

A property with national significance helps us understand the history of the nation by illustrating the nationwide impact of events or persons associated with the property, its architectural type or style, or information potential. It must be of exceptional value in representing or illustrating an important theme in the history of the nation.

Nationally significant properties do not necessarily have to belong to a property type found throughout the entire country: they can be located in only a portion of the present political boundaries. It is their historic context that must be important nationwide. For example, the American Civil War was fought in only a portion of the United States, yet its impact was nationwide. The site of a small military skirmish might be a locally significant representation of this national context, while the capture of the State's largest city might be a statewide significant representation of the national context.

When evaluating properties at the national level for designation as a National Historic Landmark, please refer to the National Historic Landmarks outline, *History and Prehistory in the National Park System and the National Historic Landmarks Program 1987.* (For more information about the National Historic Landmarks program, please write to the Department of the Interior, National Park Service, Interagency Resources Division, P.O. Box 37127, Washington, DC 20013-7127.)

VI. HOW TO IDENTIFY THE TYPE OF SIGNIFICANCE OF A PROPERTY

INTRODUCTION

When evaluated within its historic context, a property must be shown to be significant for *one or more of the four Criteria for Evaluation - A, B, C, or D* (listed earlier in *Part II*). The Criteria describe how properties are significant for their association with important events or persons, for their importance in design or construction, or for their information potential.

The basis for judging a property's significance and, ultimately, its eligibility under the Criteria is *historic context*. The use of historic context allows a property to be properly evaluated in a nearly infinite number of capacities. For instance, Criterion C: Design/Construction can accommodate properties representing construction types that are unusual or widely practiced, that are innovative or traditional, that are "high style" or vernacular, that are the work of a famous architect or an unknown master craftsman. *The key to determining whether the characteristics or associations of a particular property are significant is to consider the property within its historic context.*

After identifying the relevant historic context(s) with which the property is associated, the four Criteria are applied to the property. Within the scope of the historic context, the National Register Criteria define the kind of significance that the properties represent.

For example, within the context of "19th Century Gunpowder Production in the Brandywine Valley," Criterion A would apply to those properties associated with important events in the founding and development of the industry. Criterion B would apply to those properties associated with persons who are significant in the founding of the industry or associated with important inventions related to gunpowder manufacturing. Criterion C would apply to those buildings, structures, or objects whose architectural form or style reflect important design qualities integral to the industry. And Criterion D would apply to properties that can convey information important in our understanding of this industrial process. If a property qualifies under more than one of the Criteria, its significance under each should be considered, if possible, in order to identify all aspects of its historical value.

NATIONAL REGISTER CRITERIA FOR EVALUATION*

The National Register Criteria recognize different types of values embodied in districts, sites, buildings, structures, and objects. These values fall into the following categories:

Associative value (Criteria A and B): Properties significant for their association or linkage to events (Criterion A) or persons (Criterion B) important in the past.

Design or Construction value (Criterion C): Properties significant as representatives of the manmade expression of culture or technology.

Information value (Criterion D): Properties significant for their ability to yield important information about prehistory or history.

*For a complete listing of the Criteria for Evaluation, refer to Part II of this bulletin.

CRITERION A: EVENT

Properties can be eligible for the National Register if they are associated with events that have made a significant contribution to the broad patterns of our history.

UNDERSTANDING CRITERION A: EVENT

To be considered for listing under Criterion A, a property must be associated with one or more events important in the defined historic context. Criterion A recognizes properties associated with single events, such as the founding of a town, or with a pattern of events, repeated activities, or historic trends, such as the gradual rise of a port city's prominence in trade and commerce. The event or trends, however, must clearly be important within the associated context: settlement, in the case of the town, or development of a maritime economy, in the case of the port city. Moreover, the property must have an important association with the event or historic trends, and it must retain historic integrity. (See *Part V: How to Evaluate a Property Within its Historic Context.)*

Several steps are involved in determining whether a property is significant for its associative values:

- Determine the nature and origin of the property,
- Identify the historic context with which it is associated, and
- Evaluate the property's history to determine whether it is associated with the historic context in any important way.

APPLYING CRITERION A: EVENT

TYPES OF EVENTS

A property can be associated with either (or both) of two types of events:

- A specific event marking an important moment in American prehistory or history and
- A pattern of events or a historic trend that made a significant contribution to the development of a community, a State, or the nation.

Refer to the sidebar on the right for a list of specific examples.

ASSOCIATION OF THE PROPERTY WITH THE EVENTS

The property you are evaluating must be documented, through accepted means of historical or archeological research (including oral history), to have existed at the time of the event or pattern of events *and* to have been associated with those events. A property is *not* eligible if its associations are speculative. For archeological sites, well reasoned inferences drawn from data recovered at the site can be used to establish the association between the site and the events.

SIGNIFICANCE OF THE ASSOCIATION

Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well. For example, a building historically in commercial use must be shown to have been significant in commercial history.

EXAMPLES OF PROPERTIES ASSOCIATED WITH EVENTS

Properties associated with specific events:

- *The site of a battle.*
- *The building in which an important invention was developed.*
- *A factory district where a significant strike occurred.*
- *An archeological site at which a major new aspect of prehistory was discovered, such as the first evidence of man and extinct Pleistocene animals being contemporaneous.*
- *A site where an important facet of European exploration occurred.*

Properties associated with a pattern of events:

- *A trail associated with western migration.*
- *A railroad station that served as the focus of a community's transportation system and commerce.*
- *A mill district reflecting the importance of textile manufacturing during a given period.*
- *A building used by an important local social organization.*
- *A site where prehistoric Native Americans annually gathered for seasonally available resources and for social interaction.*
- *A downtown district representing a town's growth as the commercial focus of the surrounding agricultural area.*

TRADITIONAL CULTURAL VALUES

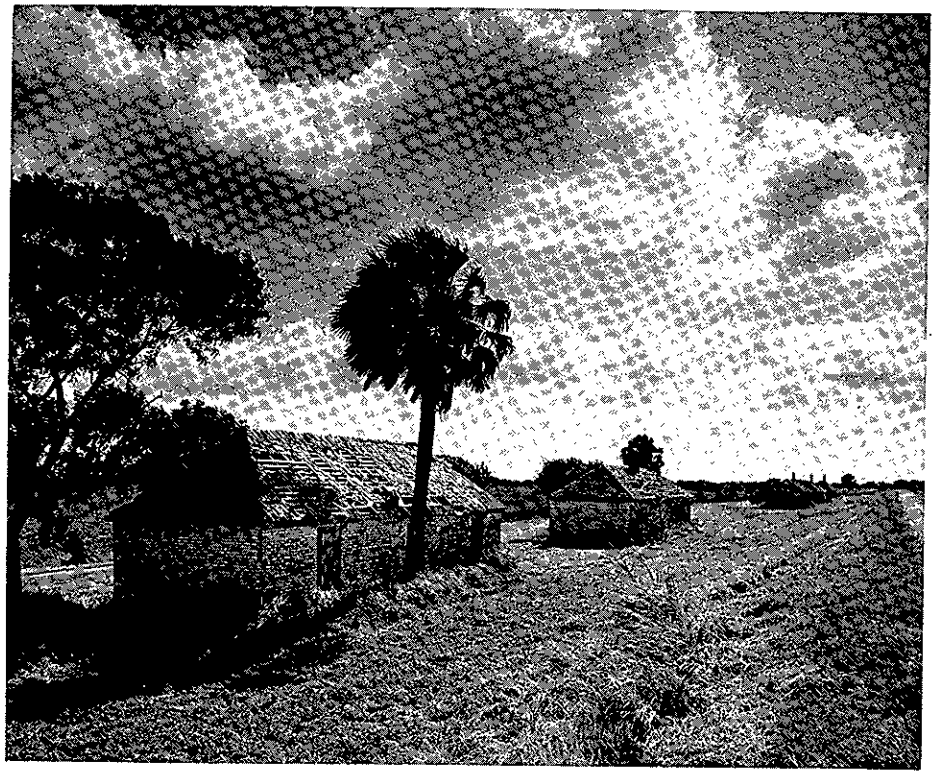
Traditional cultural significance is derived from the role a property plays in a community's historically rooted beliefs, customs, and practices. Properties may have significance under Criterion A if they are associated with events, or series of events, significant to the cultural traditions of a community.[5]

Eligible

- A hilltop associated in oral historical accounts with the founding of an Indian tribe or society is eligible.
- A rural community can be eligible whose organization, buildings, or patterns of land use reflect the cultural traditions valued by its long-term residents.
- An urban neighborhood can be eligible as the traditional home of a particular cultural group and as a reflection of its beliefs and practices.

Not Eligible

- A site viewed as sacred by a recently established utopian or religious community does not have traditional cultural value and is not eligible.



Criterion A - The Old Brulay Plantation, *Brownsville vicinity, Cameron county, Texas. Historically significant for its association with the development of agriculture in southeast Texas, this complex of 10 brick buildings was constructed by George N. Brulay, a French immigrant who introduced commercial sugar production and irrigation to the Rio Grande Valley. (Photo by Texas Historical Commission).*

[5] For more information, refer to *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties.*

CRITERION B: PERSON

Properties may be eligible for the National Register if they are associated with the lives of persons significant in our past.

UNDERSTANDING CRITERION B: PERSON[6]

Criterion B applies to properties associated with individuals whose specific contributions to history can be identified and documented. Persons "significant in our past" refers to individuals whose activities are demonstrably important within a local, State, or national historic context. The criterion is generally restricted to those properties that illustrate (rather than commemorate) a person's important achievements. (The policy regarding commemorative properties, birthplaces, and graves is explained further in *Part VIII: How to Apply the Criteria Considerations.)*

Several steps are involved in determining whether a property is significant for its associative values under Criterion B. First, determine the importance of the individual. Second, ascertain the length and nature of his/her association with the property under study and identify the other properties associated with the individual. Third, consider the property under Criterion B, as outlined below.

EXAMPLES OF PROPERTIES ASSOCIATED WITH PERSONS

Properties associated with a Significant Person:

- *The home of an important merchant or labor leader.*
- *The studio of a significant artist.*
- *The business headquarters of an important industrialist.*

Criterion B - The William Whitney House, *Hinsdale, DuPage County, Illinois. This building is locally significant for its historical association with William Whitney, the founder of the town of Hinsdale, Illinois. Whitney, a citizen of New York State, moved to Illinois, established the town, and while living here between 1870 and 1879 was a prominent local businessman and politician. (Photo by Frederick C. Cue).*

[6] For further information on properties eligible under Criterion B, refer to *National Register Bulletin: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons.*

APPLYING CRITERION B: PERSON

SIGNIFICANCE OF THE INDIVIDUAL

The persons associated with the property must be *individually* significant within a historic context. A property is not eligible if its only justification for significance is that it was owned or used by a person who is a member of an identifiable profession, class, or social or ethnic group. It must be shown that the person gained importance within his or her profession or group.

Eligible

- The residence of a doctor, a mayor, or a merchant is eligible under Criterion B if the person was significant in the field of medicine, politics, or commerce, respectively.

Not Eligible

- A property is not eligible under Criterion B if it is associated with an individual about whom no scholarly judgement can be made because either research has not revealed specific information about the person's activities and their impact, or there is insufficient perspective to determine whether those activities or contributions were historically important.

ASSOCIATION WITH THE PROPERTY

Properties eligible under Criterion B are usually those associated with a person's *productive* life, reflecting the time period when he or she achieved significance. In some instances this may be the person's home; in other cases, a person's business, office, laboratory, or studio may best represent his or her contribution. Properties that pre- or post-date an individual's significant accomplishments are usually not eligible. (See *Comparison to Related Properties*, below, for exceptions to this rule.)

The individual's association with the property must be documented by accepted methods of historical or archeological research, including written or oral history. Speculative associations are not acceptable. For archeological sites, well reasoned inferences drawn from data recovered at the site are acceptable.

COMPARISON TO RELATED PROPERTIES

Each property associated with an important individual should be compared to other associated properties to identify those that best represent the person's historic contributions. The best representatives usually are properties associated with the person's adult or *productive* life. Properties associated with an individual's formative or later years may also qualify if it can be demonstrated that the person's activities during this period were historically significant *or* if no properties from the person's productive years survives. Length of association is an important factor when assessing several properties with similar associations.

A community or State may contain several properties eligible for associations with the same important person, if each represents a different aspect of the person's productive life. A property can also be eligible if it has brief but consequential associations with an important individual. (Such associations are often related to specific events that occurred at the property and, therefore, it may also be eligible under Criterion A.)

ASSOCIATION WITH GROUPS

For properties associated with several community leaders or with a prominent family, it is necessary to identify specific individuals and to explain their significant accomplishments.

Eligible

- A residential district in which a large number of prominent or influential merchants, professionals, civic leaders, politicians, etc., lived will be eligible under Criterion B if the significance of one or more specific individual residents is explicitly justified.
- A building that served as the seat of an important family is eligible under Criterion B if the significant accomplishments of one or more individual family members is explicitly justified.

Not Eligible

- A residential district in which a large number of influential persons lived is not eligible under Criterion B if the accomplishments of a specific individual(s) cannot be documented. If the significance of the district rests in the cumulative importance of prominent residents, however, then the district might still be eligible under Criterion A. Eligibility, in this case, would be based on the broad pattern of community development, through which the neighborhood evolved into the primary residential area for this class of citizens.
- A building that served as the seat of an important family will not be eligible under Criterion B if the significant accomplishments of individual family members cannot be documented. In cases where a succession of family members have lived in a house and collectively have had a demonstrably significant impact on the community, as a family, the house is more likely to be significant under Criterion A for association with a pattern of events.

ASSOCIATION WITH LIVING PERSONS

Properties associated with living persons are usually not eligible for inclusion in the National Register. Sufficient time must have elapsed to assess both the person's field of endeavor and his/her contribution to that field. Generally, the person's active participation in the endeavor must be finished for this historic perspective to emerge. (See Criteria Considerations C and G in *Part VII: How to Apply the Criteria Considerations.)*

ASSOCIATION WITH ARCHITECTS/ARTISANS

Architects, artisans, artists, and engineers are often represented by their works, which are eligible under Criterion C. Their homes and studios, however, can be eligible for consideration under Criterion B, because these usually are the properties with which they are most personally associated.

NATIVE AMERICAN SITES

The known major villages of individual Native Americans who were important during the contact period or later can qualify under Criterion B. As with all Criterion B properties, the individual associated with the property must have made some specific important contribution to history. Examples include sites significantly associated with Chief Joseph and Geronimo.[7]

[7] For more information, refer to *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties.*

CRITERION C: DESIGN/CONSTRUCTION

Properties may be eligible for the National Register if they embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

Richland Plantation, *East Feliciana Parish, Louisiana. Properties can qualify under Criterion C as examples of high style architecture. Built in the 1830s, Richland is a fine example of a Federal style residence with a Greek Revival style portico. (Photo by Dave Gleason).*

UNDERSTANDING CRITERION C: DESIGN/ CONSTRUCTION

This criterion applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork. To be eligible under Criterion C, a property must meet *at least one* of the following requirements:

- Embody distinctive characteristics of a type, period, or method of construction.
- Represent the work of a master.
- Possess high artistic value.
- Represent a significant and distinguishable entity whose components may lack individual distinction.

The first requirement, that properties "embody the distinctive characteristics of a type, period, or method of construction," refers to the way in which a property was conceived, designed, or fabricated by a people or culture in past periods of history. "The work of a master" refers to the technical or aesthetic achievements of an architect or craftsman. "High artistic values" concerns the expression of aesthetic ideals or preferences and applies to aesthetic achievement.

Resources "that represent a significant and distinguishable entity whose components may lack individual distinction" are called "districts." In the Criteria for Evaluation (as published in the *Code of Federal Regulations* and reprinted here in Part II), districts are defined within the context of Criterion C. *Districts, however, can be considered for eligibility under all the Criteria,* individually or in any combination, as is appropriate. For this reason, the full discussion of districts is contained in *Part IV: How to Define Categories of Historic Properties.* Throughout the bulletin, however, districts are mentioned within the context of a specific subject, such as an individual Criterion.

Grant Family House, *Saco vicinity, York County, Maine. Properties possessing high artistic value meet Criterion C through the expression of aesthetic ideals or preferences. The Grant Family House, a modest Federal style residence, is significant for its remarkably well-preserved stenciled wall decorative treatment in the entry hall and parlor. Painted by an unknown artist ca. 1825, this is a fine example of 19th century New England regional artistic expression. (Photo by Kirk F. Mohney).*

EXAMPLES OF PROPERTIES ASSOCIATED WITH DESIGN/ CONSTRUCTION

Properties associated with design and construction:

- *A house or commercial building representing a significant style of architecture.*
- *A designed park or garden associated with a particular landscape design philosophy.*
- *A movie theater embodying high artistic value in its decorative features.*
- *A bridge or dam representing technological advances.*

APPLYING CRITERION C: DESIGN/ CONSTRUCTION

DISTINCTIVE CHARACTERISTICS OF TYPE, PERIOD, AND METHOD OF CONSTRUCTION

This is the portion of Criterion C under which most properties are eligible, for it encompasses all architectural styles and construction practices. To be eligible under this portion of the Criterion, a property must clearly illustrate, through "distinctive characteristics," the following:

- The pattern of features common to a particular class of resources,
- The individuality or variation of features that occurs within the class,
- The evolution of that class, or
- The transition between classes of resources.

Distinctive Characteristics: "Distinctive characteristics" are the physical features or traits that commonly recur in individual types, periods, or methods of construction. To be eligible, a property must clearly contain enough of those characteristics to be considered a true representative of a particular type, period, or method of construction.

Characteristics can be expressed in terms such as form, proportion, structure, plan, style, or materials. They can be general, referring to ideas of design and construction such as basic plan or form, or they can be specific, referring to precise ways of combining particular kinds of materials.

Eligible

- A building eligible under the theme of Gothic Revival architecture must have the distinctive characteristics that make up the vertical and picturesque qualities of the style, such as pointed gables, steep roof pitch, board and batten siding, and ornamental bargeboard and veranda trim.
- A late Mississippian village that illustrates the important concepts in prehistoric community design and planning will qualify.
- A designed historic landscape will qualify if it reflects a historic trend or school of theory and practice, such as the City Beautiful Movement, evidencingdistinguished design, layout, and the work of skilled craftsmanship.

Not Eligible

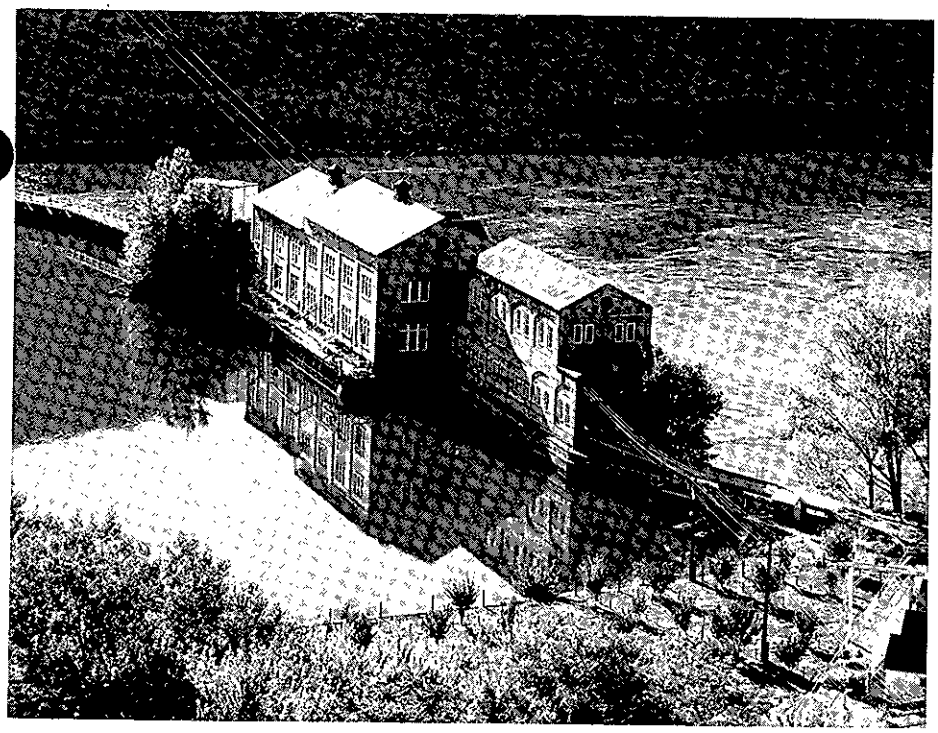
- A commercial building with some Art Deco detailing is not eligible under Criterion C if the detailing was added merely as an afterthought, rather than fully integrated with overall lines and massing typical of the Art Deco style or the transition between that and another style.
- A designed landscape that has had major changes to its historic design, vegetation, original boundary, topography/ grading, architectural features, and circulation system will not qualify.

Type, Period, and Method of Construction: "Type, period, or method of construction" refers to the way certain properties are related to one another by cultural tradition or function, by dates of construction or style, or by choice or availability of materials and technology.

A structure is eligible as a specimen of its type or period of construction if it is an important example (within its context) of building practices of a particular time in history. For properties that represent the variation, evolution, or transition of construction types, it must be demonstrated that the variation, etc., was an important phase of the architectural development of the area or community in that it had an impact as evidenced by later buildings. A property is not eligible, however, simply because it has been identified as the only such property ever fabricated; it must be demonstrated to be significant as well.

Eligible

- A building that has some characteristics of the Romanesque Revival style and some characteristics of the Commercial style can qualify if it illustrates the transition of architectural design and the transition itself is considered an important architectural development.
- A Hopewellian mound, if it is an important example of mound building construction techniques, would qualify as a method or type of construction.
- A building which illustrates the early or the developing technology of particular structural systems, such as skeletal steel framing, is eligible as an example of a particular method of construction.



Swan Falls Dam and Power Plant, *Murphy vicinity, Ada County, Idaho. Significant works of engineering can qualify under Criterion C. Built between 1900-1907 the Swan Falls Dam and Power Plant across the Snake River is one of the early hydroelectric plants in the State of Idaho. (Photo by H.L. Hough).*

Looney House, *Asheville vicinity, St. Clair County, Alabama. Examples of vernacular styles of architecture can qualify under Criterion C. Built ca. 1818, the Looney House is significant as possibly the State's oldest extant two-story dogtrot type of dwelling. The defining open center passage of the dogtrot was a regional building response to the southern climate. (Photo by Carolyn Scott).*

HISTORIC ADAPTATION OF THE ORIGINAL PROPERTY

A property can be significant not only for the way it was originally constructed or crafted, but also for the way it was adapted at a later period, or for the way it illustrates changing tastes, attitudes, and uses over a period of time.

A district is eligible under this guideline if it illustrates the evolution of historic character of a place over a particular span of time.

Eligible

- A Native American irrigation system modified for use by Europeans could be eligible if it illustrates the technology of either or both periods of construction.
- An early 19th century farmhouse modified in the 1880s with Queen Anne style ornamentation could be significant for the modification itself, if it represented a local variation or significant trend in building construction or remodelling, was the work of a local master (see *Works of a Master* on page 20), or reflected the tastes of an important person associated with the property at the time of its alteration.
- A district encompassing the commercial development of a town between 1820 and 1910, characterized by buildings of various styles and eras, can be eligible.

WORKS OF A MASTER

A master is a figure of generally recognized greatness in a field, a known craftsman of consummate skill, or an anonymous craftsman whose work is distinguishable from others by its characteristic style and quality. The property must express a particular phase in the development of the master's career, an aspect of his or her work, or a particular idea or theme in his or her craft.

A property is not eligible as the work of a master, however, simply because it was designed by a prominent architect. For example, not every building designed by Frank Lloyd Wright is eligible under this portion of Criterion C, although it might meet other portions of the Criterion, for instance as a representative of the Prairie style.

The work of an unidentified craftsman is eligible if it rises above the level of workmanship of the other properties encompassed by the historic context.

PROPERTIES POSSESSING HIGH ARTISTIC VALUES

High artistic values may be expressed in many ways, including areas as diverse as community design or planning, engineering, and sculpture. A property is eligible for its high artistic values if it so fully articulates a particular concept of design that it expresses an aesthetic ideal. A property is not eligible, however, if it does not express aesthetic ideals or design concepts more fully than other properties of its type.

Eligible

- A sculpture in a town square that epitomizes the design principles of the Art Deco style is eligible.
- A building that is a classic expression of the design theories of the Craftsman Style, such as carefully detailed handwork, is eligible.
- A landscaped park that synthesizes early 20th century principles of landscape architecture and expresses an aesthetic ideal of environment can be eligible.
- Properties that are important representatives of the aesthetic values of a cultural group, such as petroglyphs and ground drawings by Native Americans, are eligible.

Not Eligible

- A sculpture in a town square that is a typical example of sculpture design during its period would not qualify for high artistic value, although it might be eligible if it were significant for other reasons.
- A building that is a modest example (within its historic context) of the Craftsman Style of architecture, or a landscaped park that is characteristic of turn of the century landscape design would not qualify for high artistic value.

A Significant and Distinguishable Entity Whose Components May Lack Individual Distinction. This portion of Criterion C refers to districts. For detailed information on districts, refer to *Part IV* of this bulletin.

CRITERION D: INFORMATION POTENTIAL

Properties may be eligible for the National Register if they have yielded, or may be likely to yield, information important in prehistory or history.

UNDERSTANDING CRITERION D: INFORMATION POTENTIAL

Certain important research questions about human history can only be answered by the actual physical material of cultural resources. Criterion D encompasses the properties that have the potential to answer, in whole or in part, those types of research questions. The most common type of property nominated under this Criterion is the archeological site (or a district comprised of archeological sites). Buildings, objects, and structures (or districts comprised of these property types), however, can also be eligible for their information potential.

Criterion D has two requirements, which must *both* be met for a property to qualify:

- The property must have, or have had, information to contribute to our understanding of human history or prehistory, and
- The information must be considered important.

Under the first of these requirements, a property is eligible if it has been used as a source of data and contains more, as yet unretrieved data. A property is also eligible if it has not yet yielded information but, through testing or research, is determined a likely source of data.

Under the second requirement, the information must be carefully evaluated within an appropriate context to determine its importance. Information is considered "important" when it is shown to have a significant bearing on a research design that addresses such areas as: 1) current data gaps or alternative theories that challenge existing ones or 2) priority areas identified under a State or Federal agency management plan.

APPLYING CRITERION D: INFORMATION POTENTIAL

ARCHEOLOGICAL SITES

Criterion D most commonly applies to properties that contain or are likely to contain information bearing on an important archeological research question. The property must have characteristics suggesting the likelihood that it possesses configurations of artifacts, soil strata, structural remains, or other natural or cultural features that make it possible to do the following:

- Test a hypothesis or hypotheses about events, groups, or processes in the past that bear on important research questions in the social or natural sciences or the humanities; or
- Corroborate or amplify currently available information suggesting that a hypothesis is either true or false; or
- Reconstruct the sequence of archeological cultures for the purpose of identifying and explaining continuities and discontinuities in the archeological record for a particular area.

BUILDINGS, STRUCTURES, AND OBJECTS

While most often applied to archeological districts and sites, Criterion D can also apply to buildings, structures, and objects that contain important information. In order for these types of properties to be eligible under Criterion D, they themselves must be, or must have been, the principal source of the important information.

Eligible

- A building exhibiting a local variation on a standard design or construction technique can be eligible if study could yield important information, such as how local availability of materials or construction expertise affected the evolution of local building development.

Not Eligible

- The ruins of a hacienda once contained murals that have since been destroyed. Historical documentation, however, indicates that the murals were significant for their highly unusual design. The ruins can not be eligible under Criterion D for the importance of the destroyed murals if the information is contained only in the documentation.

Criterion D - Champe-Fremont 1 Archeological Site, Omaha vicinity, Douglas County, Nebraska. This archeological site, dating from ca. 1100-1450, consists of pit houses and storage pits which have the potential to yield important information concerning the subsistence patterns, religious and mortuary practices, and social organization of the prehistoric residents of eastern Nebraska. (Photo by Nebraska State Historical Society).

ASSOCIATION WITH HUMAN ACTIVITY

A property must be associated with *human activity* and be critical for understanding a site's historic environment in order to be eligible under Criterion D. A property can be linked to human activity through events, processes, institutions, design, construction, settlement, migration, ideals, beliefs, lifeways, and other facets of the development or maintenance of cultural systems.

The natural environment associated with the properties was often very different from that of the present and strongly influenced cultural development. Aspects of the environment that are pertinent to human activities should be considered when evaluating properties under Criterion D.

Natural features and paleontological (floral and faunal) sites are not usually eligible under Criterion D in and of themselves. They can be eligible, however, if they are either directly related to human activity or critical to understanding a site's historic environment. In a few cases, a natural feature or site unmarked by cultural materials, that is primarily eligible under Criterion A, may also be eligible under Criterion D, if study of the feature, or its location, setting, etc. (usually in the context of data gained from other sources), will yield important information about the event or period with which it is associated.

ESTABLISHING A HISTORIC CONTEXT

The information that a property yields, or will yield, must be evaluated within an appropriate historic context. This will entail consulting the body of information already collected from similar properties or other pertinent sources, including modern and historic written records. The researcher must be able to anticipate if and how the potential information will affect the definition of the context. The information likely to be obtained from a particular property must confirm, refute, or supplement in an important way existing information.

A property is *not* eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained.

DEVELOPING RESEARCH QUESTIONS

Having established the importance of the information that may be recovered, it is necessary to be explicit in demonstrating the connection between the important information and a specific property. One approach is to determine if specific important research questions can be answered by the data contained in the property. Research questions can be related to property-specific issues, to broader questions about a large geographic area, or to theoretical issues independent of any particular geographic location. These questions may be derived from the academic community or from preservation programs at the local, regional, State, or national level. Research questions are usually developed as part of a "research design," which specifies not only the questions to be asked, but also the types of data needed to supply the answers, and often the techniques needed to recover the data.

Eligible

- When a site consisting of a village occupation with midden deposits, hearths, ceramics, and stratified evidence of several occupations is being evaluated, three possible research topics could be: 1) the question of whether the site occupants were indigenous to the area prior to the time of occupation or recent arrivals, 2) the investigation of the settlement-subsistence pattern of the occupants, 3) the question of whether the region was a center for the domestication of plants. Specific questions could include: A) Do the deposits show a sequential development or sudden introduction of Ceramic Type X? B) Do the dates of the occupations fit our expectations based on the current model for the reoccupation behavior of slash-and-burn agriculturalists? C) Can any genetic changes in the food plant remains be detected?

Not Eligible

- A property is not eligible if so little can be understood about it that it is not possible to determine if specific important research questions can be answered by data contained in the property.

ESTABLISHING THE PRESENCE OF ADEQUATE DATA

To support the assertion that a property has the data necessary to provide the important information, the property should be investigated with techniques sufficient to establish the presence of relevant data categories. What constitutes appropriate investigation techniques would depend upon specific circumstances including the property's location, condition, and the research questions being addressed, and could range from surface survey (or photographic survey for buildings), to the application of remote sensing techniques or intensive subsurface testing. Justification of the research potential of a property may be based on analogy to another better known property if sufficient similarities exist to establish the appropriateness of the analogy.

Eligible

- Data requirements depend on the specific research topics and questions to be addressed. To continue the example in "Developing Research Questions" above, we might want to ascertain the following with reference to questions A, B, and C: A) The site contains Ceramic Type X in one or more occupation levels and we expect to be able to document the local evaluation of the type or its intrusive nature. B) The hearths contain datable carbon deposits and are associated with more than one occupation. C) The midden deposits show good floral/faunal preservation, and we know enough about the physical evolution of food plants to interpret signs that suggest domestication.

Not Eligible

- Generally, if the applicable research design requires clearly stratified deposits, then subsurface investigation techniques must be applied. A site composed only of surface materials can not be eligible for its potential to yield information that could only be found in stratified deposits.

INTEGRITY

The assessment of integrity for properties considered for information potential depends on the data requirements of the applicable research design. A property possessing information potential does not need to recall *visually* an event, person, process, or construction technique. It is important that the significant data contained in the property remain sufficiently intact to yield the expected important information, if the appropriate study techniques are employed.

Eligible

- An irrigation system significant for the information it will yield on early engineering practices can still be eligible even though it is now filled in and no longer retains the appearance of an open canal.

Not Eligible

- A plowed archeological site contains several superimposed components that have been mixed to the extent that artifact assemblages cannot be reconstructed. The site cannot be eligible if the data requirements of the research design call for the study of artifacts specific to one component.

PARTLY EXCAVATED OR DISTURBED PROPERTIES

The current existence of appropriate physical remains must be ascertained in considering a property's ability to yield important information. Properties that have been partly excavated or otherwise disturbed and that are being considered for their potential to yield additional important information must be shown to retain that potential in their remaining portions.

Eligible

- A site that has been partially excavated but still retains substantial intact deposits (or a site in which the remaining deposits are small but contain critical information on a topic that is not well known) is eligible.

Not Eligible

- A totally collected surface site or a completely excavated buried site is not eligible since the physical remains capable of yielding important information no longer exist at the site. (See *Completely Excavated Sites*, on page 24, for exception.) Likewise, a site that has been looted or otherwise disturbed to the extent that the remaining cultural materials have lost their important depositional context (horizontal or vertical location of deposits) is not eligible.
- A reconstructed mound or other reconstructed site will generally not be considered eligible, because original cultural materials or context or both have been lost.

COMPLETELY EXCAVATED SITES

Properties that have yielded important information in the past and that no longer retain additional research potential (such as completely excavated archeological sites) must be assessed essentially as historic sites under Criterion A. Such sites must be significant for associative values related to: 1) the importance of the data gained or 2) the impact of the property's role in the history of the development of anthropology/ archeology or other relevant disciplines. Like other historic properties, the site must retain the ability to convey its association as the former repository of important information, the location of historic events, or the representative of important trends.

Eligible

- A property that has been excavated is eligible if the data recovered was of such importance that it influenced the direction of research in the discipline, as in a site that clearly established the antiquity of the human occupation of the New World. (See Criterion A in *Part VI: How to Identify the Type of Significance of a Property* and Criteria Consideration G in *Part VII: How to Apply the Criteria Considerations.*)

Not Eligible

- A totally excavated site that at one time yielded important information but that no longer can convey either its historic/ prehistoric utilization or significant modern investigation is not eligible.

VII. HOW TO APPLY THE CRITERIA CONSIDERATIONS

INTRODUCTION

Certain kinds of properties are not usually considered for listing in the National Register: religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties achieving significance within the past fifty years. These properties *can* be eligible for listing, however, if they meet special requirements, called Criteria Considerations, in addition to meeting the regular requirements (that is, being eligible under one or more of the four Criteria and possessing integrity). *Part VII* provides guidelines for determining which properties must meet these special requirements and for applying each Criteria Consideration.

The Criteria Considerations need to be applied only to *individual* properties. Components of eligible districts do not have to meet the special requirements unless they make up the majority of the district or are the focal point of the district. These are the general steps to follow when applying the Criteria Considerations to your property:

- Before looking at the Criteria Considerations, make sure your property meets one or more of the four Criteria for Evaluation and possesses integrity.
- If it does, check the Criteria Considerations (next column) to see if the property is of a type that is usually excluded from the National Register. The sections that follow also list specific examples of properties of each type. If your property clearly *does not* fit one of these types, then it does not need to meet any special requirements.
- If your property *does* fit one of these types, then it must meet the special requirements stipulated for that type in the Criteria Considerations.

CRITERIA CONSIDERATIONS*

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past fifty years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

a. a religious property deriving primary significance from architectural or artistic distinction or historical importance; or

b. a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

c. a birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life; or

d. a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, from association with historic events; or

e. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

f. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,

g. a property achieving significance within the past 50 years if it is of exceptional importance.

*The Criteria Considerations are taken from the Criteria for Evaluation, found in the *Code of Federal Regulations, Title 36, Part 60.*

CRITERIA CONSIDERATION A: RELIGIOUS PROPERTIES

A religious property is eligible if it derives its primary significance from architectural or artistic distinction or historical importance.

UNDERSTANDING CRITERIA CONSIDERATION A: RELIGIOUS PROPERTIES

A religious property requires justification on architectural, artistic, or historic grounds to avoid any appearance of judgment by government about the validity of any religion or belief. Historic significance for a religious property cannot be established on the merits of a religious doctrine, but rather, for architectural or artistic values or for important historic or cultural forces that the property represents. A religious property's significance under Criterion A, B, C, or D must be judged in purely secular terms. A religious group may, in some cases, be considered a cultural group whose activities are significant in areas broader than religious history.

Criteria Consideration for Religious Properties applies:

- If the resource was constructed by a religious institution.
- If the resource is presently owned by a religious institution or is used for religious purposes.
- If the resource was owned by a religious institution or used for religious purposes during its Period of Significance.
- If Religion is selected as an Area of Significance.

Examples of Properties that MUST Meet Criteria Consideration A: Religious Properties

- *A historic church where an important non-religious event occurred, such as a speech by Patrick Henry.*
- *A historic synagogue that is significant for architecture.*
- *A private residence is the site of a meeting important to religious history.*
- *A commercial block that is currently owned as an investment property by a religious institution.*
- *A historic district in which religion was either a predominant or significant function during the period of significance.*

Example of Properties that DO NOT Need to Meet Criteria Consideration A: Religious Properties

- *A residential or commercial district that currently contains a small number of churches that are not a predominant feature of the district.*
- *A town meeting hall that serves as the center of community activity and houses a wide variety of public and private meetings, including religious service. The resource is significant for architecture and politics, and the religious function is incidental.*
- *A town hall, significant for politics from 1875 to 1925, that housed religious services during the 1950s. Since the religious function occurred after the Period of Significance, the Criteria Consideration does not apply.*

APPLYING CRITERIA CONSIDERATION A: RELIGIOUS PROPERTIES

ELIGIBILITY FOR HISTORIC EVENTS

A religious property can be eligible under Criterion A for any of three reasons:

- It is significant under a theme in the history of religion having secular scholarly recognition; or
- It is significant under another historical theme, such as exploration, settlement, social philanthropy, or education; or
- It is significantly associated with traditional cultural values.

RELIGIOUS HISTORY

A religious property can be eligible if it is directly associated with either a specific event or a broad pattern in the history of religion.

Eligible

- The site of a convention at which a significant denominational split occurred meets the requirements of Criteria Consideration A. Also eligible is a property that illustrates the broad impact of a religious institution on the history of a local area.

Not Eligible

- A religious property cannot be eligible simply because was the place of religious services for a community, or was the oldest structure used by a religious group in a local area.

OTHER HISTORICAL THEMES

A religious property can be eligible if it is directly associated with either a specific event or a broad pattern that is significant in another historic context. A religious property would also qualify if it were significant for its associations that illustrate the importance of a particular religious group in the social, cultural, economic, or political history of the area. Eligibility depends on the importance of the event or broad pattern and the role of the specific property.

Eligible

- A religious property can qualify for its important role as a temporary hospital during the Revolutionary War, or if its school was significant in the history of education in the community.

Not Eligible

- A religious property is not significant in the history of education in a community simply because it had occasionally served as a school.

TRADITIONAL CULTURAL VALUES

When evaluating properties associated with traditional cultures, it is important to recognize that often these cultures do not make clear distinctions between what is secular and what is sacred. Criteria Consideration A is not intended to exclude traditional cultural resources merely because they have religious uses or are considered sacred. A property or natural feature important to a traditional culture's religion and mythology is eligible if its importance has been ethnohistorically documented and if the site can be clearly defined. It is critical, however, that the activities be documented and that the associations not be so diffuse that the physical resource cannot be adequately defined.[8]

Eligible

- A specific location or natural feature that an Indian tribe believes to be its place of origin and that is adequately documented qualifies under Criteria Consideration A.

ELIGIBILITY FOR HISTORIC PERSONS

A religious property can be eligible for association with a person important in religious history, if that significance has scholarly, secular recognition or is important in other historic contexts. Individuals who would likely be considered significant are those who formed or significantly influenced an important religious institution or movement, or who were important in the social, economic, or political history of the area. Properties associated with individuals important only within the context of a single congregation and lacking importance in any other historic context would not be eligible under Criterion B.

Eligible

- A religious property strongly associated with a religious leader, such as George Whitefield or Joseph Smith, is eligible.

[8] For more information on applying Criteria Consideration A to traditional cultural properties, refer to *National Register Bulletin: Guidelines for Evaluating and Documenting Traditional Cultural Properties.*

ELIGIBILITY FOR ARCHITECTURAL OR ARTISTIC DISTINCTION

A religious property significant for its architectural design or construction should be evaluated as are other properties under Criterion C; that is, it should be evaluated within an established architectural context and, if necessary, compared to other properties of its type, period, or method of construction. (See "Comparing Related Properties" in *Part V: How to Evaluate a Property Within Its Historic Context.)*

Eligible

- A historic camp meeting district that meets the requirements of Criterion C for its significance as a type of construction is eligible.

ELIGIBILITY FOR INFORMATION POTENTIAL

A religious property, whether a district, site, building, structure, or object, is eligible if it can yield important information about the religious practices of a cultural group or other historic themes. This kind of property should be evaluated as are other properties under Criterion D, in relation to similar properties, other information sources, and existing data gaps.

Eligible

- A 19th century camp meeting site that could provide information about the length and intensity of site use during revivals of the Second Great Awakening is eligible.
- Rock cairns or medicine wheels that had a historic religious mythological function and can provide information about specific cultural beliefs are eligible.

ABILITY TO REFLECT HISTORIC ASSOCIATIONS

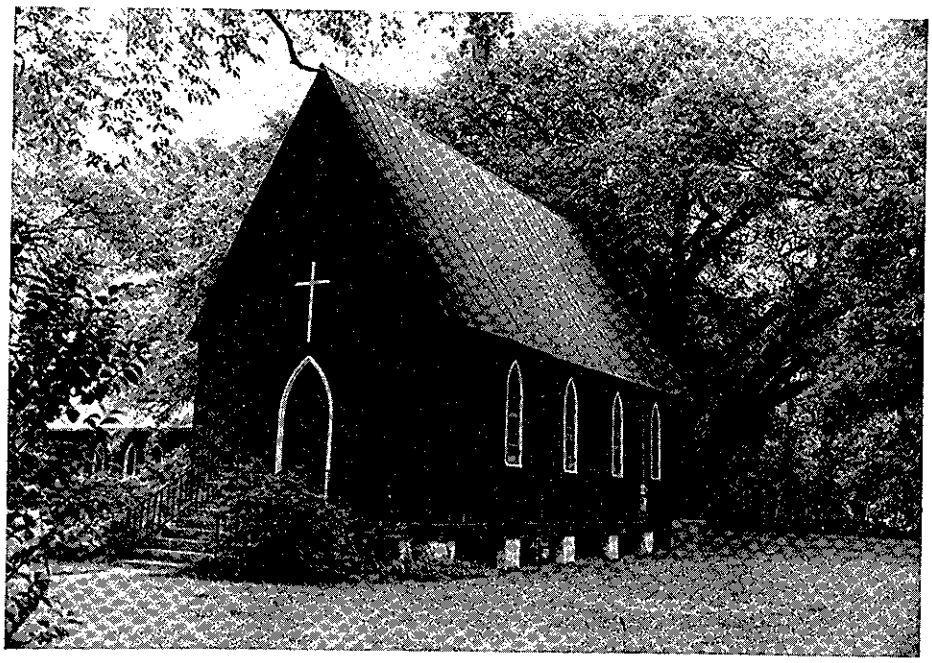
As with all eligible properties, religious properties must physically represent the period of time for which they are significance. For instance, a recent building that houses an older congregation cannot qualify based on the historic activities of the group because the current building does not convey the earlier history. Likewise, an older building that housed the historic activities of the congregation is eligible if it still physically represents the period of the congregation's significance. However, if an older building has been remodeled to the extent that its appearance dates from the time of the remodeling, it can only be eligible if the period of significance corresponds with the period of the alterations.

Eligible

- A church built in the 18th century and altered beyond recognition in the 19th century is eligible only if the additions are important in themselves as an example of late 19th century architecture or as a reflection of an important period of the congregation's growth.

Not Eligible

- A synagogue built in the 1920s cannot be eligible for the important activities of its congregation in the 18th and 19th centuries. It can only be eligible for significance obtained after its construction date.
- A rural 19th century frame church recently sheathed in brick is not eligible because it has lost its characteristic appearance and therefore can no longer convey its 19th century significance, either for architectural value or historic association.



Criteria Consideration A - Religious Properties. *A religious property can qualify as an exception to the Criteria if it is architecturally significant.* ***The Church of the Navity*** *in Rosedale, Iberville Parish, Louisiana, qualified as a rare example in the State of a 19th century small frame Gothic Revival style chapel. (Photo by Robert Obier).*

CRITERIA CONSIDERATION B: MOVED PROPERTIES

A property removed from its original or historically significant location can be eligible if it is significant primarily for architectural value or it is the surviving property most importantly associated with a historic person or event.

UNDERSTANDING CRITERIA CONSIDERATION B: MOVED PROPERTIES

The National Register criteria limit the consideration of moved properties because significance is embodied in locations and settings as well as in the properties themselves. Moving a property destroys the relationships between the property and its surroundings and destroys associations with historic events and persons. A move may also cause the loss of historic features such as landscaping, foundations, and chimneys, as well as loss of the potential for associated archeological deposits. Properties that were moved *before* their period of significance do not need to meet the special requirements of Criteria Consideration B.

One of the basic purposes of the National Register is to encourage the preservation of historic properties as living parts of their communities. In keeping with this purpose, it is not usual to list artificial groupings of buildings that have been created for purposes of interpretation, protection, or maintenance. Moving buildings to such a grouping destroys the integrity of location and setting, and can create a false sense of historic development.

APPLYING CRITERIA CONSIDERATION B: MOVED PROPERTIES

ELIGIBILITY FOR ARCHITECTURAL VALUE

A moved property significant under Criterion C must retain enough historic features to convey its architectural values and retain integrity of design, materials, workmanship, feeling, and association.

Examples of Properties that MUST Meet Criteria Consideration B: Moved Properties

- *A resource moved from one location on its original site to another location on the property, during or after its Period of Significance.*
- *A district in which a significant number of resources have been moved from their original location.*
- *A district which has one moved building that makes an especially significant contribution to the district.*
- *A portable resource, such as a ship or railroad car, that is relocated to a place incompatible with its original function.*
- *A portable resource, such as a ship or railroad car, whose importance is critically linked to its historic location or route and that is moved.*

Examples of Properties that DO NOT Need to Meet Criteria Consideration B: Moved Properties

- *A property that is moved prior to its Period of Significance.*
- *A district in which only a small percentage of typical buildings in a district are moved.*
- *A moved building that is part of a complex but is of less significance than the remaining (unmoved) buildings.*
- *A portable resource, such as a ship or railroad car, that is eligible under Criterion C and is moved within its natural setting (water, rails, etc.).*
- *A property that is raised or lowered on its foundations.*

ELIGIBILITY FOR HISTORIC ASSOCIATIONS

A moved property significant under Criteria A or B must be demonstrated to be the surviving property most importantly associated with a particular historic event or an important aspect of a historic person's life. The phrase "most importantly associated" means that it must be the single surviving property that is most closely associated with the event or with the part of the person's life for which he or she is significant.

Eligible

- A moved building occupied by an business woman during the majority of her productive career would be eligible if the other extant properties are a house she briefly inhabited prior to her period of significance and a commercial building she owned after her retirement.

Not Eligible

- A moved building associated with the beginning of rail transportation in a community is not eligible if the original railroad station and warehouse remained intact on their original sites.

SETTING AND ENVIRONMENT

In addition to the requirements above, moved properties must still have an orientation, setting, and general environment that are comparable to those of the historic location and that are compatible with the property's significance.

Eligible

- A property significant as an example of mid-19th century rural house type can be eligible after a move, provided that it is placed on a lot that is sufficient in size and character to recall the basic qualities of the historic environment and setting, and provided that the building is sited appropriately in relation to natural and manmade surroundings.

Not Eligible

- A rural house that is moved into an urban area and a bridge that is no longer situated over a waterway are not eligible.

ASSOCIATION DEPENDENT ON THE SITE

For a property whose design values or historical associations are directly dependent on its location, any move will cause the property to lose its integrity and prevent it from conveying its significance.

Eligible

- A farm structure significant only as an example of a method of construction peculiar to the local area is still eligible if it is moved within that local area and the new setting is similar to that of the original location.

Not Eligible

- A 19th century rural residence that was designed around particular topographic features, reflecting that time period's ideals of environment, is not eligible if moved.

PROPERTIES DESIGNED TO BE MOVED

A property designed to move or a property frequently moved during its historic use must be located in a historically appropriate setting in order to qualify, retaining its integrity of setting, design, feeling, and association. Such properties include automobiles, railroad cars and engines, and ships.

Eligible

- A ship docked in a harbor, a locomotive on tracks or in a railyard, and a bridge relocated from one body of water to another are eligible.

Not Eligible

- A ship on land in a park, a bridge placed in a pasture, or a locomotive displayed in an indoor museum are not eligible.

ARTIFICIALLY CREATED GROUPINGS

An artificially created grouping of buildings, structures, or objects is not eligible unless it has achieved significance since the time of its assemblage. It cannot be considered as a reflection of the time period when the individual buildings were constructed.

Eligible

- A grouping of moved historic buildings whose creation marked the beginning of a major concern with past lifestyles can qualify as an early attempt at historic preservation and as an illustration of that generation's values.

Not Eligible

- A rural district composed of a farmhouse on its original site and a grouping of historic barns recently moved onto the property is not eligible.

PORTIONS OF PROPERTIES

A moved *portion* of a building, structure, or object is not eligible because, as a fragment of a larger resource, it has lost integrity of design, setting, materials, workmanship, and location.

CRITERIA CONSIDERATION C: BIRTHPLACES OR GRAVES

A birthplace or grave of a historical figure is eligible if the person is of outstanding importance and if there is no other appropriate site or building directly associated with his or her productive life.

UNDERSTANDING CRITERIA CONSIDERATION C: BIRTHPLACES AND GRAVES

Birthplaces and graves often attain importance as reflections of the origins of important persons or as lasting memorials to them. The lives of persons significant in our past normally are recognized by the National Register through listing of properties illustrative of or associated with that person's productive life's work. Birthplaces and graves, as properties that represent the beginning and the end of the life of distinguished individuals, may be temporally and geographically far removed from the person's significant activities, and therefore are not usually considered eligible.

Examples of Properties that MUST Meet Criteria Consideration C: Birthplaces and Graves

- *The birthplace of a significant person who lived elsewhere during his or her Period of Significance.*
- *A grave that is nominated for its association with the significant person buried in it.*
- *A grave that is nominated for information potential.*

Examples of Properties that DO NOT Need to Meet Criteria Consideration C: Birthplaces and Graves

- *A house that was inhabited by a significant person for his or her entire lifetime.*
- *A grave located on the grounds of the house where a significant person spent his or her productive years.*

APPLYING CRITERIA CONSIDERATION C: BIRTHPLACES AND GRAVES

PERSONS OF OUTSTANDING IMPORTANCE

The phrase "a historical figure of outstanding importance" means that in order for a birthplace or grave to qualify, it cannot be simply the birthplace or grave of a person significant in our past (Criterion B). It must be the birthplace or grave of an individual who was of outstanding importance in the history of the local area, State, or nation. The birthplace or grave of an individual who was one of several people active in some aspect of the history of a community, a state, or the Nation would not be eligible.

LAST SURVIVING PROPERTY ASSOCIATED WITH A PERSON

When an geographical area strongly associated with a person of outstanding importance has lost all other properties directly associated with his or her formative years or productive life, a birthplace or grave may be eligible.

ELIGIBILITY FOR OTHER ASSOCIATIONS

A birthplace or grave can also be eligible if it is significant for reasons other than association with the productive life of the person in question. It can be eligible for significance under Criterion A for association with important events, under Criterion B for association with the productive lives of *other* important persons, or under Criterion C for architectural significance. A birthplace or grave can also be eligible in rare cases if, after the passage of time, it is significant for its commemorative value. (See Criteria Consideration F for a discussion of commemorative properties.) A birthplace or grave can also be eligible under Criterion D if it contains important information on research, *e.g.*, demography, pathology, mortuary practices, socioeconomic status differentiation.

Criteria Consideration C - Birthplaces. *A birthplace of a historical figure is eligible if the person is of outstanding importance and there is no other appropriate site or building associated with his or her productive life. The* ***Walter Reed Birthplace,*** *Gloucester vicinity, Gloucester County, Virginia is the most appropriate remaining building associated with the life of the man who, in 1900, discovered the cause and mode of transmission of the great scourge of the tropics, yellow fever. (Photo by Virginia Historic Landmarks Commission).*

CRITERIA CONSIDERATION D: CEMETERIES

A cemetery is eligible if it derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

UNDERSTANDING CRITERIA CONSIDERATION D: CEMETERIES

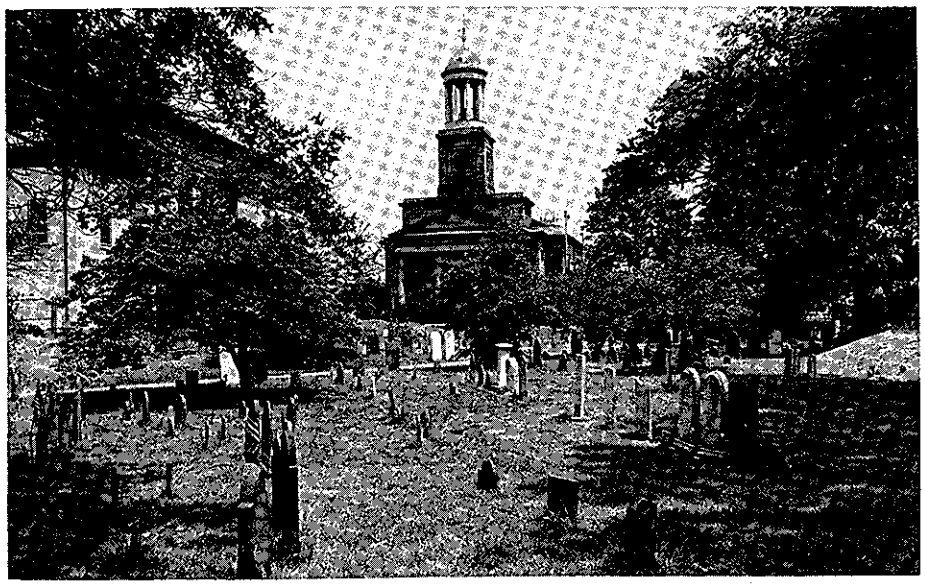
A cemetery is a collection of graves that is marked by stones or other artifacts or that is unmarked but recognizable by features such as fencing or depressions, or through maps, or by means of testing. Cemeteries serve as a primary means of an individual's recognition of family history and as expressions of collective religious and/or ethnic identity. Because cemeteries may embody values beyond personal or family-specific emotions, the National Register criteria allow for listing of cemeteries under certain conditions.

Examples of Properties that MUST Meet Criteria Consideration D: Cemeteries

- *A cemetery that is nominated individually for Criterion A, B, or C.*

Examples of Properties that DO NOT Need to Meet Criteria Consideration D: Cemeteries

- *A cemetery that is nominated along with its associated church, but the church is the main resource nominated.*
- *A cemetery that is nominated under Criterion D for information potential.*
- *A cemetery that is nominated as part of a district but is not the focal point of the district.*



Criteria Consideration D - Cemeteries. The Hancock Cemetery, Quincy, Norfolk County, Massachusetts meets the exception to the Criteria because it derives its primary significance from its great age (the earliest burials date from 1640) and from the distinctive design features found in its rich collection of late 17th and early 18th century funerary art. (Photo by N. Hobart Holly).

APPLYING CRITERIA CONSIDERATION D: CEMETERIES

PERSONS OF TRANSCENDENT IMPORTANCE

A cemetery containing the graves of persons of transcendent importance may be eligible. To be of transcendent importance the persons must have been of great eminence in their fields of endeavor or had a great impact upon the history of their community, State, or nation. (A single grave that is the burial place of an important person and is located in a larger cemetery that does not qualify under this Criteria Consideration should be treated under Criteria Consideration C: Birthplaces and Graves.)

Eligible

- A historic cemetery containing the graves of a number of persons who were exceptionally significant in determining the course of a State's political or economic history during a particular period is eligible.

Not Eligible

- A cemetery containing graves of State legislators is not eligible if they simply performed the daily business of State government and did not have an outstanding impact upon the nature and direction of the State's history.

ELIGIBILITY ON THE BASIS OF AGE

Cemeteries can be eligible if they have achieved historic significance for their relative great age in a particular geographic or cultural context.

Eligible

- A cemetery dating from a community's original 1830s settlement can attain significance from its association with that very early period.

ELIGIBILITY FOR DESIGN

Cemeteries can qualify on the basis of distinctive design values. These values refer to the same design values addressed in Criterion C and can include aesthetic or technological achievement in the fields of city planning, architecture, landscape architecture, engineering, mortuary art, and sculpture. As for all other nominated properties, a cemetery must clearly express its design values and be able to convey its historic appearance.

Eligible

- A Victorian cemetery is eligible if it clearly expresses the aesthetic principles related to funerary design for that period, through such features as the overall plan, landscaping, statuary, sculpture, fencing, buildings, and grave markers.

Not Eligible

- A cemetery cannot be eligible for design values if it no longer conveys its historic appearance because of the introduction of new grave markers.

ELIGIBILITY FOR ASSOCIATION WITH EVENTS

Cemeteries may be associated with historic events including specific important events or general events that illustrate broad patterns.

Eligible

- A cemetery associated with an important Civil War battle is eligible.
- A cemetery associated with the settlement of an area by an ethnic or cultural group is eligible if the movement of the group into the area had an important impact, if other properties associated with that group are rare, and if few documentary sources have survived to provide information about the group's history.

Not Eligible

- A cemetery associated with a battle in the Civil War does not qualify if the battle was not important in the history of the war.
- A cemetery associated with an area's settlement by an ethnic or cultural group is not eligible if the impact of the group on the area cannot be established, if other extant historic properties better convey association with the group, or if the information that the cemetery can impart is available in documentary sources.

ELIGIBILITY FOR INFORMATION POTENTIAL

Cemeteries, both historic and prehistoric, can be eligible if they have the potential to yield important information. The information must be important within a specific context and the potential to yield information must be demonstrated.

A cemetery can qualify if it has potential to yield important information provided that the information it contains is not available in extant documentary evidence.

Eligible

- A cemetery associated with the settlement of a particular cultural group will qualify if it has the potential to yield important information about subjects such as demography, variations in mortuary practices, or the study of the cause of death correlated with nutrition or other variables.

INTEGRITY

Assessing the integrity of a historic cemetery entails evaluating principal design features such as plan, grave markers, and any related elements (such as fencing). Only that portion of a historic cemetery that retains its historic integrity can be eligible. If the overall integrity has been lost because of the number and size of recent grave markers, some features such as buildings, structures, or objects that retain integrity may be considered as individual properties if they are of such historic or artistic importance that they individually meet one or more of the requirements listed above.

NATIONAL CEMETERIES

National Cemeteries administered by the Veterans Administration are eligible because they have been designated by Congress as primary memorials to the military history of the United States. Those areas within a designated national cemetery that have been used or prepared for the reception of the remains of veterans and their dependents, as well as any landscaped areas that immediately surround the graves may qualify. Because these cemeteries draw their significance from the presence of the remains of military personnel who have served the country throughout its history, the age of the cemetery is not a factor in judging eligibility, although integrity must be present.

A national cemetery or a portion of a national cemetery that has only been set aside for use in the future is not eligible.

CRITERIA CONSIDERATION E: RECONTRUCTED PROPERTIES

A reconstructed property is eligible when it is accurately executed in a suitable environment *and* presented in a dignified manner as part of a restoration master plan *and* when no other building or structure with the same associations has survived. All three of these requirements must be met.

UNDERSTANDING CRITERIA CONSIDERATION E: RECONSTRUCTED PROPERTIES

"Reconstruction" is defined as the reproduction of the exact form and detail of a vanished building, structure, object, or a part thereof, as it appeared at a specific period of time. Reconstructed buildings fall into two categories: buildings wholly constructed of new materials and buildings reassembled from some historic and some new materials. Both categories of properties present problems in meeting the integrity requirements of the National Register criteria.

Examples of Properties that MUST Meet Criteria Consideration E: Reconstructed Properties

- *A property in which most or all of the fabric is not original.*
- *A district in which an important resource or a significant number of resources are reconstructions.*

Examples of Properties that DO NOT Need to Meet Criteria Consideration E: Reconstructed Properties

- *A property that is remodeled or renovated and still has the majority of its original fabric.*

APPLYING CRITERIA CONSIDERATION E: RECONSTRUCTED PROPERTIES

ACCURACY OF THE RECONSTRUCTION

The phrase "accurately executed" means that the reconstruction must be based upon sound archeological, architectural, and historic data concerning the historic construction and appearance of the resource. That documentation should include both analysis of any above or below ground material and research in written and other records.

SUITABLE ENVIRONMENT

The phrase "suitable environment" refers to: 1) the physical context provided by the historic district and 2) any interpretive scheme, if the historic district is used for interpretive purposes. This means that the reconstructed property must be located at the same site as the original. It must also be situated in its original grouping of buildings, structures, and objects (as many as are extant), and that grouping must retain integrity. In addition, the reconstruction must not be misrepresented as an authentic historic property.

Eligible

- A reconstructed plantation manager's office building is considered eligible because it is located at its historic site, grouped with the remaining historic plantation buildings and structures, and the plantation as a whole retains integrity. Interpretation of the plantation district includes an explanation that the manager's office is not the original building, but a reconstruction.

Not Eligible

- The same reconstructed plantation manager's office building would not qualify if it were rebuilt at a location different from that of the original building, or if the district as a whole no longer reflected the period for which it is significant, or if a misleading interpretive scheme were used for the district or for the reconstruction itself.

RESTORATION MASTER PLANS

Being presented "as part of a restoration master plan" means that: 1) a reconstructed property is an essential component in a historic district and 2) the reconstruction is part of an overall restoration plan for an entire district. "Restoration" is defined as accurately recovering the form and details of a property and its setting as it appeared at a particular period by removing later work or by replacing missing earlier work (as opposed to completely rebuilding the property). The master plan for the entire property must emphasize restoration, not reconstruction. In other words, the master plan for the entire resource would not be acceptable under this consideration if it called for reconstruction of a majority of the resource.

Eligible

- A reconstructed plantation manager's office is eligible if the office were an important component of the plantation *and* if the reconstruction is one element in an overall plan for restoring the plantation *and* if no other building or structure with the same associations has survived.
- The reconstruction of the plantation manager's office building can be eligible only if the majority of buildings, structures, and objects that comprised the plantation are extant and are being restored. For guidance regarding restoration see the *Secretary of the Interior's Standards for Historic Preservation Projects.*

LAST SURVIVING PROPERTY OF A TYPE

This consideration also stipulates that a reconstruction can qualify if, in addition to the other requirements, no other building, object, or structure with the same association has survived. A reconstruction that is part of a restoration master plan is appropriate only if: 1) the property is the only one in the district with which a particular important activity or event has been historically associated or 2) no other property with the same associative values has survived.

RECONSTRUCTIONS OLDER THAN FIFTY YEARS

After the passage of fifty years, a reconstruction may attain its own significance for what it reveals about the period in which it was built, rather than the historic period it was intended to depict. On that basis, a reconstruction can possibly qualify under any of the Criteria.

CRITERIA CONSIDERATION F: COMMEMORATIVE PROPERTIES

A property primarily commemorative in intent can be eligible if design, age, tradition, or symbolic value has invested it with its own historical significance.

UNDERSTANDING CRITERIA CONSIDERATION F: COMMEMORATIVE PROPERTIES

Commemorative properties are designed or constructed after the occurrence of an important historic event or after the life of an important person. They are not directly associated with the event or with the person's productive life, but serve as evidence of a later generation's assessment of the past. Their significance comes from their value as cultural expressions at the date of their creation. Therefore, a commemorative property generally must be over fifty years old and must possess significance based on its own value, not on the value of the event or person being memorialized.

Examples of Properties that MUST Meet Criteria Consideration F: Commemorative Properties

- *A property whose sole or primary function is commemorative or in which the commemorative function is of primary significance.*

Examples of Properties that DO NOT Need to Meet Criteria Consideration F: Commemorative Properties

- *A resource that has a non-commemorative primary function or significance.*
- *A single marker that is a component of a district (whether contributing or non-contributing).*

APPLYING CRITERIA CONSIDERATION F: COMMEMORATIVE PROPERTIES

ELIGIBILITY FOR DESIGN

A commemorative property derives its design from the aesthetic values of the period of its creation. A commemorative property, therefore, may be significant for the architectural, artistic, or other design qualities of its own period in prehistory or history.

Eligible

- A commemorative statue situated in a park or square is eligible if it expresses the aesthetics or craftsmanship of the period when it was made, meeting Criterion C.
- A late 19th century statue erected on a courthouse square to commemorate Civil War veterans would qualify if it reflects that era's shared perception of the noble character and valor of the veterans and their cause. This was commonly conveyed by portraying idealized soldiers or allegorical figures of battle, victory, or sacrifice.

ELIGIBILITY FOR AGE, TRADITION, OR SYMBOLIC VALUE

A commemorative property cannot qualify for association with the event or person it memorializes. A commemorative property may, however, acquire significance after the time of its creation through *age, tradition,* or *symbolic* value. This significance must be documented by accepted methods of historical research, including written or oral history, and must meet one or more of the Criteria.

Eligible

- A commemorative marker erected by a cultural group that believed the place was the site of its origins is eligible if, for subsequent generations of the group, the marker itself became the focus of traditional association with the group's historic identity.
- A building erected as a monument to an important historical figure will qualify if through the passage of time the property itself has come to symbolize the value placed upon the individual and is widely recognized as a reminder of enduring principles or contributions valued by the generation that erected the monument.
- A commemorative marker erected early in the settlement or development of an area will qualify if it is demonstrated that, because of its relative great age, the property has long been a part of the historic identity of the area.

Not Eligible

- A commemorative marker erected in the past by a cultural group at the site of an event in its history would not be eligible if the marker were significant only for association with the event, and it had not become significant itself through tradition.
- A building erected as a monument to an important historical figure would not be eligible if its only value lay in its association with the individual, and it has not come to symbolize values, ideas, or contributions valued by the generation that erected the monument.
- A commemorative marker erected to memorialize an event in the community's history would not qualify simply for its association with the event it memorialized.

INELIGIBILITY AS THE LAST REPRESENTATIVE OF AN EVENT OR PERSON

The loss of properties directly associated with a significant event or person does not strengthen the case for consideration of a commemorative property. Unlike birthplaces and graves, a commemorative property usually has no direct historic association. The commemorative property can qualify for historic association only if it is clearly significant in its own right, as stipulated above.

CRITERIA CONSIDERATION G: PROPERTIES THAT HAVE ACHIEVED SIGNIFICANCE WITHIN THE LAST FIFTY YEARS[9]

A property achieving significance within the last fifty years is eligible if it is of exceptional importance.

UNDERSTANDING CRITERIA CONSIDERATION G: PROPERTIES THAT HAVE ACHIEVED SIGNIFICANCE WITHIN THE LAST FIFTY YEARS

The National Register Criteria for Evaluation exclude properties that achieved significance within the last fifty years unless they are of exceptional importance. Fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance. This consideration guards against the listing of properties of passing contemporary interest and ensures that the National Register is a list of truly historic places.

Examples of Properties that MUST Meet Criteria Consideration G: Properties that Have Achieved Significance Within the Last Fifty Years

- *A property that is less than fifty years old.*
- *A property that continues to achieve significance into a period less than fifty years before the nomination.*
- *A property that has non-contiguous Periods of Significance, one of which is less than fifty years before the nomination.*
- *A property that is more than fifty years old and had no significance until a period less than fifty years before the nomination.*

Examples of Properties that DO NOT Need to Meet Criteria Consideration G: Properties that Have Achieved Significance Within the Last Fifty Years

- *A resource whose construction began over fifty years ago, but the completion overlaps the fifty year period by a few years or less.*
- *A resource that is significant for its plan or design, which is over fifty years old, but the actual completion of the project overlaps the fifty year period by a few years.*
- *A historic district in which a few properties are newer than fifty years old, but the majority of properties and the most important Period of Significance are greater than fifty years old.*

[9] For more information on Criteria Consideration G, refer to *National Register Bulletin: Guidelines for Evaluating and Nominating Properties that Have Achieved Significance Within the Last Fifty Years.*

APPLYING CRITERIA CONSIDERATION G: PROPERTIES THAT HAVE ACHIEVED SIGNIFICANCE WITHIN THE PAST FIFTY YEARS

ELIGIBILITY FOR EXCEPTIONAL IMPORTANCE

The phrase "exceptional importance" may be applied to the extraordinary importance of an event or to an entire category of resources so fragile that survivors of any age are unusual. Properties listed that had attained significance in less than fifty years include: the launch pad at Cape Canaveral from which men first traveled to the moon, the home of nationally prominent playwright Eugene O'Neill, and the Chrysler Building (New York) significant as the epitome of the "Style Moderne" architecture.

Properties less than fifty years old that qualify as exceptional because the entire category of resources is fragile include a recent example of a traditional sailing canoe in the Trust Territory of the Pacific Islands, where because of rapid deterioration of materials, no working Micronesian canoes exist that are more than twenty years old. Properties that by their nature can last more than fifty years cannot be considered exceptionally important because of the fragility of the class of resources.

The phrase "exceptional importance" does not require that the property be of national significance. It is a measure of a property's importance within the appropriate historic context, whether the scale of that context is local, State, or national.

Eligible

- The General Laundry Building in New Orleans, one of the few remaining Art Deco Style buildings in that city, was listed in the National Register when it was forty years old because of its exceptional importance as an example of that architectural style.

HISTORICAL PERSPECTIVE

A property that has achieved significance within the past fifty years can be evaluated only when sufficient historical perspective exists to determine that the property is exceptionally important. The necessary perspective can be provided by scholarly research and evaluation, and must consider both the historic context and the specific property's role in that context.

In many communities, properties such as apartment buildings built in the 1950s cannot be evaluated because there is no scholarly research available to provide an overview of the nature, role, and impact of that building type within the context of historical and architectural developments of the 1950s.

NATIONAL PARK SERVICE RUSTIC ARCHITECTURE

Properties such as structures built in a rustic style by the National Park Service during the 1930s and 1940s can be evaluated because a broad study, *National Park Service Rustic Architecture* (1977), provides the context for evaluating properties of this type and style. Specific examples were listed in the National Register prior to reaching fifty years of age when documentation concerning the individual properties established their significance within the historical and architectural context of the type and style.

VETERANS ADMINISTRATION HOSPITALS

Hospitals less than fifty years old that were constructed by the Veterans Bureau and Veterans Administration can be evaluated because the collection of forty-eight facilities built between 1920 and 1946 has been analyzed in a study prepared by the agency. The study provided a historic and architectural context for development of veteran's care within which hospitals could be evaluated. The exceptional importance of specific individual facilities constructed within the past fifty years could therefore be determined based on their role and their present integrity.

COMPARISON WITH RELATED PROPERTIES

In justifying exceptional importance, it is necessary to identify other properties within the geographical area that reflect the same significance or historic associations and to determine which properties *best* represent the historic context in question. Several properties in the area could become eligible with the passage of time, but few will qualify now as exceptionally important.

POST-WORLD WAR II PROPERTIES

Properties associated with the post-World War II era must be identified and evaluated to determine which ones in an area could be judged exceptionally important. For example, a public housing complex may be eligible as an outstanding expression of the nation's post-war urban policy. A military installation could be judged exceptionally important because of its contribution to the Cold War arms race. A church building in a Southern city may have served as the pivotal rallying point for the city's most famous civil rights protest. A post-war suburban subdivision may be the best reflection of contemporary siting and design tenets in a metropolitan area. In each case, the nomination preparer must justify the *exceptional* importance of the property relative to similar properties in the community, State, or nation.

ELIGIBILITY FOR INFORMATION POTENTIAL

A property that has achieved significance within the past fifty years can qualify under Criterion D only if it can be demonstrated that the information is of exceptional importance within the appropriate context and that the property contains data superior to or different from those obtainable from other sources, including other culturally related sites. An archeological site less than fifty years old may be eligible if the former inhabitants are so poorly documented that information about their lifeways is best obtained from examination of the material remains.

Eligible

- Data such as the rate of adoption of modern technological innovations by rural tenant farmers in the 1950s may not be obtainable through interviews with living persons but could be gained by examination of homesites.

Not Eligible

- A recent archeological site such as the remains of a Navajo sheep corral used in the 1950s would not be considered exceptionally significant for its information potential on animal husbandry if better information on the same topic is available through ethnographic studies or living informants.

HISTORIC DISTRICTS

Properties which have achieved significance within the past fifty years can be eligible for the National Register if they are an integral part of a district which qualifies for National Register listing. This is demonstrated by documenting that the property dates from within the district's defined Period of Significance and that it is associated with one or more of the district's defined Areas of Significance.

Properties less than fifty years old may be an integral part of a district when there is sufficient perspective to consider the properties as historic. This is accomplished by demonstrating that: 1) the district's Period of Significance is justified as a discrete period with a defined beginning and end, 2) the character of the district's historic resources is clearly defined and assessed, 3) specific resources in the district are demonstrated to date from that discrete era, and 4) the majority of district properties are over fifty years old. In these instances, it is not necessary to prove exceptional importance of either the district itself or the less-than-fifty-year-old properties. Exceptional importance still must be demonstrated for district where the majority of properties or the major Period of Significance is less than fifty years old, and for less-than-fifty-year-old properties which are nominated individually.

PROPERTIES MORE THAN FIFTY YEARS IN AGE, LESS THAN FIFTY YEARS IN SIGNIFICANCE

Properties that are more than fifty years old, but whose significant associations or qualities are less than fifty years old, must be treated under the fifty year consideration.

Eligible

- A building constructed early in the twentieth century (and having no architectural importance), but that was associated with an important person during the 1950s, must be evaluated under Criteria Consideration G because the Period of Significance is within the past fifty years. Such a property would qualify if the person was of exceptional importance.

REQUIREMENT TO MEET THE CRITERIA, REGARDLESS OF AGE

Properties that are less than fifty years old and are not exceptionally important will *not* automatically qualify for the National Register once they are fifty years old. In order to be listed in the National Register, all properties, regardless of age, must be demonstrated to meet the Criteria for Evaluation.

VIII. HOW TO EVALUATE THE INTEGRITY OF A PROPERTY

INTRODUCTION

Integrity is the ability of a property to convey its significance. To be listed in the National Register of Historic Places, a property must not only be shown to be significant under the National Register criteria, but it also must have integrity. The evaluation of integrity is sometimes a subjective judgment, but it must always be grounded in an understanding of a property's physical features and how they relate to its significance.

Historic properties either retain integrity (this is, convey their significance) or they do not. Within the concept of integrity, the National Register criteria recognizes seven aspects or qualities that, in various combinations, define integrity.

To retain historic integrity a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for a property to convey its significance. Determining *which* of these aspects are most important to a particular property requires knowing why, where, and when the property is significant. The following sections define the seven aspects and explain how they combine to produce integrity.

SEVEN ASPECTS OF INTEGRITY

- Location
- Design
- Setting
- Materials
- Workmanship
- Feeling
- Association

UNDERSTANDING THE ASPECTS OF INTEGRITY

LOCATION

Location is the place where the historic property was constructed or the place where the historic event occurred. The relationship between the property and its location is often important to understanding why the property was created or why something happened. The actual location of a historic property, complemented by its setting, is particularly important in recapturing the sense of historic events and persons. Except in rare cases, the relationship between a property and its historic associations is destroyed if the property is moved. (See Criteria Consideration B in *Part VII: How to Apply the Criteria Considerations*, for the conditions under which a moved property can be eligible.)

DESIGN

Design is the combination of elements that create the form, plan, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

A property's design reflects historic functions and technologies as well as aesthetics. It includes such considerations as the structural system; massing; arrangement of spaces; pattern of fenestration; textures and colors of surface materials; type, amount, and style of ornamental detailing; and arrangement and type of plantings in a designed landscape.

Design can also apply to districts, whether they are important primarily for historic association, architectural value, information potential, or a combination thereof. For districts significant primarily for historic association or architectural value, design concerns more than just the individual buildings or structures located within the boundaries. It also applies to the way in which buildings, sites, or structures are related: for example, spatial relationships between major features; visual rhythms in a streetscape or landscape plantings; the layout and materials of walkways and roads; and the relationship of other features, such as statues, water fountains, and archeological sites.

SETTING

Setting is the physical environment of a historic property. Whereas location refers to the specific place where a property was built or an event occurred, setting refers to the *character* of the place in which the property played its historical role. It involves *how*, not just where, the property is situated and its relationship to surrounding features and open space.

Setting often reflects the basic physical conditions under which a property was built and the functions it was intended to serve. In addition, the way in which a property is positioned in its environment can reflect the designer's concept of nature and aesthetic preferences.

The physical features that constitute the setting of a historic property can be either natural or manmade, including such elements as:

- Topographic features (a gorge or the crest of a hill);
- Vegetation;
- Simple manmade features (paths or fences); and
- Relationships between buildings and other features or open space.

These features and their relationships should be examined not only within the exact boundaries of the property, but also between the property and its *surroundings*. This is particularly important for districts.

MATERIALS

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. The choice and combination of materials reveal the preferences of those who created the property and indicate the availability of particular types of materials and technologies. Indigenous materials are often the focus of regional building traditions and thereby help define an area's sense of time and place.

A property must retain the key exterior materials dating from the period of its historic significance. If the property has been rehabilitated, the historic materials and significant features must have been preserved. The property must also be an actual historic resource, not a recreation; a recent structure fabricated to look historic is not eligible. Likewise, a property whose historic features and materials have been lost and then reconstructed is usually not eligible. (See Criteria Consideration E in *Part VII: How to Apply the Criteria Considerations* for the conditions under which a reconstructed property can be eligible.)

WORKMANSHIP

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. It is the evidence of artisans' labor and skill in constructing or altering a building, structure, object, or site. Workmanship can apply to the property as a whole or to its individual components. It can be expressed in vernacular methods of construction and plain finishes or in highly sophisticated configurations and ornamental detailing. It can be based on common traditions or innovative period techniques.

Workmanship is important because it can furnish evidence of the technology of a craft, illustrate the aesthetic principles of a historic or prehistoric period, and reveal individual, local, regional, or national applications of both technological practices and aesthetic principles. Examples of workmanship in historic buildings include tooling, carving, painting, graining, turning, and joinery. Examples of workmanship in prehistoric contexts include Paleo-Indian clovis projectile points; Archaic period beveled adzes; Hopewellian birdstone pipes; copper earspools and worked bone pendants; and Iroquoian effigy pipes.

FEELING

Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. For example, a rural historic district retaining original design, materials, workmanship, and setting will relate the feeling of agricultural life in the 19th century. A grouping of prehistoric petroglyphs, unmarred by graffiti and intrusions and located on its original isolated bluff, can evoke a sense of tribal spiritual life.

ASSOCIATION

Association is the direct link between an important historic event or person and a historic property. A property retains association if it *is* the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. For example, a Revolutionary War battlefield whose natural and manmade elements have remained intact since the 18th century will retain its quality of association with the battle.

Because feeling and association depend on individual perceptions, their retention *alone* is never sufficient to support eligibility of a property for the National Register.

ASSESSING INTEGRITY IN PROPERTIES

Integrity is based on significance: why, where, and when a property is important. Only after significance is fully established can you proceed to the issue of integrity.

The steps in assessing integrity are:

- Define the **essential physical features** that must be present for a property to represent its significance.
- Determine whether the **essential physical features are visible** enough to convey their significance.
- Determine whether the property needs to be **compared with similar properties.** And,
- Determine, based on the significance and essential physical features, **which aspects of integrity** are particularly vital to the property being nominated and if they are present.

Ultimately, the question of integrity is answered by whether or not the property retains the **identity** for which it is significant.

DEFINING THE ESSENTIAL PHYSICAL FEATURES

All properties change over time. It is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity. The essential physical features are those features that define both *why* a property is significant (Applicable Criteria and Areas of Significance) and *when* it was significant (Periods of Significance). They are the features without which a property can no longer be identified as, for instance, a late 19th century dairy barn or an early 20th century commercial district.

CRITERIA A AND B

A property that is significant for its historic association is eligible if it retains the essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or person(s). If the property is a site (such as a treaty site) where there are no material cultural remains, the setting must be intact.

Archeological sites eligible under Criteria A and B must be in overall good condition with excellent preservation of features, artifacts, and spatial relationships to the extent that these remains are able to convey important associations with events or persons.

CRITERION C

A property important for illustrating a particular architectural style or construction technique must retain most of the physical features that constitute that style or technique. A property that has lost some historic materials or details can be eligible *if* it retains the majority of the features that illustrate its style in terms of the massing, spatial relationships, proportion, pattern of windows and doors, texture of materials, and ornamentation. The property is not eligible, however, if it retains some basic features conveying massing but has lost the majority of the features that once characterized its style.

Archeological sites eligible under Criterion C must be in overall good condition with excellent preservation of features, artifacts, and spatial relationships to the extent that these remains are able to illustrate a site type, time period, method of construction, or work of a master.

CRITERION D

For properties eligible under Criterion D, including archeological sites and standing structures studied for their information potential, less attention is given to their overall condition, than it they were being considered under Criteria A, B, or C. Archeological sites, in particular, do not exist today exactly as they were formed. There are always cultural and natural processes that alter the deposited materials and their spatial relationships.

For properties eligible under Criterion D, integrity is based upon the property's potential to yield specific data that addresses important research questions, such as those identified in the historic context documentation in the Statewide Comprehensive Preservation Plan or in the research design for projects meeting the *Secretary of the Interior's Standards for Archeological Documentation.*

INTERIORS

Some historic buildings are virtually defined by their exteriors, and their contribution to the built environment can be appreciated even if their interiors are not accessible. Examples of this would include early examples of steel-framed skyscraper construction. The great advance in American technology and engineering made by these buildings can be read from the outside. The change in American popular taste during the 19th century, from the symmetry and simplicity of architectural styles based on classical precedents, to the expressions of High Victorian styles, with their combination of textures, colors, and asymmetrical forms, is readily apparent from the exteriors of these buildings.

Other buildings "are" interiors. The Cleveland Arcade, that soaring 19th century glass-covered shopping area, can only be appreciated from the inside. Other buildings in this category would be the great covered train sheds of the 19th century.

In some cases the loss of an interior will disqualify properties from listing in the National Register—a historic concert hall noted for the beauty of its auditorium and its fine acoustic qualities would be the type of property that if it were to lose its interior, it would lose its value as a historic resource. In other cases, the overarching significance of a property's exterior can overcome the adverse effect of the loss of an interior.

In borderline cases particular attention is paid to the significance of the property and the remaining historic features.

HISTORIC DISTRICTS

For a district to retain integrity as a whole, the majority of the components that make up the district's historic character must possess integrity even if they are individually undistinguished. In addition, the relationships among the district's components must be substantially unchanged since the period of significance.

When evaluating the impact of intrusions upon the district's integrity, take into consideration the relative number, size, scale, design, and location of the components that do not contribute to the significance. A district is not eligible if it contains so many alterations or new intrusions that it no longer conveys the sense of a historic environment.

A component of a district cannot contribute to the significance if:

- it has been substantially altered since the period of the district's significance *or*
- it does not share the historic associations of the district.

VISIBILITY OF PHYSICAL FEATURES

Properties eligible under Criteria A, B, and C must not only retain their essential physical features, but the features must be visible enough to convey their significance. This means that even if a property is physically intact, its integrity is questionable if its significant features are concealed under modern construction. Archeological properties are often the exception to this; by nature they usually do not require visible features to convey their significance.

NON-HISTORIC EXTERIORS

If the historic *exterior* building material is covered by non-historic material (such as modern siding), the property can still be eligible *if* the significant form, features, and detailing are not obscured. If a property's exterior is covered by a non-historic false-front or curtain wall, the property will not qualify under Criteria A, B, or C, because it does not retain the visual quality necessary to convey historic or architectural significance. Such a property also cannot be considered a contributing element in a historic district, because it does not add to the district's sense of time and place. If the false front, curtain wall, or non-historic siding is removed and the original building materials are intact, then the property's integrity can be re-evaluated.

PROPERTY CONTAINED WITHIN ANOTHER PROPERTY

Some properties contain an earlier structure that formed the nucleus for later construction. The exterior property, if not eligible in its own right, can qualify on the basis of the interior property *only if* the interior property can yield significant information about a specific construction technique or material, such as rammed earth or tabby. The interior property *cannot* be used as the basis for eligibility if it has been so altered that it no longer contains the features that could provide important information, or if the presence of important information cannot be demonstrated.

SUNKEN VESSELS

A sunken vessel can be eligible under Criterion C as embodying the distinctive characteristics of a method of construction if it is structurally intact. A *deteriorated* sunken vessel, no longer structurally intact, can be eligible under Criterion D if the remains of either the vessel or its contents is capable of yielding significant information. For further information, refer to *National Register Bulletin: Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places.*

Natural Features

A natural feature that is associated with a historic event or trend, such as a rock formation that served as a trail marker during westward expansion, must retain its historic appearance, unobscured by modern construction or landfill. Otherwise it is not eligible, even though it remains intact.

COMPARING SIMILAR PROPERTIES

For some properties, comparison with similar properties should be considered during the evaluation of integrity. Such comparison may be important in deciding what physical features are essential to properties of that type. In instances where it has not been determined what physical features a property must possess in order for it to reflect the significance of a historic context, comparison with similar properties should be undertaken during the evaluation of integrity. This situation arises when scholarly work has not been done on a particular property type or when surviving examples of a property type are extremely rare. (See **Comparing Related Properties** in *Part V: How to Evaluate a Property within its Historic Context.)*

RARE EXAMPLES OF A PROPERTY TYPE

Comparative information is particularly important to consider when evaluating the integrity of a property that is a rare surviving example of its type. The property must have the essential physical features that enable it to convey its historic character or information. The rarity and poor condition, however, of other extant examples of the type may justify accepting a greater degree of alteration or fewer features, provided that enough of the property survives for it to be a significant resource.

Eligible

- A one-room schoolhouse that has had all original exterior siding replaced and a replacement roof that does not exactly replicate the original roof profile can be eligible if the other extant rare examples have received an even greater degree of alteration, such as the subdivision of the original one-room plan.

Not Eligible

- A mill site contains information on how site patterning reflects historic functional requirements, but parts of the site have been destroyed. The site is not eligible for its information potential if a comparison of other mill sites reveals more intact properties with complete information.

DETERMINING THE RELEVANT ASPECTS OF INTEGRITY

Each type of property depends on certain aspects of integrity, more than others, to express its historic significance. Determining which of the aspects is most important to a particular property requires an understanding of the property's significance and its essential physical features.

CRITERIA A AND B

A property important for association with an event, historical pattern, or person(s) ideally might retain *some* features of all seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Integrity of design and workmanship, however, might not be as important to the significance, and would not be relevant if the property were a site. A basic integrity test for a property associated with an important event or person is whether a historical contemporary would recognize the property as it exists today.

For archeological sites that are eligible under Criteria A and B, the seven aspects of integrity can be applied in much the same way as they are to buildings, structures, or objects. It is important to note, however, that the site must have *demonstrated* its ability to convey its significance, as opposed to sites eligible under Criterion D where only the potential to yield information is required.

Eligible

A mid-19th century waterpowered mill important for its association with an area's industrial development is eligible if:

- it is still on its original site (**Location**), and
- the important features of its setting are intact (**Setting**), and
- it retains most of its historic materials (**Materials**), and
- it has the basic features expressive of its design and function, such as configuration, proportions, and window pattern (**Design**).

Not Eligible

A mid-19th century waterpowered mill important for its association with an area's industrial development is not eligible if:

- it has been moved (**Location, Setting, Feeling,** and **Association**), or
- substantial amounts of new materials have been incorporated (**Materials, Workmanship,** and **Feeling**), or
- it no longer retains basic design features that convey its historic appearance or function (**Design, Workmanship,** and **Feeling**).

CRITERION C

A property significant under Criterion C must retain those physical features that characterize the type, period, or method of construction that the property represents. Retention of design, workmanship, and materials will usually be more important than location, setting, feeling, and association. Location and setting will be important, however, for those properties whose design is a reflection of their immediate environment (such as designed landscapes and bridges).

For archeological sites that are eligible under Criterion C, the seven aspects of integrity can be applied in much the same way as they are to buildings, structures, or objects. It is important to note, however, that the site must have *demonstrated* its ability to convey its significance, as opposed to sites eligible under Criterion D where only the *potential* to yield information is required.

Eligible

A 19th century wooden covered bridge, important for illustrating a construction type, is eligible if:

- the essential features of its design are intact, such as abutments, piers, roof configuration, and trusses (**Design, Workmanship,** and **Feeling**), and
- most of the historic materials are present (**Materials, Workmanship,** and **Feeling**), and
- evidence of the craft of wooden bridge technology remains, such as the form and assembly technique of the trusses (**Workmanship**).
- Since the design of a bridge relates directly to its function as a transportation crossing, it is also important that the bridge still be situated over a waterway (**Setting, Location, Feeling,** and **Association**).

Not Eligible

For a 19th century wooden covered bridge, important for its construction type, replacement of some materials of the flooring, siding, and roofing would not necessarily damage its integrity. Integrity would be lost, however, if:

- the abutments, piers, or trusses were substantially altered (**Design, Workmanship,** and **Feeling**) or
- considerable amounts of new materials were incorporated (**Materials, Workmanship,** and **Feeling**).
- Because environment is a strong factor in the design of this property type, the bridge would also be ineligible if it no longer stood in a place that conveyed its function as a crossing (**Setting, Location, Feeling,** and **Association**).

CRITERION D

For properties eligible under Criterion D, setting and feeling may not have direct bearing on the property's ability to yield important information. Evaluation of integrity probably will focus primarily on the location, design, materials, and perhaps workmanship.

Eligible

A multicomponent prehistoric site important for yielding data on changing subsistence patterns can be eligible if:

- floral or faunal remains are found in clear association with cultural material (**Materials** and **Association**) and
- the site exhibits stratigraphic separation of cultural components (**Location**).

Not Eligible

A multicomponent prehistoric site important for yielding data on changing subsistence patterns would not be eligible if:

- floral or faunal remains were so badly decomposed as to make identification impossible (**Materials**), or
- floral or faunal remains were disturbed in such a manner as to make their association with cultural remains ambiguous (**Association**), or
- the site has lost its stratigraphic context due to subsequent land alterations (**Location**).

Eligible

A lithic scatter site important for yielding data on lithic technology during the Late Archaic period can be eligible if:

- the site contains lithic debitage, finished stone tools, hammerstones, or antler flakers (**Material** and **Design**), and
- the site contains datable material (**Association**).

Not Eligible

A lithic scatter site important for yielding data on lithic technology during the Late Archaic period would not be eligible if:

- the site contains natural deposits of lithic materials that are impossible to distinguish from culturally modified lithic material (**Design**) or
- the site does not contain any temporal diagnostic evidence that could link the site to the Late Archaic period (**Association**).

IX. SUMMARY OF THE NATIONAL HISTORIC LANDMARKS CRITERIA FOR EVALUATION

A property being nominated to the National Register may also merit consideration for potential designation as a National Historic Landmark. Such consideration is dependent upon the stringent application of the following distinct set of criteria (found in the *Code of Federal Regulations, Title 36, Part 65*).

NATIONAL HISTORIC LANDMARKS CRITERIA

The quality of national significance is ascribed to districts, sites, buildings, structures, and objects that possess exceptional value or quality in illustrating or interpreting the heritage of the United States in history, architecture, archeology, engineering, and culture and that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, and:

1. That are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or
2. That are associated importantly with the lives of persons nationally significant in the history of the United States; or
3. That represent some great idea or ideal of the American people; or
4. That embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction; or
5. That are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture; or
6. That have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States. Such sites are those which have yielded, or which may reasonably be expected to yield, data affecting theories, concepts and ideas to a major degree.

NATIONAL HISTORIC LANDMARK EXCLUSIONS

Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings and properties that have achieved significance within the past fifty years are not eligible for designation. If such properties fall within the following categories they may, nevertheless, be found to qualify:

1. A religious property deriving its primary national significance from architectural or artistic distinction or historical importance; or
2. A building or structure removed from its original location but which is nationally significant primarily for its architectural merit, or for association with persons or events of transcendent importance in the nation's history and the association consequential; or
3. A site of a building or structure no longer standing but the person or event associated with it is of transcendent importance in the nations's history and the association consequential; or

4. A birthplace, grave or burial if it is of a historical figure of transcendent national significance and no other appropriate site, building, or structure directly associated with the productive life of that person exists; or
5. A cemetery that derives its primary national significance from graves of persons of transcendent importance, or from an exceptionally distinctive design or an exceptionally significant event; or
6. A reconstructed building or ensemble of buildings of extraordinary national significance when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other buildings or structures with the same association have survived; or
7. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own national historical significance; or
8. A property achieving national significance within the past 50 years if it is of extraordinary national importance.

COMPARING THE NATIONAL HISTORIC LANDMARKS CRITERIA AND THE NATIONAL REGISTER CRITERIA

In general, the instructions for preparing a National Register nomination and the guidelines stated in this bulletin for applying the National Register Criteria also apply to Landmark nominations and the use of the Landmark criteria. While there are specific distinctions discussed below, *Parts IV and V* of this bulletin apply equally to National Register listings and Landmark nominations. That is, the categories of historic properties are defined the same way; historic contexts are identified similarly; and comparative evaluation is carried out on the same principles enumerated in *Part V*.

There are some differences between National Register and National Historic Landmarks Criteria. The following is an explanation of how each Landmark Criterion compares with its National Register Criteria counterpart:

CRITERION 1

This Criterion relates to National Register Criterion A. Both cover properties associated with events. The Landmark Criterion, however, requires that the events associated with the property be *outstandingly* represented by that property and that the property be related to the broad national patterns of U.S. history. Thus, the quality of the property to convey and interpret its meaning must be of a higher order and must relate to national themes rather than the narrower context of State or local themes.

CRITERION 2

This Criterion relates to National Register Criterion B. Both cover properties associated with significant people. The Landmark Criterion differs in that it specifies that the association of a person to the property in question be an important one and that the person associated with the property be of *national* significance.

CRITERION 3

This Criterion has no counterpart among the National Register Criteria. It is rarely, if ever, used alone. While not a landmark at present, the Liberty Bell is an object that might be considered under this Criterion. The application of this Criterion obviously requires the most careful scrutiny and would apply only in rare instances involving ideas and ideals of the highest order.

CRITERION 4

This Criterion relates to National Register Criterion C. Its intent is to qualify exceptionally important works of architecture or collective elements of architecture extraordinarily significant as an ensemble, such as a historic district. Note that the language is more restrictive than that of the National Register Criterion in requiring that a candidate in architecture be "a specimen exceptionally valuable for the study of a period, style, or method of construction" rather than simply embodying distinctive characteristics of a type, period, or method of construction. With regard to historic districts, the Landmarks Criterion requires an entity that is distinctive and exceptional. Unlike National Register Criterion C, this Criterion will not qualify the works of a master, per se, but only such works which are exceptional or extraordinary. Artistic value is considered only in the context of history's judgement in order to avoid current conflicts of taste.

CRITERION 5

This Criterion does not have a strict counterpart among the National Register Criteria. It may seem redundant of the latter part of Landmark Criterion 4. It is meant to cover collective entities such as Greenfield Village and historic districts like New Bedford, Massachusetts, which qualify for their collective association with a nationally significant event, movement, or broad pattern of national development.

CRITERION 6

The National Register counterpart of this is Criterion D. Criterion 6 was developed specifically to recognize archeological sites. All such sites must address this Criterion. The following are the qualifications that distinguish this Criterion from its National Register counterpart: the information yielded or likely to be yielded must be of *major* scientific importance by revealing new cultures, or by shedding light upon periods of occupation *over large areas* of the United States. Such sites should be expected to yield data affecting *theories, concepts, and ideas* to a *major degree.*

The data recovered or expected to be recovered must make a major contribution to the existing corpus of information. Potentially recoverable data must be likely to revolutionize or substantially modify a major theme in history or prehistory, resolve a substantial historical or anthropological debate, or close a serious gap in a major theme of U. S. history or prehistory.

EXCLUSIONS AND EXCEPTIONS TO THE EXCLUSIONS

This section of the National Historic Landmarks Criteria has its counterpart in the National Register's "Criteria Considerations." The most abundant difference between them is the addition of the qualifiers "national," "exceptional," or "extraordinary" before the word significance. Other than this, the following are the most notable distinctions:

EXCLUSION 2

Buildings moved from their original location, qualify only if one of two conditions are met: 1) the building is nationally significant for architecture, *or* 2) the persons or events with which they are associated are of *transcendent* national significance and the association is consequential.

Transcendent significance means an order of importance higher than that which would ordinarily qualify a person or event to be nationally significant. A consequential association is a relationship to a building that had an evident impact on events, rather than a connection that was incidental and passing.

EXCLUSION 3

This pertains to the site of a structure no longer standing. There is no counterpart to this exclusion in the National Register Criteria. In order for such a property to qualify for Landmark designation it must meet the second condition cited for Exclusion 2.

EXCLUSION 4

This exclusion relates to Criteria Consideration C of the National Register Criteria. The only difference is that a burial place qualifies for Landmark designation only if, in addition to other factors, the person buried is of *transcendent* national importance.

When evaluating properties at the national level for designation as a National Historic Landmark, please refer to the National Historic Landmarks outline, *History and Prehistory in the National Park System and the National Historic Landmarks Program, 1987*. (For more information about the National Historic Landmarks program, please write to Department of the Interior, National Park Service, Interagency Resources Division, P.O. Box 37127, Washington, DC 20013-7127.)

X. GLOSSARY

Associative Qualities - An aspect of a property's history that links it with historic events, activities, or persons.

Code of Federal Regulations - Commonly referred to as "CFR." The part containing the National Register Criteria is usually referred to as 36 CFR 60, and is available from the National Park Service.

CLG - Certified Local Government.

Culture - A group of people linked together by shared values, beliefs, and historical associations, together with the group's social institutions and physical objects necessary to the operation of the institution.

Cultural Resource - See Historic Resource.

Evaluation - Process by which the significance and integrity of a historic property are judged and eligibility for National Register listing is determined.

Historic Context - An organizing structure for interpreting history that groups information about historic properties that share a common theme, common geographical area, and a common time period. The development of historic contexts is a foundation for decisions about the planning, identification, evaluation, registration, and treatment of historic properties, based upon comparative historic significance.

Historic Integrity - The unimpaired ability of a property to convey its historical significance.

Historic Property - See Historic Resource.

Historic Resource - Building, site, district, object, or structure evaluated as historically significant.

Identification - Process through which information is gathered about historic properties.

Listing - The formal entry of a property in the National Register of Historic Places. See also, Registration.

Nomination - Official recommendation for listing a property in the National Register of Historic Places.

Property Type - A grouping of properties defined by common physical and associative attributes.

Registration - Process by which a historic property is documented and nominated or determined eligible for listing in the National Register.

Research Design - A statement of proposed identification, documentation, investigation, or other treatment of a historic property that identifies the project's goals, methods and techniques, expected results, and the relationship of the expected results to other proposed activities or treatments.

XI. LIST OF NATIONAL REGISTER BULLETINS

The Basics

How to Apply National Register Criteria for Evaluation *

Guidelines for Completing National Register of Historic Places Form
Part A: How to Complete the National Register Form *
Part B: How to Complete the National Register Multiple Property Documentation Form

Researching a Historic Property *

Property Types

Guidelines for Evaluating and Documenting Historic Aids to Navigation *

Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields

Guidelines for Evaluating and Registering Historical Archeological Sites

Guidelines for Evaluating and Registering Cemeteries and Burial Places

How to Evaluate and Nominate Designed Historic Landscapes *

Guidelines for Identifying, Evaluating and Registering Historic Mining Sites

How to Apply National Register Criteria to Post Offices *

Guidelines for Evaluating and Documenting Properties Associated with Significant Persons

Guidelines for Evaluating and Documenting Properties That Have Achieved Significance Within the Last Fifty Years

Guidelines for Evaluating and Documenting Rural Historic Landscapes *

Guidelines for Evaluating and Documenting Traditional Cultural Properties *

Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places

Technical Assistance

Contribution of Moved Buildings to Historic Districts; Tax Treatments for Moved Buildings; and Use of Nomination Documentation in the Part I Certification Process

Defining Boundaries for National Register Properties*

Guidelines for Local Surveys: A Basis for Preservation Planning *

How to Improve the Quality of Photographs for National Register Nominations

National Register Casebook: Examples of Documentation *

Using the UTM Grid System to Record Historic Sites

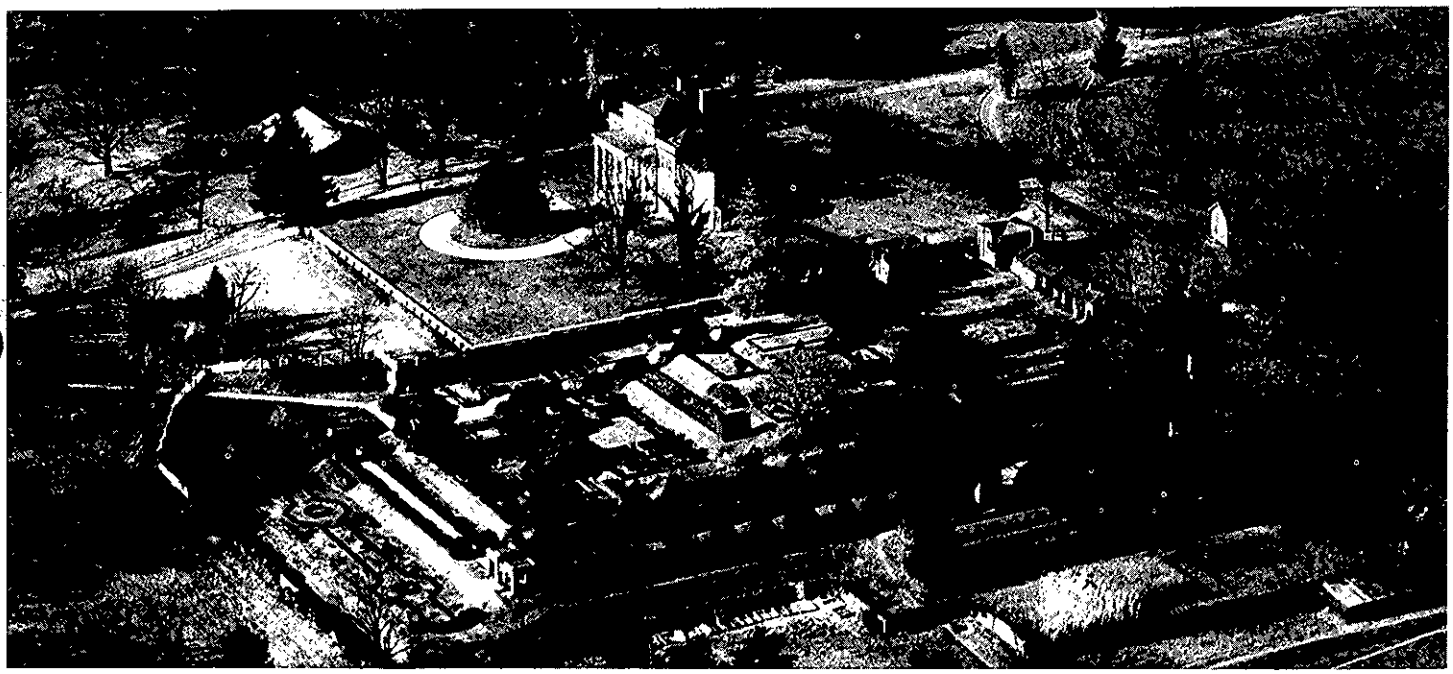
The above publications may be obtained by writing to the National Register of Historic Places, National Park Service, 1849 C Street, NW, Washington, D.C. 20240. Publications marked with an asterisk (*) are also available in electronic form on the World Wide Web at www.cr.nps.gov/nr, or send your request by e-mail to nr_reference@nps.gov.

18

·NATIONAL REGISTER· BULLETIN

Technical information on comprehensive planning, survey of cultural resources, and registration in the National Register of Historic Places.

U.S. Department of the Interior
National Park Service
Interagency Resources Division



HOW TO EVALUATE AND NOMINATE DESIGNED HISTORIC LANDSCAPES

by J. Timothy Keller, ASLA, and Genevieve P. Keller
Land and Community Associates
Charlottesville, Virginia

Introduction

This bulletin is intended to guide Federal agencies, State Preservation Offices, Certified Local Governments, preservation professionals, and interested individuals in identifying, evaluating, and nominating designed historic landscapes to the National Register of Historic Places. Particular emphasis has been placed on providing guidance for the successful preparation of nominations for designed historic landscapes. It is assumed that any designed historic landscape that is being considered for nomination to the National Register of Historic Places will have been the subject of a preliminary survey. This bulletin deals with designed historic landscape documentation, assessment, and other related issues only as

FIGURE 1: "Oatlands," A National Historic Landmark and National Trust for Historic Preservation property, is significant for its architecture and landscape gardening. While keeping much of the intent of George Carter's original English style garden, a subsequent owner, Mrs. William Corcoran Eustis, was responsible for creating the existing formal garden. Historic photographs, such as this 1930s view of "Oatlands," are helpful in determining and evaluating the impact of more recent changes. (Photo credit: Frank Turgeon, Jr., 1933, courtesy of Oatlands, Inc.)

they apply to the actual nomination process.

The bulletin addresses only the designed historic landscape—one type of landscape within the broader category of historic landscape. For the purposes of the National Register, a designed historic landscape is defined as a landscape that has significance as a design or work of art; was consciously designed and laid out by a master gardener, landscape architect, architect, or horticulturalist to a design principle, or an owner or other amateur using a recognized style or tradition in response or reaction to a recognized style or tradition; has a historical association with a significant person, trend, event, etc. in landscape gardening or landscape architecture; or a significant relationship to the theory or practice of landscape architecture.

Although many historic landscapes are eligible for the National Register primarily on the merits of their historic landscape design, a substantial number also possess significance in other areas. New York's Central Park, for example, has significance in social history and transportation, although its primary significance is landscape architecture.

In many instances, the original design intent of a significant designed historic landscape was to complement an adjacent building or buildings. In such cases the nomination needs to address the significance of both the architecture and the designed historic landscape and their interrelationship. Examples of interrelated historic architecture and designed historic landscapes, such as a courthouse and courthouse square, should not be artificially separated but evaluated as a unit.

Many historic landscapes are eligible for the National Register because they represent such themes as early settlement, immigration or agriculture; yet unless they meet the above definition, they are not considered designed historic landscapes. This definition of designed historic landscape does not include such landscapes as ethnic communities or farmsteads that may be historic but that developed for the most part without benefit of professional planning or design, that were not consciously designed as works of art, or that represent the work of distinct cultural groups and are more properly classified as cultural or vernacular landscapes. A companion bulletin on how to evaluate and nominate cultural or vernacular historic landscapes will be issued at a later date.

Historic properties such as battlefields, forts, and mines have been excluded from the category of designed historic landscape since they are more properly related to other areas of significance. In certain exceptional circumstances where there is a relation to landscape architecture, as in the case of a battlefield that has subsequently undergone extensive landscape changes while evolving into a commemorative battlefield park, the property might be considered primarily a designed historic landscape.

FIGURE 2: The Beatrix Farrand design for the landscape of Princeton University spanned the period from 1912 to 1943. Farrand, a significant figure not only as a major representative of the Arts and Crafts Movement in landscape architecture but also in twentieth-century campus design, has had considerable impact on campus planning and design. Using residential complexes and other buildings as walls for landscaped courtyards of trees and grass is a characteristic feature of American campuses. (Photo credit: Alan Ward)

Types of Designed Historic Landscapes

To establish a consistent National Register designation for designed historic landscapes, several distinct landscape types have been identified in order that similar types of designed landscapes can be evaluated according to the same criteria. Some designed landscapes, particularly those that are large or complex, may incorporate several of the landscape types listed below. In such cases, the designed landscape should be classified according to the most general type that applies. Designed historic landscapes can usually be described as one of the following types:

- small residential grounds
- estate or plantation grounds (including a farm where the primary significance is as a landscape design and not as historic agriculture)
- arboreta, botanical and display gardens
- zoological gardens and parks
- church yards and cemeteries
- monuments and memorial grounds
- plaza/square/green/mall or other public spaces
- campus and institutional grounds
- city planning or civic design
- subdivisions and planned communities/resorts
- commercial and industrial grounds and parks
- parks (local, state and national) and camp grounds
- battlefield parks and other commemorative parks
- grounds designed or developed for outdoor recreation and/or sports activities such as country clubs, golf courses, tennis courts, bowling greens, bridle trails, stadiums, ball parks, and race

tracks that are not part of a unit listed above
- fair and exhibition grounds
- parkways, drives and trails
- bodies of water and fountains (considered as an independent component and not as part of a larger design scheme)

Qualifications for Evaluating Historic Landscapes for the National Register of Historic Places

Individuals recommended to prepare nominations for designed historic landscapes would be knowledgeable in the history of landscape architecture, gardening, and planning. Usually such people have academic backgrounds or experience in such fields and disciplines as landscape architecture, landscape architectural history, architectural history, art history, American studies, cultural geography, archeology, horticulture, or historic preservation. Individuals competent to conduct work described in this bulletin would be familiar with the terminology used to describe the major elements of historic landscape architecture, gardening, and planning and able to identify examples of such elements in historic photographs and plans during site visits. They would also be familiar with the major persons, events, and trends associated with landscape architecture, gardening, and planning and the basic chronology of the development of designed historic landscapes in the United States. They would be able to identify examples of established periods and movements in landscape architecture, gardening, and planning that include but are not limited to the English, French, and Italian garden styles, the American Romantic Style, the development of national and State parks, the City Beautiful era, and the development of the American suburban community.

Evaluating A Designed Historic Landscape for the National Register of Historic Places

To qualify for the National Register, a designed landscape must have significance as one of the designed historic landscape types listed above and retain integrity of location, design intent, setting, materials, workmanship, feeling, and association and meet National Register criteria.

Determining the significance of a designed landscape depends upon conducting a systematic investigation of the history, purpose, social significance, qualities, associations, and physical characteristics of the property and using this information to establish whether or not the landscape is an exemplary representative of one of the types listed above. A typical landscape investigation should accomplish the following:

1. Obtain information about the specific example of landscape gardening, planning, and/or design through documentation of its history and collection of available plans and photographs. Conduct site visits to identify the historic characteristics of the design intent of the landscape.
2. Identify the appropriate landscape type(s) within which the landscape should be evaluated.
3. Analyze characteristic features that the landscape should possess to be a good representative of its landscape type.
4. Evaluate the significance of the historic landscape using National Register criteria.
5. Evaluate the integrity of each landscape characteristic and list the features that the landscape should retain to possess integrity.
6. Determine if any aspect of the landscape's history or present condition might place it in a category of properties generally considered ineligible for the National Register, and therefore requiring special justification.

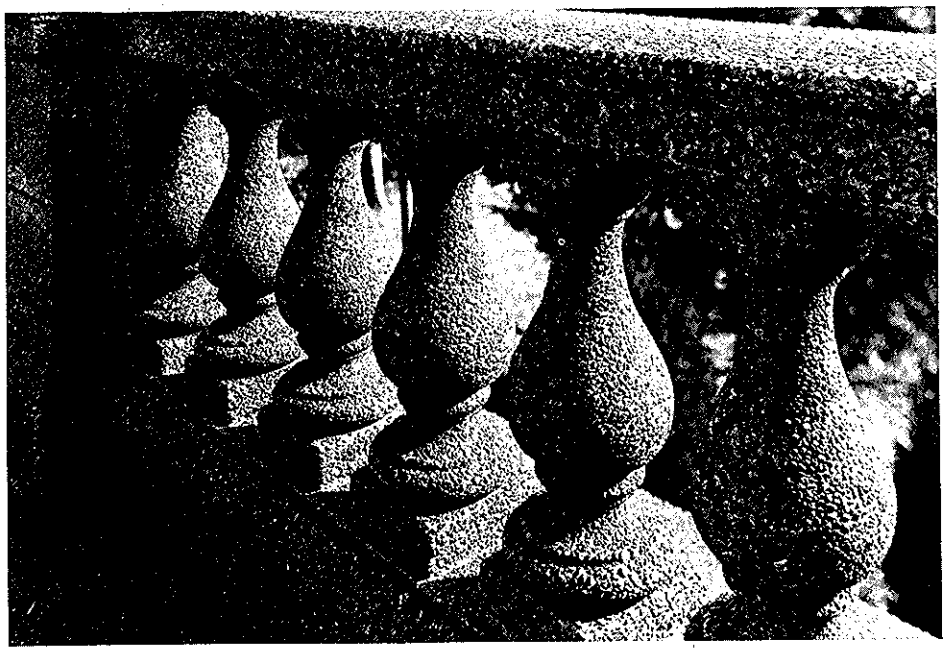
1. Obtain Information

An evaluation of a designed historic landscape should begin with compiling a general description and history of the property including dates of design and construction; names of owner(s), landscape architect(s), designer(s), and administrator(s); identification of construction techniques, methods, and plant materials; landscape style; existing and previous uses with the dates of these uses identified; and the acreage and existing boundaries of the original tract and any subsequent additions or reductions. The researcher should determine the original intent of the landscape design based on original plans, photographs, correspondence, etc. as well as any alterations to the original design and the dates such alterations occurred. Additional information may be important, including the introduction of innovative, hybrid, or exotic plant materials; the innovative use of new construction materials or techniques; and the relationship between this property and others that may be nearby, designed by the same individual or firm, or owned by the same individual, family, organization, agency, municipality, or State or Federal government. Information obtained should not be limited to that concerning design and physical appearance but should also include data concerning the function of the landscape during its history and the individuals or groups associated with its ownership, design, and uses.

Narrative Description and Mapping of Present Features and Function

The present features and functions of a designed historic landscape should be described in a written narrative and located on a map or plan. Both the written narrative description and the map or plan may include but not necessarily be limited to the following features:

- existing topography and grading
- natural features
- land uses
- circulation system of roads, paths, trails, etc.
- spatial relationships and orientations such as symmetry, asymmetry and axial alignment
- views and vistas into and out of the landscape
- vegetation by botanical name and common name with caliper for trees and heights for shrubs (put this onto maps)
- landscape dividers such as walls, fences, and hedges
- drainage and engineering structures
- site furnishings and small scale elements such as benches, planters, and urns



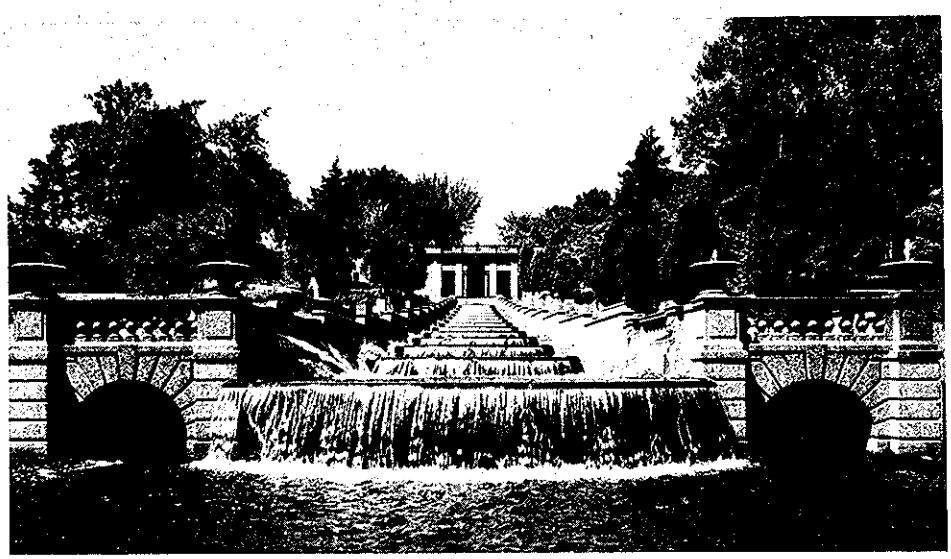


FIGURE 3 & 4: The terraced water cascade is the major design element at Meridian Hill Park in Washington, D.C., which served as a prototype for large scale and decorative usage of exposed aggregate concrete. (Photo credit: Jack E. Boucher, Historic American Building Survey [HABS])

- bodies of water such as pools, fountains, lakes, streams, and cascades
- lighting including actual fixtures such as street lights and lanterns as well as the use of both natural and artificial lighting as design elements (i.e., intensity, color)
- signs delineating entrances, street names, and other features
- buildings such as houses, barns, dormitories, or hospitals that may be contained within the landscape
- structures such as bridges, roads, and dams
- sculpture and other works of art

Individual features—even though some may be movable or could be considered separately—contribute to the overall identity and character of the landscape and should be considered, in most instances, not individually but in terms of their relationship to the totality of the landscape. A recent survey or aerial photograph of the landscape is often helpful in identifying and locating such features.

Narrative Description and Mapping of Historic Features and Function

The narrative of the historical appearance should draw upon both documentary evidence and field observations. The discussion should include a chronology describing the evolution of the site from its original state, original topography, and native vegetation (i.e., prairie grass, hardwood forest), if known, through its earliest and subsequent uses, designs, and physical alterations. Maps should delineate the exact, if known, or approximate locations of all known historic features. (See "Narrative Description and Mapping of Present Features and Function" above for types of features to include and "Research, Field Work and Documentation Techniques" below for assistance in identification.)

Determine Period of Significance and Preliminary Boundaries

Using the information collected and organized above, the researcher should begin to determine the property's period of significance and preliminary National Register boundaries. The period of significance should be the time period in which the property achieved the qualities that make it eligible for the National Register. Continued use over time does not mean that the period of significance necessarily coincides with that time. There may be several distinct periods of significance for some properties. If this is the case, all historic periods should be noted.

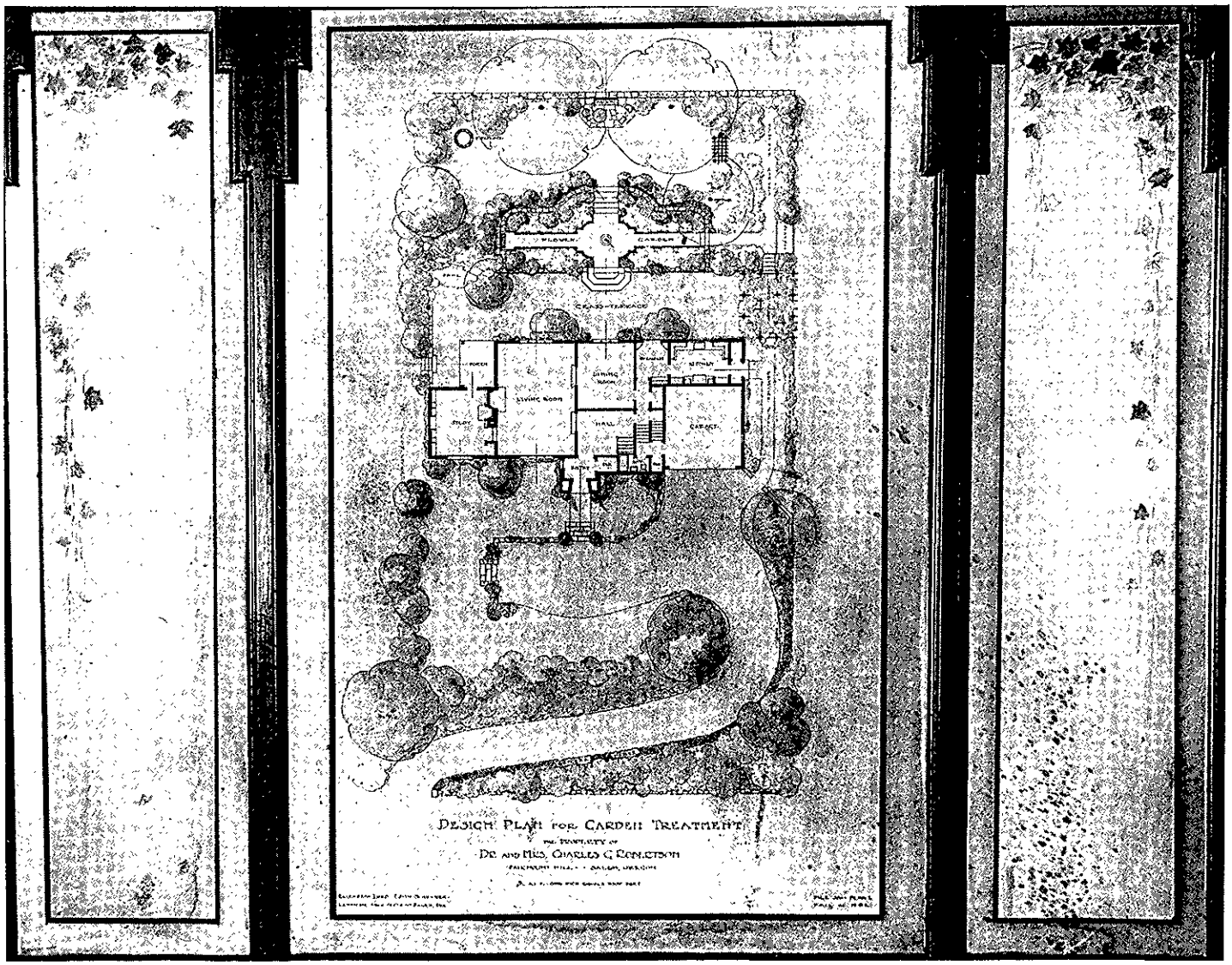
2. Identify Designed Historic Landscape Types and Develop Historic Context

Once the history of the landscape has been compiled, it is necessary to determine the type to which it most properly belongs. Important events and trends that influenced the development of the landscape type during the period of the property's design or any major alterations should then be identified. At present the standard source for American landscape history is *Design on the Land, the Development of Landscape Architecture* by Norman T. Newton. It also may be helpful to check with the State Historic Preservation Officer, the American Society of Landscape Architects, the National Association for Olmsted Parks, the Alliance for Historic Landscape Preservation, and other historical, preservation, and landscape professionals and

organizations that may have already evaluated the significance of the landscape or identified the designed landscape type that it represents. They may also be able to recommend important source materials, to assist in identifying the physical features necessary to represent a particular type, period, or method of construction or planting, or to suggest significant associations within the development and practice of landscape gardening and planning.

Decisions about the significance of properties can only be made with knowledge of the historic and comparative context for the property evaluated. Therefore, determining the relationship between an individual landscape and the historic development and practice of landscape architecture is an essential factor in determining significance. All landscapes that possess age are not significant, and what is significant must be determined from its connection to the historic theme(s) it represents and in relationship to a group of similarly associated properties. All the information required to demonstrate the significance of a designed historic landscape will vary according to whether it is significant to the local community, the State, or the nation. It may not be necessary to describe the development of local gardening styles, for example, for a designed historic landscape that is significant in the national development of landscape architecture. If, however, the designed landscape has no importance on the State or national level but is a significant example of a local style of landscape gardening or landscape architecture, then such a discussion is required. If a designed landscape is important at all three geographic levels—local, State, and national—it should be discussed within the context of all three with significant contributions noted for each level. Many State Historic Preservation Offices are defining formal historic contexts as part of their comprehensive State historic preservation planning process and may be able to assist nomination preparers with the compilation of

FIGURE 5: The presentation drawing for a "Design Plan for Garden Treatment" for Dr. and Mrs. Charles G. Robertson garden was prepared by the Salem, Oregon landscape architectural firm of Lord and Shriver and mounted and framed for use as a fireplace screen by the original occupants. Historic plans are helpful both in determining the original design intent and evaluating the integrity of a designed historic landscape. (Photo credit: Robert Gorenson)



comparative and thematic data for the evaluation of a property.

3. *Analyze Characteristic Features*

Next, the researcher needs to determine the characteristic features that the property must possess to be a good representative of its type, period or method of design or construction and how it relates to the development and philosophy of its designed landscape type. For example, a researcher approaching a park designed in the American Romantic style may be looking for an emphasis on natural scenery and native plant materials, a lack of formal design, and a curvilinear circulation system and other characteristics generally associated with such parks. A landscape where these characteristics are not identifiable would not be a good representative of this type and, therefore, ineligible for the National Register.

4. *Evaluate Significance of the Historic Landscape Using National Register Criteria*

As defined by the National Historic Preservation Act of 1966 and the National Register criteria, to be eligible for the National Register a designed historic landscape must possess the quality of significance in American history, architecture (interpreted in the broadest sense to include landscape architecture and planning), archeology, engineering and culture and integrity of location, design, setting, materials, workmanship, feeling, and association and

a. be associated with events that have made a significant contribution to the broad patterns of our history; or
b. be associated with the lives of persons significant in our past; or
c. embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d. have yielded, or may be likely to yield, information important in prehistory or history.

Many designed historic landscapes will be eligible because of their associations with significant events and trends. For example, the creation of designed landscapes has historically been associated with social movements. The historic designs for parks, suburbs, and playgrounds have direct links, in many cases, to the social issues of their times. In addition to possessing significance according to such historical themes established by the National Register as social history, agriculture, or transportation and meeting criteria A–D above on that basis, a property nominated because it is a designed historic landscape should meet these criteria primarily on the basis of associations with landscape gardening or landscape architecture under criterion C. In general, such questions as whether a particular designed historic landscape was the first of its type; is noted for some particular innovation in design, construction, planting or use; or is associated with a significant figure in landscape architecture, gardening and planning should be considered. Typically, a designed historic landscape meets criterion C because of its association with the productive careers of significant figures in American landscape architecture such as Andrew Jackson Downing, Frederick Law Olmsted, Jens Jensen, Beatrix Farrand or other noted practitioners; an association with a historical trend or school of theory and practice within landscape architecture such as the City Beautiful Movement or the Country Place Era, rather than with an individual person of significance; the presence of highly skilled craftsmanship or use of particular materials in the construction of walls, walks, fountains and other landscape elements; evidence of distinguished design and layout that results in superior aesthetic quality and constitutes an important artistic statement; or rare or specimen plant materials associated with a particular period or style of landscape history.

5. *Evaluate Integrity*

Not all historic properties retain integrity. Within this concept of integrity, the National Register criteria recognize seven aspects, or qualities, which, in various combinations define integrity. Historic location, design, setting, materials, workmanship, feeling, and association must be considered in determining whether a landscape retains enough of its important features to convey its historically significant appearance or associations. Landscapes have unique attributes that often complicate the evaluation of integrity, but the degree to which the overall landscape and its significant features are present today must be evaluated. In general, the researcher should ask the following questions when evaluating integrity: 1) To what degree does the landscape convey its historic character? 2) To what degree has the original fabric been retained? 3) Are changes to the landscape irrevocable or can they be corrected so that the property retains integrity?

The specific features that a designed historic landscape must retain will differ for various landscape types. Such features may include but not necessarily be limited to spatial relationships, vegetation, original property boundary, topography/grading, site-furnishings, design intent, architectural features, and circulation system. If, for example, a property is primarily significant because of its internal road circulation yet the historic road patterns are no longer discernible or have been badly damaged, then the landscape has suffered a loss of integrity that may make it ineligible for the National Register. In addition to establishing the reasons for a designed landscape's significance, it is also necessary to determine if the designed landscape is significant for its original or altered character or both. Although a landscape need not retain all the characteristic features that (see list above) it had during its period(s) of significance, it must retain enough or have restored enough of the essential features to make its historic character clearly recognizable, and these features should be identified.

The clearest evaluation of integrity is based on the presence of identifiable components of the original design. To evaluate the historic integrity of a designed landscape, it is useful to compare

FIGURE 6: Oakmont Country Club, significant in golf annals for the difficulty of its course, its length, and speedy greens, is one of the nation's earliest surviving golf courses. The Western Pennsylvania eighteen hole course was laid out by Henry C. Fownes in 1901. Fownes' original design is still evident today despite the constant maintenance and alterations required for a championship caliber golf course. (Photo credit: Lu Donnelly)

the present appearance and function of the landscape to its historical appearance and function. The relationship between present function and that intended or actually in use during the period of significance may also affect the integrity of a designed historic landscape. An area that was designed for passive recreation may have suffered a loss of integrity if it has been converted for active play such as baseball. On the other hand, an open meadow within a large estate or institutional grounds may survive an adaptive use to a golf course without loss of integrity if its open design qualities remain dominant. Conversions of designed landscapes to agricultural or forest uses may also seriously affect historic integrity, although the existing landscape remains scenic.

The features to be evaluated should also be considered in terms of survival, condition, and appropriateness to the original design intent and period of significance. Such features include grading, rock formations, water bodies, road networks, and paths. Such elements are relatively stable and their integrity can be addressed in much the same way that one would analyze the integrity of a building. Some additions dating from a period later than the period of significance but that retain the spirit of the original design, such as a rusticated concrete wall extension of an original stone wall, may have achieved significance of their own over time. Site furnishings such as benches, urns, and street lights are particularly vulnerable to periodic change; although their presence may strengthen the integrity of the designed historic landscape, their absence when the special integrity of the designed landscape is intact does not necessarily mean ineligibility.

Vegetation, another important feature of most landscapes, is not stable. It is always changing—by seasonal cycles, maturation, pruning, removal, neglect, and other forces. If one first determines that the more stable elements of the designed landscape are sufficiently intact to represent the original design intent, then it can be determined whether the existing vegetation taken as a whole reenforces or supports the original design intent. A bare site that was once heavily groved, for example, usually would be considered ineligible. Less dramatic changes in vegetation might not disqualify a site on the question of integrity. A designed historic landscape need not exist today exactly as it was originally designed or first executed if integrity of location and visual effect have been preserved. Originality of plant materials can increase integrity but absence of original materials does not automatically disqualify a designed landscape. The absence of original vegetation may not diminish integrity, for example, if the same or similar species of appropriate size have been replanted to replace dead, diseased or mature specimens. A boulevard that has lost its original trees but where appropriate new street trees have been planted may retain integrity. Some later vegetation, especially specimen varieties, may also possess significance in its own right regardless of its relationship to the original design or implementation.

Condition will play a significant role in evaluating integrity. Such categories as excellent, good, fair, deteriorated, and severely deteriorated applied to individual features may assist the researcher in making a final judgment about the overall condition and thus the integrity of

the property. Plant materials that are diseased, overmature, or have been subjected to excessive pruning or other improper treatment as well as areas where there is extensive soil erosion may diminish a landscape's integrity. Condition, of course, is reversible; in many instances it may be possible to enhance integrity through maintenance, replanting, or other restoration or reconstruction procedures.

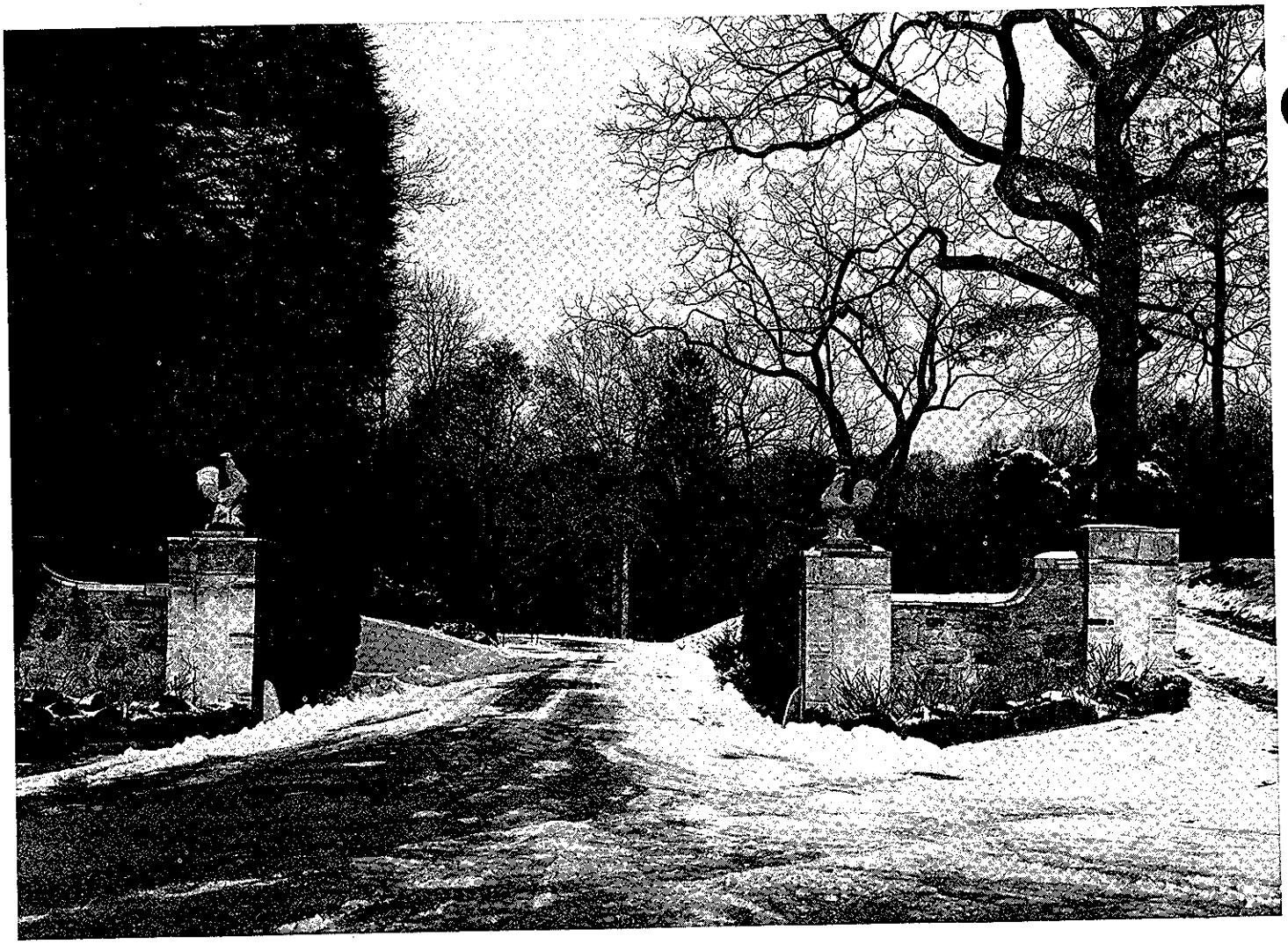
In most instances the original boundaries of the landscape design will comprise the limits of the geographic area to be evaluated. Adjacent off-site conditions will not be considered in the evaluation of integrity, unless they were included as part of the original design intent. In such cases a landscape's immediate surroundings may have an impact on an evaluation of integrity. Major adjacent encroachments, such as highways, parking lots, and new buildings, may violate the original design intent and intrude upon the property. Views from the property, for example, that were intended to be pastoral but that are now industrial or views that were established along sight lines to buildings, monuments, or other features that have been destroyed may be a serious detriment to the integrity of a historic landscape.

6. Determine the Need for Special Justification

Certain types of properties do not usually qualify for the National Register. Cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years are not ordinarily considered eligible for the National Register. However, such properties will qualify under the criteria as they apply to designed historic landscapes if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

a. a religious property deriving primary significance from architectural or artistic distinction or historical importance; or
b. a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most

FIGURE 7: Chanticleer, the Delaware County, Pennsylvania, suburban estate of the Rosengarten family is a designed historic landscape that incorporates the original landscape plan developed by landscape architect, Thomas Sears, as well as subsequent work by landscape architects, Howard Kneedler, Yerkes Associates, and Billy Jay Hoffman, several architects, and members of the Rosengarten family. Principal landscape features include the main gate where the pair of carved stone roosters that give the estate its name announce the entrance. (Photo credit: George Thomas)



importantly associated with a historic person or event; or

c. a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his productive life; or

d. a cemetery that derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

e. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

f. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or

g. a property achieving significance within the past 50 years if it is of exceptional importance.

Usually considerations b and c above do not apply to designed historic landscapes, but there may be historic districts that contain properties that must meet these considerations to contribute to the historic significance of the designed landscape. Cemeteries and the grounds associated with religious institutions are among the most obvious examples of landscapes requiring justification under the National Register criteria considerations. Only those possessing artistic quality because of their landscape design will meet the test of significance as designed historic landscapes.

A landscape that had pivotal physical characteristics reconstructed may be eligible if it is significant for its original landscape design, if it is the sole surviving landscape of its type, or if it is the only survivor associated with a significant figure in landscape architecture. However, the property will require special justification.

To be eligible for the National Register, a designed historic landscape that is less than fifty years old must be exceptionally significant. A property that has achieved significance within the last fifty years can be evaluated only when sufficient historical perspective exists to determine that the property is exceptionally important and will continue to retain that distinction in the future. Scholarly recognition is usually required to establish exceptional significance because only that type of analysis can convincingly demonstrate that despite the lack of the passage of the fifty-year period, sufficient historical perspective exists to evaluate the particular property.

A property must be compared with other properties of its type that have similar associations and qualities to establish exceptional significance. The reasons for which a property is considered exceptionally significant must be explained along with a discussion of the qualities and characteristics that distinguish the landscape as exceptional.

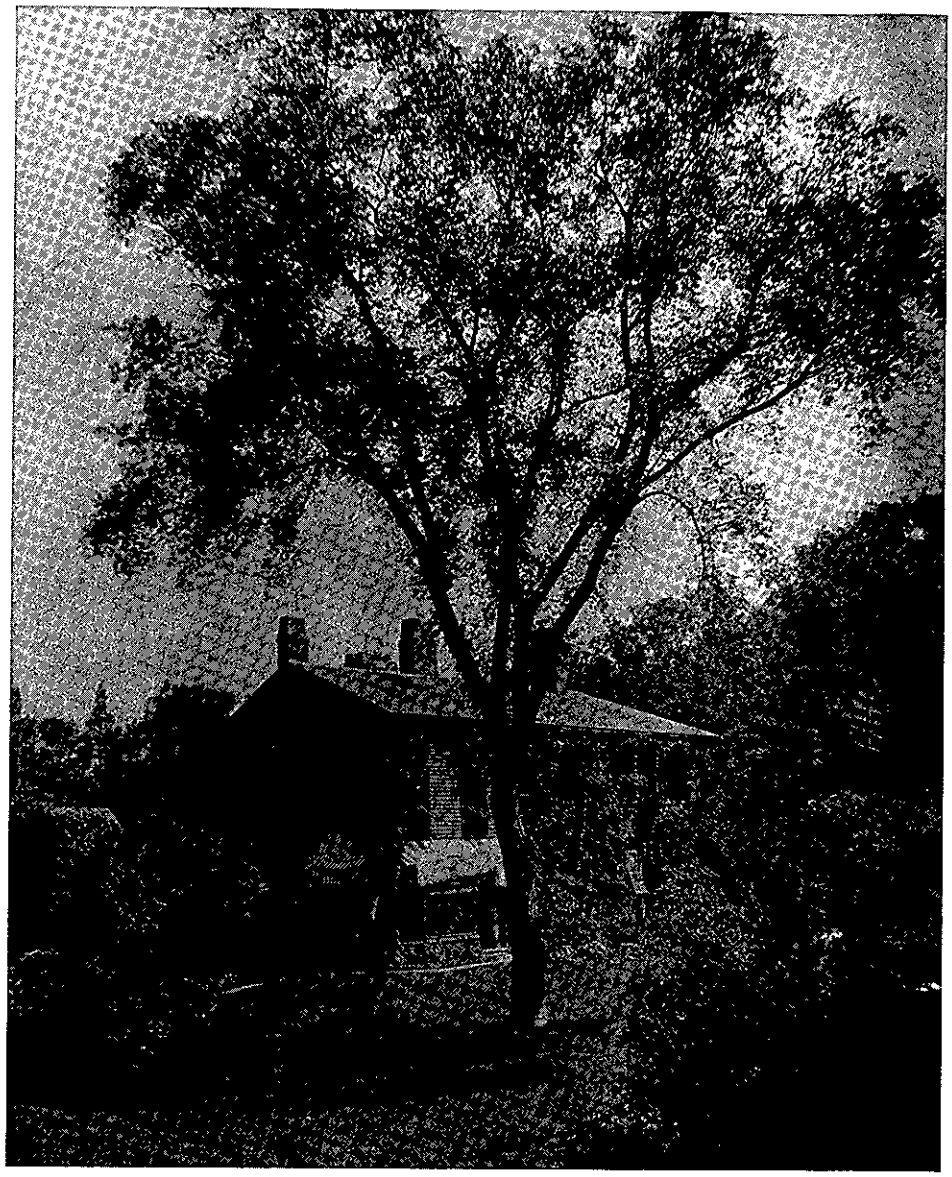


FIGURE 8: "Fairsted" (The Frederick Law Olmsted National Historic Site) is a designed historic landscape in Brookline, Massachusetts, associated with the life and work of Frederick Law Olmsted, Sr. from 1883–1903 and his family from 1904–1935 with later alterations attributed to the Olmsted firm up to 1979, when the U.S. National Park Service took over the property as the Frederick Law Olmsted National Historic Site. (Photo credit: Shari Berg, Courtesy U.S. National Park Service, Frederick Law Olmsted National Historic Site)

Occasionally, a landscape may contain exceptionally important elements such as sculpture and other works of art. If the work of art is an integral part of the design for the landscape, it may make the entire landscape eligible for the National Register even if it is less than fifty years old. Landscapes not determined to be especially significant should be reevaluated when

they are fifty years old. (See National Register Bulletin 22, "How To Evaluate and Nominate Potential National Register Properties That Have Achieved Significance Within the Last Fifty Years" for a more detailed discussion of the evaluation process for properties that are less than fifty years old).

Preparing the National Register Nomination

Conducting an in-depth analysis of a designed historic landscape using the process outlined above should give a researcher sufficient information to make an assessment of potential eligibility based on the landscape type, its characteristic features and period of significance, integrity of the landscape, and any relevant special considerations. The number and combination of characteristic features necessary for eligibility will vary from property to property and will depend on the qualities for which a designed landscape is significant. In some instances, a single quality or association and the retention of the most important design characteristics may make a designed landscape eligible. If a landscape is not individually eligible for the National Register, it may still be eligible as a contributing component of a historic district.

Completing the National Register Nomination Form

Care must be taken in completing the National Register form according to the set of instructions that accompany it and National Register Bulletin 16, "Guidelines for Completing National Register Forms." No section may be left blank; there are specific instructions for indicating that a section may not be applicable to the particular nomination; there are usually options to choose the category "other" in multiple choice categories. An individual designed landscape should be classified in the nomination as a "site" which the National Register defines as "the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural or archeological value regardless of the value of any existing structure." More often designed historic landscapes, such as estates, subdivisions or planned communities, commonly fit into the National Register's "district" category of a "geographically definable area which possesses a significant concentration, linkage or continuity of sites, buildings, structures, and/or objects united by past events or aesthetically by plan or physical development." Some designed historic landscapes that qualify individually as sites may be nominated as part of a district. A park in the center of a concentration of historic houses, a public square adjacent to a historic downtown, or a college campus at the edge of a historic town may each be considered a designed historic landscape and yet be included as part of a district nomination.

The narrative portions of the National Register form provide an opportunity to develop fully the information and analyses conducted for the designed historic landscape as discussed above. In each section, it is important to be as concise as possible yet to describe fully the history and development of the property. Knowledge of the designed landscape type and of its designer and those who influenced its design is critical and should be reflected in the narrative portions. Yet the entire history of a landscape movement need not be repeated in each nomination; only the parts of the story that directly relate to the particular property, its period of significance, and that help to illustrate how the property meets National Register criteria need to be discussed.

Determining and justifying the boundaries of a designed historic landscape are important parts of a National Register nomination. Boundaries should be drawn carefully to encompass, but not to exceed, the full extent of the significant resources. The area to be registered should be large enough to include all significant features but should not include buffer zones or acreage not directly contributing to the landscape's significance. If the designed historic landscape's historic boundaries are intact, if the uses have not changed considerably, and if the entire property possesses integrity, then there is good justification for including the entire property in the nomination. If, however, land uses have changed considerably or there have been major physical changes in some portions of the property, those areas should be excluded from the nomination. All boundaries should be justified in a short narrative statement which explains why the boundaries were selected.

Each nomination must be accompanied by a USGS map locating the property within a city or other geographical unit and by at least one plan or sketch map locating all significant landscape features as well as any intrusions. The narrative description and significance sections of the registration form are used to assess if a feature contributes to the historic significance of the landscape. (See National Register Bulletin 14 "Guidelines for Counting Contributing and Non-Contributing Resources for National Register Documentation" for definitions and guidelines for determining the status of properties within historic districts.) Each feature identified should be numbered so that references to them can be keyed to the narrative discussions. Copies of historic plans, if they are available, may be helpful in determining the original design intent and the integrity of some properties. A number of black and white archival quality photographs should accompany each nomination. These photographs should be keyed to the numbers shown on the sketch map with direction of view indicated. There is no requisite number of photographs that must be submitted. The requirements state that there should be as many photographs as necessary to depict the property clearly. Representative views of all characteristic features as well as alterations and intrusions should be included with the location and direction of each view recorded for all photographs. Prints of historic photographs should be included if they help resolve questions of integrity.

Research, Field Work and Documentation Techniques

The following discussion is intended to assist nomination preparers in developing a thorough and systematic approach to research, field work and documen-

FIGURE 9: Prospect Park, Brooklyn, New York, view of the Long Meadow. Designed by Olmsted & Vaux in the 1860s. While this scene looks almost "natural" rather than designed, it illustrates the subtle effects of topography, plantings, and vistas conceived by the designers. (Photo credit: Shari Berg, Courtesy U.S. National Park Service, Frederick Law Olmsted National Historic Site)

tation of designed historic landscapes.

Research

Historical research should include investigations of extant drawings, specifications, and plant lists prepared by the original and subsequent designers, if such documents are available. For some properties it may be possible to locate historic photographs, illustrations, and descriptions in journals, newspapers, and other publications. When they are available, such historic illustrations as birdseye and perspective sketches will aid the researcher in understanding the designed historic landscape. An owner's, designer's, or gardener's diary or minutes of proceedings for institutions or governmental projects may provide useful information, as might ledgers or nursery catalogs. A comparison of surveys done close to the date of design with "as built drawings" or surveys done following construction often illuminate the issue of what was actually built or planted. Identifying original sources for outdoor furnishings and hardware may provide important clues such as establishing an approximate date for the landscape. In some instances, reports to public agencies may still be available in the archives of either the designer or the original client.

Previous studies, including management reports and vegetative inventories, if available, may also be useful. Interviews with previous owners, descendants of owners, neighbors, designers, gardeners, contractors, or others involved with the history, design, or management of the property are usually valuable and may turn up other primary and secondary sources of material about the landscape. Secondary sources should be used with caution checking the author's citations where possible and looking for physical or supporting evidence for undocumented statements. Investigations such as these described above, in addition to the necessary field work, can help a researcher to determine if a landscape was actually built and planted as designed.

Field Work

Conducting a detailed investigation of the designed historic landscape during site visits is necessary to identify and to record the present appearance and function of the landscape and to determine or to locate landscape features that may add understanding to early uses, plantings, grading, construction materials, techniques, etc. It may be desirable to visit the property in more than one season if seasonal variations in vegetation or land use appear to be important views and vistas, and other significant features, winter is often the best time for detailed investigations unless there is snow to obscure details.

Documentation

There are actually two levels of documentation that occur in developing a nomination for the Na-

tional Register: 1) that which one actually needs to accumulate in order to understand and to analyze the historic landscape; 2) that which is required to be submitted with the nomination. The items discussed above under "Completing the National Register Nomination" fall into the second category. However, before a nomination can be completed an important step will be the completion of detailed documentation to evaluate the designed historic landscape. The more detailed set of information includes documentation needed to evaluate a designed historic landscape that, when completed, will be condensed and included in the nomination. The researcher will need to obtain or develop plans(s) or map(s) showing present appearance and function as well as plan(s) or map(s) delineating the landscape's designed appearance and function during the period of significance. Both plans or maps should be the same scale and ideally should be developed on the same base map so that an overlay analysis can be accomplished. This analysis will provide the researcher with the characteristic features that have endured from the period of significance to the present and allow an analysis of the degree to which their appearance and function have remained the same, thus providing a good indication of the landscape's integrity. This comparison between the present and historic condition forms the basis for understanding landscape design integrity.

In order to understand truly the significance and integrity of the designed historic landscape being evaluated, historic and contemporary graphics need to be compared to gain an understanding of the landscape as designed, the landscape as constructed, and the landscape of today. To record and to analyze a historic landscape and its many aspects, maps of different scales may be necessary. Scales such as 1″ = 10′ or ¼″ = 1′ for construction details or flower gardens, 1″ = 20′ for tree and shrub identification, 1″ = 50′ or 1″ = 100′ for tree massing, drives, etc., and the use of a larger scale such as 1″ = 200′ for an overall plan are generally most useful. Contour intervals should be shown, at a minimum of 10′ on the base map. Where possible all graphic information should be reduced to an 8½″ × 11″ format for submittal to the National Register or folded to that size.

Although not necessary for the National Register submission, color slides taken at the same points at various seasons are often additional aids that provide helpful reference points when writing descriptions. Other non-required but helpful aids include aerial photographs that may assist in understanding the total landscape; stereo pairs that may be useful in understanding the three-dimensional aspects of the landscape; and video tape that records sounds as well as serial or sequential experiences to provide a good field record of the landscape.

Before beginning to record the designed historic landscape for the National Register, it is helpful to consider the potential uses of the information collected and documented during the process of preparing the nomination. The development of master, management, maintenance and restoration plans, creation of a design control district; or implementation of a historic interpretation program may follow the actual nomination. If the next step is to develop a master plan, for instance, it may be important to prepare a base map at a scale that will allow for in-depth analysis and comprehensive recommendations in the next phase may save time in the future.

A final word about documentation concerns the potential of a designed historic landscape to be a National Historic Landmark. If the landscape has national significance, this ought to be documented in the nomination. Designation as a National Historic Landmark will require that the property be studied by the National Park Service. Usually this occurs as part of a major theme study. A well-documented National Register nomination for a potential National-Historic-Landmark-quality designed landscape will facilitate its review by National Park Service professionals. Further information concerning the National Historic Landmark Program may be obtained by writing to the Director, National Park Service, U.S. Department of Interior, P.O. Box 37127, Washington, D.C., 200013-7127

RECOMMENDED BIBLIOGRAPHY AND SOURCES

National Park Service Publications

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2 Nomination of Deteriorated Properties

6 Nomination of Properties Significant for Association with Living Persons

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12 Definition of Boundaries for Archeological Properties

14 Guidelines for Counting Contributing & Noncontributing Resources

15 How to Apply the National Register Criteria for Evaluation (Draft, 1982)

16 Guidelines for Completing National Register of Historic Places Forms

19 National Park Service Procedures and Policies for Processing Nominations

21 How to Establish Boundaries for National Register Properties

22 How To Evaluate & Nominate Potential National Register Properties That Have Achieved Significance Within the Last Fifty Years

23 How To Improve the Quality of Photos for National Register Nominations

24 Guidelines for Local Surveys: A Basis for Preservation Planning

25 Directory of Technical Assistance

28 Using the UTM Grid System to Record Historic Sites

The above publications may be obtained by writing to the National Register of Historic Places, U.S. Department of Interior, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127. In addition to the above specialized bulletins for National Register nomination preparation, the NPS Park Historic Architecture Division has compiled a Cultural Resource Bibliography that may aid historic landscape researchers. That office may be contacted for information about the series at the above address.

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Bulletin. (The Association for Preservation Technology)

Landscape Journal.

Landscape Architecture.

Journal of the Society of Architectural Historians.

Collections

The following collections may contain original drawings, manuscripts, correspondence, etc., that may be of assistance. The list is not definitive but is intended, instead, as a representative sample of the kind of primary sources available for some historic landscapes.

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Washington, DC: Library of Congress. Frederick Law Olmsted Papers.

Washington, DC: Library of Congress. The Olmsted Associates Papers.

Washington, DC: Library of Congress. The American Society of Landscape Architects Archives.

Credits and Acknowledgements

Several people have contributed to the thoughts about historic landscapes contained in this bulletin. Thomas J. Kane, FASLA, generously shared a copy of an unpublished paper that he prepared concerning guidelines for evaluating the significance of historic landscapes for the National Park Service in 1976. This paper provided a point of departure for this bulletin, particularly in regard to the characteristic features of designed historic landscapes. Patricia O'Donnell, Chair of the American Society of Landscape Architects, Committee on Historic Preservation, also provided a copy of her May 7, 1984, paper, "Proposed Landscape Preservation Definitions" and the ALSA Landscape Inventory. We are also indebted to Robert Melnick, ASLA, and his work in rural historic districts which addresses the parallel issue of nominating cultural landscapes. Finally, we thank our colleagues in the Alliance for Historic Landscape Preservation for devoting considerable time during the June 1985 annual meeting at Skyland in Virginia to the topic of designed landscapes and the criteria that should be used to evaluate and nominate historic landscapes to the Register. These discussions occurred during the early stages of the development of the outline for this bulletin and were extremely valuable. A number of preservation and landscape professionals reviewed the draft of this bulletin and were extremely helpful in suggesting revisions. Thomas J. Kane, FSLA; Patricia O'Donnell, ASLA; Darwina Neal, FASLA; Robert E. Stripe; Shary Page Berg; Malcolm Cairns; Daniel Sponn; Chauncey L. Walker; and others suggested specific language changes that were incorporated into the bulletin.

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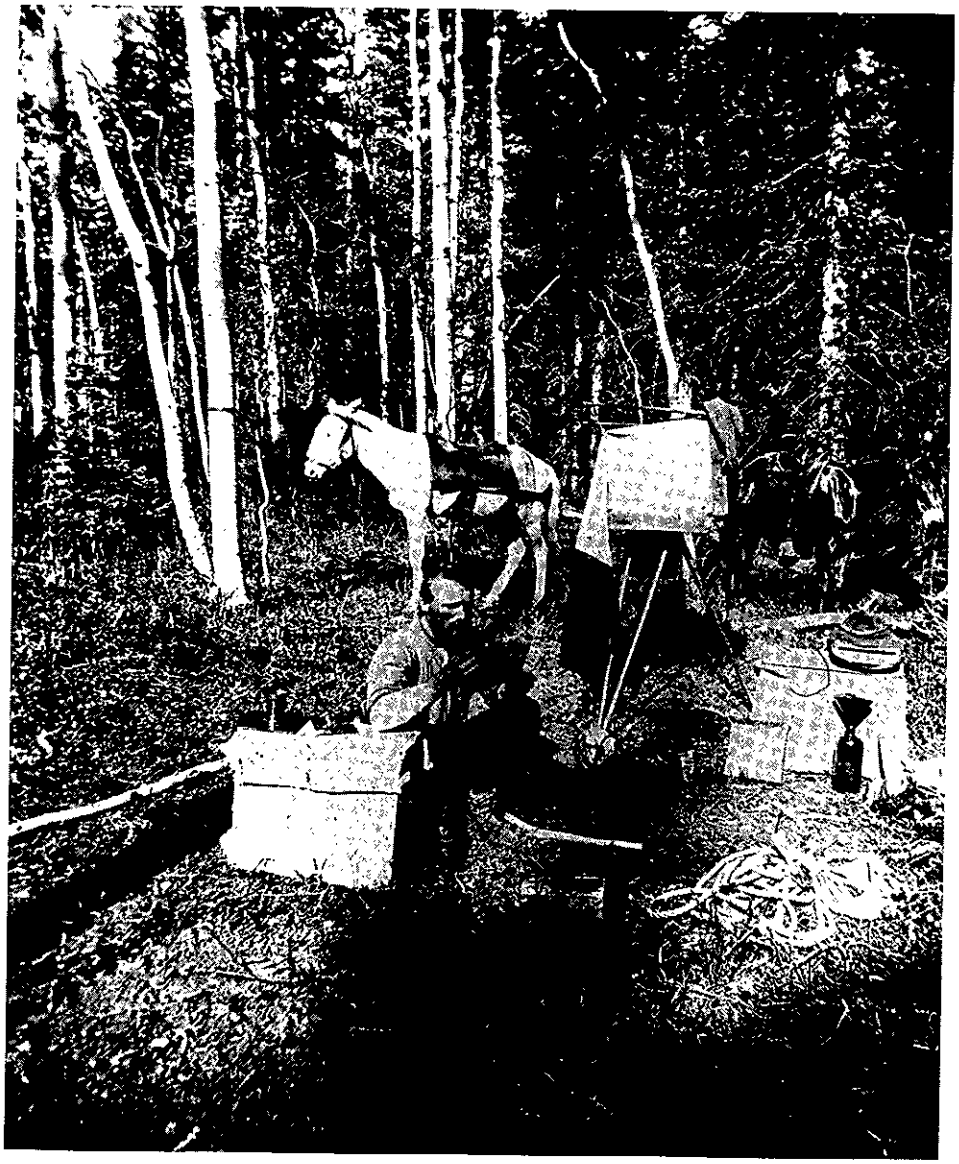
NATIONAL REGISTER BULLETIN

Technical information on the the National Register of Historic Places: survey, evaluation, registration, and preservation of cultural resources

U.S. Department of the Interior
National Park Service
Cultural Resources
National Register, History and Education

HOW TO IMPROVE THE QUALITY OF PHOTOGRAPHS FOR NATIONAL REGISTER NOMINATIONS



The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

This material is partially based upon work conducted under a cooperative agreement with the National Conference of State Historic Preservation Officers and the U.S. Department of the Interior.

Cover: Wet-plate Photography in the Field. Utah, 1872.
John K. Hillers, a member of the Powell Survey Team, examining one of his plates.
(National Park Service Historic Photograph Collection)

NATIONAL REGISTER BULLETIN

HOW TO IMPROVE THE QUALITY OF PHOTOGRAPHS FOR NATIONAL REGISTER NOMINATIONS

BY
FREDERIC J. ATHEARN
including
On the Road
by
Jeff Dean

U.S. DEPARTMENT OF INTERIOR
NATIONAL PARK SERVICE
NATIONAL REGISTER, HISTORY AND EDUCATION
NATIONAL REGISTER OF HISTORIC PLACES
1979, REVISED 1987, 1996, 1998

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PREFACE

Photographs are an essential part of all National Register of Historic Places nomination documentation because they illustrate the property at the time it was nominated, provide a record of the property's integrity and distinguishing features, and support the nomination's discussion of the property's physical description and historic significance. As of 1997, the National Register included documentation on more than 69,000 historic properties. This record of America's heritage is unmatched in its comprehensiveness.

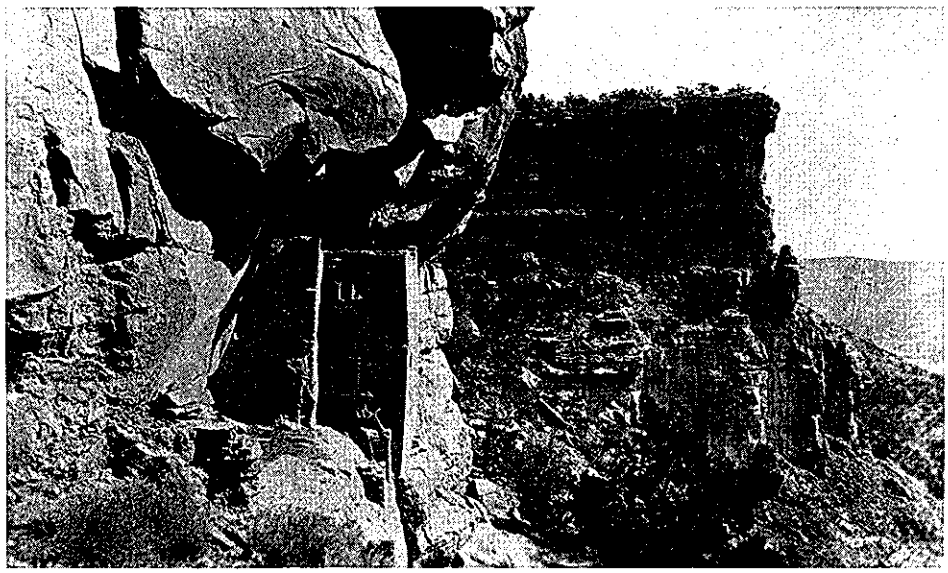
Because National Register nominations form a permanent record of listed historic properties, it is important that they include high quality photographs. Planners, educators, researchers and other members of the public who consult National Register nomination files rely on the quality of the written and visual documentation. In addition, National Register photographs are frequently used in publications to illustrate various kinds of historic properties. The purpose of this bulletin is to improve the quality of photographs in National Register nominations by providing a clear explanation of the technical aspects of photography, as they pertain to National Register requirements. The bulletin is not a comprehensive guide to architectural photography, nor is the advice it gives the last word on the subject, rather it is intended to be a useful guide for nonprofessional photographers who are called upon to submit photographs to the National Register.

We are pleased that Dr. Frederic J. Athearn of the Colorado State Office of the Bureau of Land Management wrote this bulletin. The American Association for State and Local History awarded him a Certificate of Commendation for his pioneering work in photographic documentation. The text for this bulletin is based, in part, on Dr. Athearn's *A Window to the Past—A View to the Future: A Guide to Photodocumenting Historic Places*, Bureau of Land Management, Cultural Resource Series, No. 30, 1994.

Jeff Dean, former Wisconsin State Historic Preservation Officer, added a section to this bulletin based on his experiences since 1970 in the field of historic preservation. Dean was awarded a Certificate of Commendation in Preservation by the National Trust for Historic Preservation for his 1981 book, *Architectural Photography*, published by the American Association for State and Local History. He teaches small-format architectural photography for the Mount Carroll Center for Applied Photographic Arts of the Campbell Center for Historic Preservation, Mount Carroll, Illinois.

Carol D. Shull

Keeper, National Register of Historic Places
National Register, History and Education
National Park Service
U.S. Department of the Interior



The ancient Anasazi ruins at Mesa Verde, *Colorado. (National Park Service Historic Photograph Collection. William Henry Jackson, 1874)*

ACKNOWLEDGMENTS

We would like to thank Frederic J. Athearn, formerly with the Colorado State Office, Bureau of Land Management, Denver, Colorado, for writing the text of the bulletin. And Jeff Dean, former State Historic Preservation Officer and Director, Historic Preservation Division, State Historical Society, Wisconsin, for his account of photography on the road for the National Register. And to Marilyn Nickels, Manager, Cultural Heritage Programs, Bureau of Land Management for her support and encouragement in the initial stages of planning for the bulletin. In addition to Athearn, Dean, and Nickels, we would especially like to thank Historic American Buildings Survey photographer Jack Boucher for his invaluable editorial comments on the technical aspects of the manuscript.

This bulletin was developed under the general editorship of Carol D. Shull, Keeper of the National Register of Historic Places. Beth L. Savage and Sarah Dillard Pope coordinated the publication of the fourth edition of this bulletin. Antoinette J. Lee, Mary F. McCutchan, Tanya M. Velt, Rama R. Badamo, Susan Begley, Lorena Gonzales and Matthew Nowakowski provided coordination, editorial and technical support for earlier editions. We would also like to thank Marsha S. Baenziger, Archeologist, Department of Agriculture; Nicholas Dean, Photographer, Edgecombe, Maine; Tom Durant, Curator, National Park Service Historical Photograph Collection, Harper's Ferry, West Virginia; Charles Gutierrez, Technical Director, Hasselblad USA Inc., Fairfield, New Jersey; Dale Heckendorn, Colorado Historical Society; Peter Kurtze, Maryland Historical and Cultural Programs; Margaret Pepin-Donat, CoTeam Leader, Cultural Resources, Pacific Great Basin System Support Office, San Francisco, California; George Miles, Curator, Yale Collection of Western Americana, The Beinecke Rare Book and Manuscript Library, New Haven, Connecticut; and the staff of the National Register of Historic Places for their helpful suggestions and support.

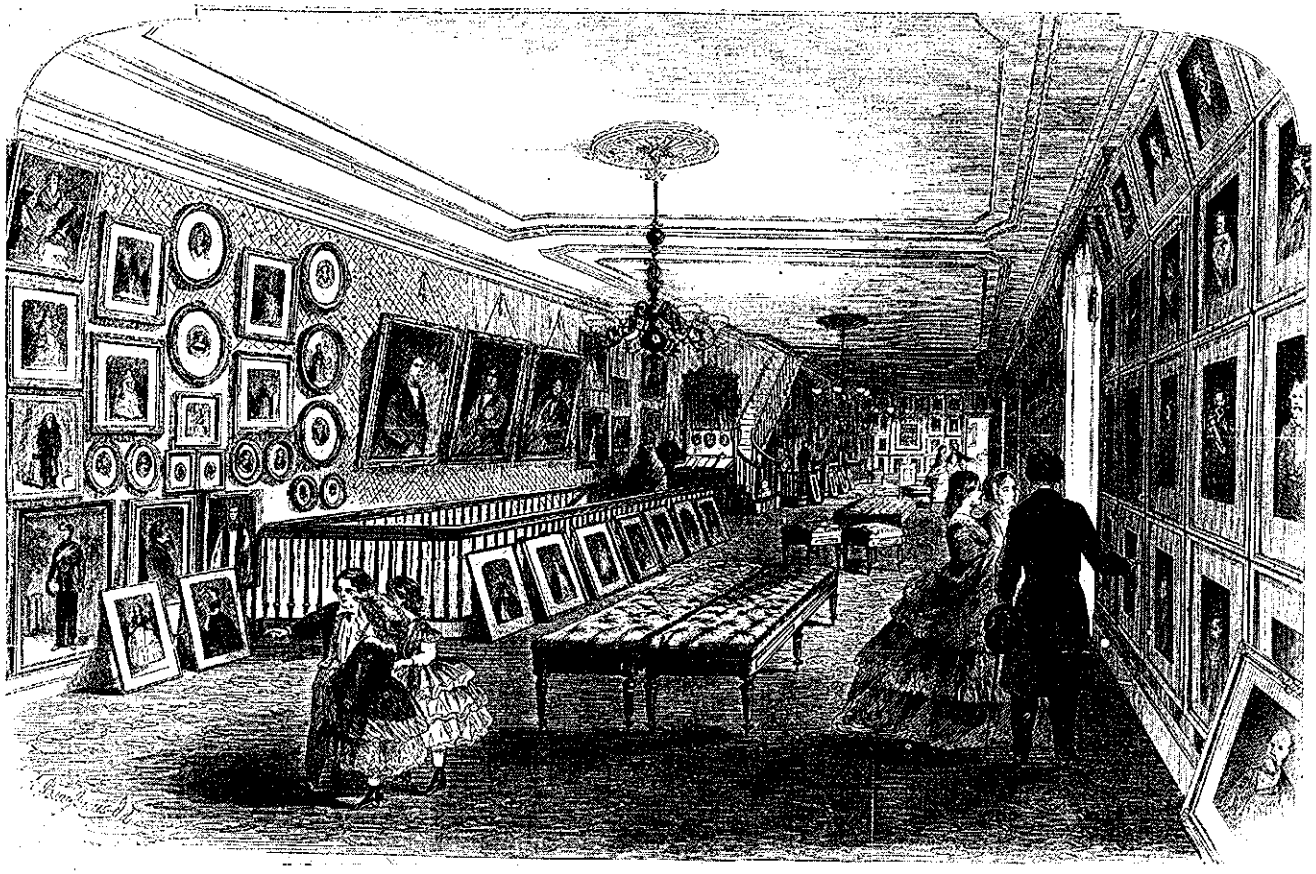
Comments on this publication may be directed to: Keeper, National Register of Historic Places, National Park Service, 1849 C Street, NW, NC 400, Washington, D.C. 20240.

INTRODUCTION

This bulletin updates the 1996 edition, which replaced the 1987 version of *Photographs for National Register Nominations.* It provides information on preparing photographs for inclusion in National Register of Historic Places nominations; the use of various types of cameras, films, and techniques for photographing historic places; and guidance on documenting several types of historic properties. It provides a detailed description of the photographic process, guidance on the care and storage of images, and ideas on documenting various types of properties.

Also included is a summary of the requirements for Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) documentation. This information helps explain what is involved in preparing formal documentation for historic properties. While this level of documentation is not required for National Register nominations, the more photographs made for the National Register approach these standards, the better they will serve the needs of present and future generations.

This bulletin also supplements existing guidance in *How to Complete the National Register Registration Form,* pp. 63-65, and gives further details on the use of photography to document nominated properties. Other National Register guidance regarding photography is found in: *Guidelines for Local Surveys: A Basis for Preservation Planning,* pp. 50-51; *Guidelines for Evaluating and Registering Historical Archeological Sites and Districts,* pp. 36-37; and *Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields,* p. 17.



"Matthew Brady's New Photographic Gallery, Corner of Broadway and Tenth Street, New York" Harper's Weekly, *September, 1862, p. 106 (Prints and Photographs Division, Library of Congress)*

I. A BRIEF HISTORY OF PHOTOGRAPHY AND THE PHOTOGRAPHIC PROCESS

Until the invention of cameras and photographs, followed by the development of a practical way to print photographs in newspapers, the reading public pictured an event with the aid of an artist's rendering. In the 1860s, photographers recorded some events in American history for the first time. When photographer Matthew Brady exhibited photographs of corpses on the battlefield in 1862 at his New York City gallery, the public saw the gruesome realism of broken bodies for the first time. (See below.)

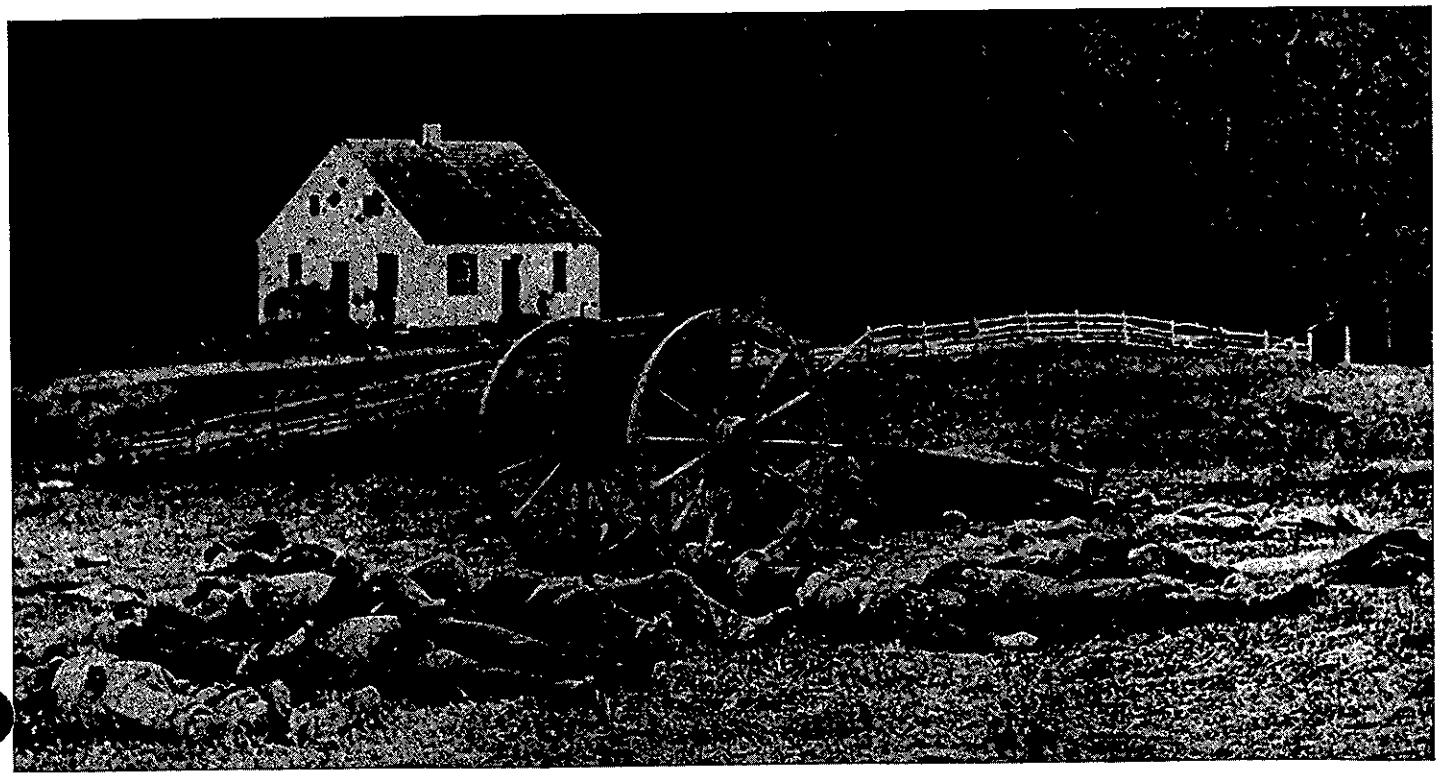
As the settlers pushed westward, photographers were there. They recorded the completion of the Transcontinental Railroad. Who has not seen the famous picture of the two locomotives meeting at Promontory Point, Utah? (See page 2.) Photographer, William Henry Jackson, spent years in the West with Ferdinand V. Hayden's expeditions recording the landscape. Jackson was the first to photograph Mesa Verde in Colorado (1874) (See page iv.) and the legendary Mount of the Holy Cross (1873), near Leadville, Colorado, among other places. (See page 2.)

The first true photographs were exposed on metal that had been sensitized to accept an image. *Daguerréotypes*, named for their French inventor L.J.M. Daguerre in 1837, were metal sheets upon which a positive silver image was affixed. (See page 3.)

The inventor of the first process which used a negative from which multiple prints were made was William Henry Fox Talbot, a contemporary of Daguerre.

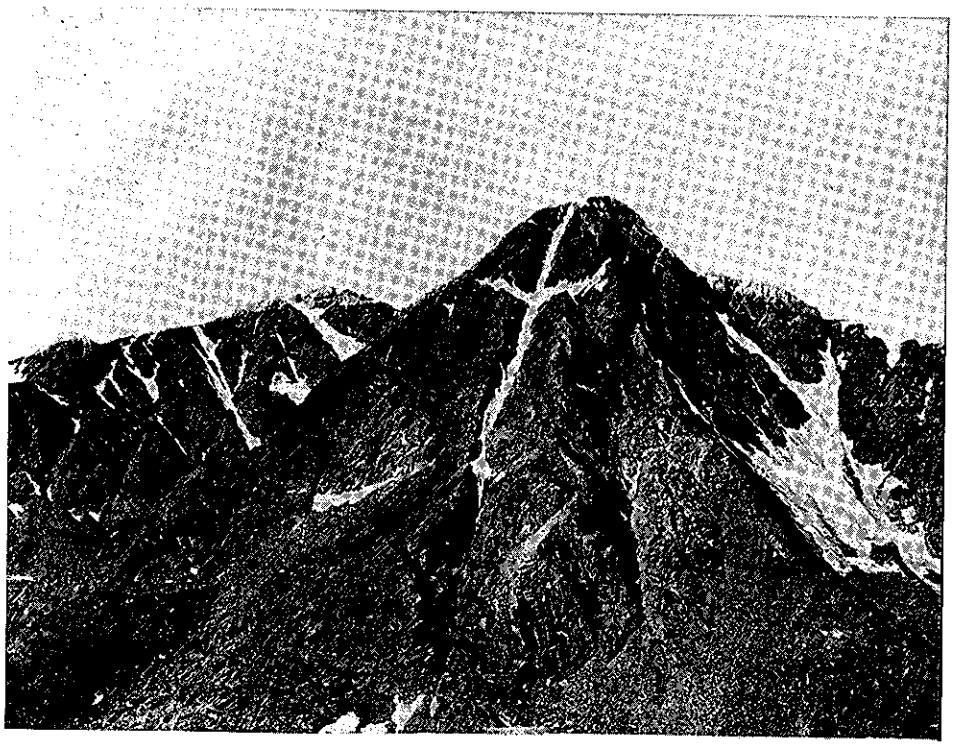
Tintypes, patented in 1856 by Hamilton Smith, were another medium that heralded the birth of photography. A thin sheet of iron was used to provide a base for light-sensitive material, yielding a positive image.

Photography advanced considerably when sensitized materials could be coated on plate glass. The first glass negatives were wet plate. They had to be developed quickly before the emulsion dried. (In the field this meant carrying along a portable



Confederate dead from one of Stephen D. Lee's batteries lying east of the Dunker Church, Antietam, near Sharpsburg, Maryland, September, 1862. (National Park Service Historic Photograph Collection. Alexander Gardner, 1862)

East Meets West at Promontory Point, Utah. *Representatives from the Central Pacific and Union Pacific Railroads shake hands over the final spike in the Transcontinental Railroad, 1869. (Yale collection of Western Americana, Beinecke Rare Book and Manuscript Library. Andrew Joseph Russell, 1869)*



Mount of the Holy Cross, *near Leadville, Colorado. (National Park Service Historic Photograph Collection. William Henry Jackson, 1874)*

darkroom.) By 1879, a dry plate process had been invented and patented which freed the photographer from the necessity of developing each print immediately.

In 1889, George Eastman, realizing the potential of the mass market, used a newly invented film with a base that was flexible, unbreakable, and could be rolled. Emulsions coated on a cellulose nitrate film base, such as Eastman's, made the mass-produced box camera a reality. Using box cameras, amateur photographers began to document everyday life in America. Eastman's first simple camera in 1888 was a wooden, light-tight box with a simple lens and shutter that was factory-filled with film. The photographer pushed a button to produce a negative. Once the film was used up, the photographer mailed the camera with the film still in it to the Kodak factory where the film was removed from the camera, processed, and printed. The camera was then reloaded with film and returned.

In the early 1940s, commercially viable color films (except *Kodachrome*, introduced in 1935) were brought to the market. These films used the modern technology of dye-coupled colors in which a chemical process connects the three dye layers together to create an apparent color image. This system is still used for color.

PHOTOGRAPHIC FILMS

Black and white film is long lasting and more permanent than color film. The first flexible films, dating to 1889, were made of cellulose nitrate, which is chemically similar to guncotton. A nitrate-based film will deteriorate over time, releasing oxidants and acidic gasses. It is also highly flammable. Special storage for this film is required. It is highly explosive and should be kept at low temperatures, in sealed bags, in fireproof vaults.

Nitrate film is historically important because it allowed for the development of roll films. The first flexible movie films measured 35-mm wide and came in long rolls on a spool. In the mid-1920s, using this technology, 35-mm roll film was developed for the camera. By the late 1920s, medium-format roll film was created. It

The General Post Office, *Washington, D.C., 1839, designed by architect Robert Mills. This photo is a copy of a* ***daguerréotype*** *of the building taken in 1846 by John Plumbe. (Library of Congress Daguerréotype Collection)*

measured six centimeters wide and had a paper backing making it easy to handle in daylight. This led to the development of the twin-lens-reflex camera in 1929. Nitrate film was produced in sheets (4 x 5-inches) ending the need for fragile glass plates.

Triacetate film came later and was more stable, flexible, and fireproof. Most films produced up to the 1970s were based on this technology. Since the 1960s, polyester polymers have been used for gelatin base films. The plastic film base is far more stable than cellulose and is not a fire hazard.

In the past decade, film has become far less grainy and is greatly reduced in contrast. New technology has produced film with T-grain emulsions. These films use light-sensitive silver halides (grains) that are T-shaped, thus rendering a much finer grain pattern. Films like this offer greater detail and higher resolution, meaning sharper images. The traditional rule that slower film produces finer grain is no longer true. The finer grained films are still slower, that is, the ISO rating is lower, but they are much less grainy and have much less contrast.

A recent development in black and white film is a process that uses color film technology to develop and print black and white films. It is easy to take a roll of this film to a one-hour processor to get back prints quickly. However, the film has a purple tint to it, as do the prints. Additionally, because of the color processing, the life of the film or prints is highly suspect. (National Register requirements forbid the use of such films for nominations because, like all color films, they do not meet the documentation standards set by the National Register.)

PHOTOGRAPHIC PRINTS

Traditionally, linen rag papers were used as the base for making photographic prints. Prints on this fiber-base paper coated with a gelatin emulsion are quite stable when properly processed. Their stability is

enhanced if the print is toned with either sepia (brown tone) or selenium (light, silvery tone).

Paper will dry out and crack under poor archival conditions. Loss of the image can also be due to high humidity, but the real enemy of paper is chemical residue left by photographic fixer. (See **Glossary**.) In addition, contaminants in the water used for processing and washing can cause damage. If a print is not fully washed to remove all traces of fixer, the result will be discoloration and image loss. Staining also can occur on improperly processed negatives. The accepted current standard for adequate washing to remove the fixer is a minimum of 30 minutes with a total change of water every five minutes. (Commercial chemical preparations may be added to the bath to speed up the process.)

A recent innovation in papers is the resin-coated, or water-resistant, paper. The idea is to use normal linen fiber-base paper and coat it with a plastic (polyethylene) material, making the paper water-resistant. The emulsion is placed on a plastic covered base paper. The problem with resin-coated papers is that the image rides on the plastic coating, and is susceptible to loss. Because resin-coated paper is considered unstable, the Prints and Photographs Division of the Library of Congress will not accept prints made with it. The National Register will accept prints on resin-coated paper provided they contain no evidence of residual chemicals, fading, or yellowing.

Only fiber-base paper, specially processed to archival standards, is acceptable for archival purposes. Most of today's commercially made prints are on resin-coated paper. Whether the print is from the corner drug store or a professional laboratory, it is almost certain to be made on resin-coated paper. As stated above, resin-coated paper is acceptable for National Register photographs provided the prints made with it have been properly processed and washed. Machine processed prints such as those made with a stabilizer are not acceptable because the chemicals have not been completely washed out.

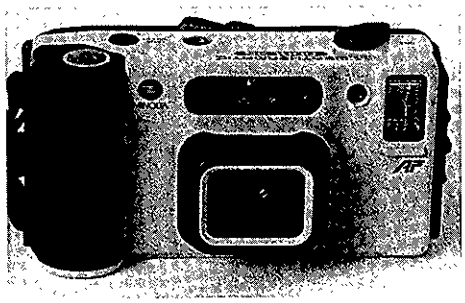
Another film medium that is not suitable for photographic permanence is color. Color film and prints are not stable because organic dyes are used to make the color image. The image will quite literally disappear from the film or paper base as the dyes deteriorate. *Kodachrome,* dating to the first third of the 20th century, appears most stable and examples exist that are half a century old. Color transparency films by *Fuji* of Japan are proving to be stable, but only age (not accelerated aging tests) will reveal the truth.

Most recently, new techniques, along with some old ones, are creating what is called permanent color prints. The old fashioned dye transfer process has been reintroduced by two small companies. New printing methods using computer-generated thermal dye prints, digital images, supposedly highly stable pigments, and other technology claim to offer permanency for color media. It remains to be seen whether these claims can be substantiated. Other printing methods such as dye sublimation (a process for making paper prints that is created on a computer as a digital image), color *Xerox*, color laser, ink jet color, and other computer printers are so new that there is no data on how long these media will survive. Digital permanence is still a matter of speculation. Jeff Rothenberg in an article in *Scientific American* has recently raised disturbing questions about the longevity of electronic media. (See **Bibliography** for citation.)

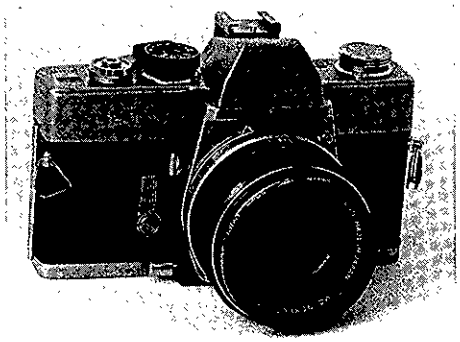
Taken near Savannah, Georgia this photograph shows a typical field set-up of the Civil War era. The wagon carried chemicals, glass plates, and negatives. The buggy to the left could be used as a field darkroom. Before a reliable, dry-plate process was invented (ca. 1879) photographers had to develop negatives quickly before the emulsion dried. (Library of Congress, Prints and Photographs Division)

II. CAMERAS AND LENSES

THIRTY-FIVE-MILLIMETER CAMERAS AND LENSES



Point-and-Shoot Camera. (Frederic Athearn, 1995)



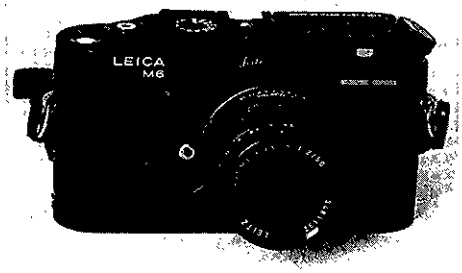
35-mm Single-Lens-Reflex Camera. (Frederic Athearn, 1995)

The most common photographic equipment today is the 35-mm camera. There are several varieties, including: fully automatic cameras, commonly called "point-and-shoot" cameras; single-lens-reflex cameras, and range-finder cameras. Many people use "point-and-shoot" cameras. They are fully automatic; some have a manual override feature. Their price ranges from $50 to $1,000. The more expensive models have more features. Most "point-and-shoot" cameras have a moderately wide-angle 35-mm lens, useful for architectural photography, particularly in tight urban settings. However, this lens can increase distortion when used fairly close to the subject if the camera is not leveled.

"Point-and-shoot" cameras are not particularly suitable for photographic documentation, because they cannot be easily adjusted for variations in lighting, or difficult lighting situations. While they meter light automatically, they sometimes meter it inaccurately. In difficult or unusual lighting conditions these cameras will simply not provide a good photograph. Under normal conditions, with bright light, "point-and-shoot" cameras will provide adequate photographs for National Register nominations. "Point-and-shoot" cameras work best outdoors, in bright light, using a moderately fast film (ISO 200). Normally the built-in flash for a "point-and-shoot" camera is low-powered, making it unsuitable for interior shots. Where there is *backlighting* (see **Glossary** for definition) or low lighting, "point-and-shoot" cameras may not produce good photos. (More expensive models may have override features or better flash units that can overcome these problems.)

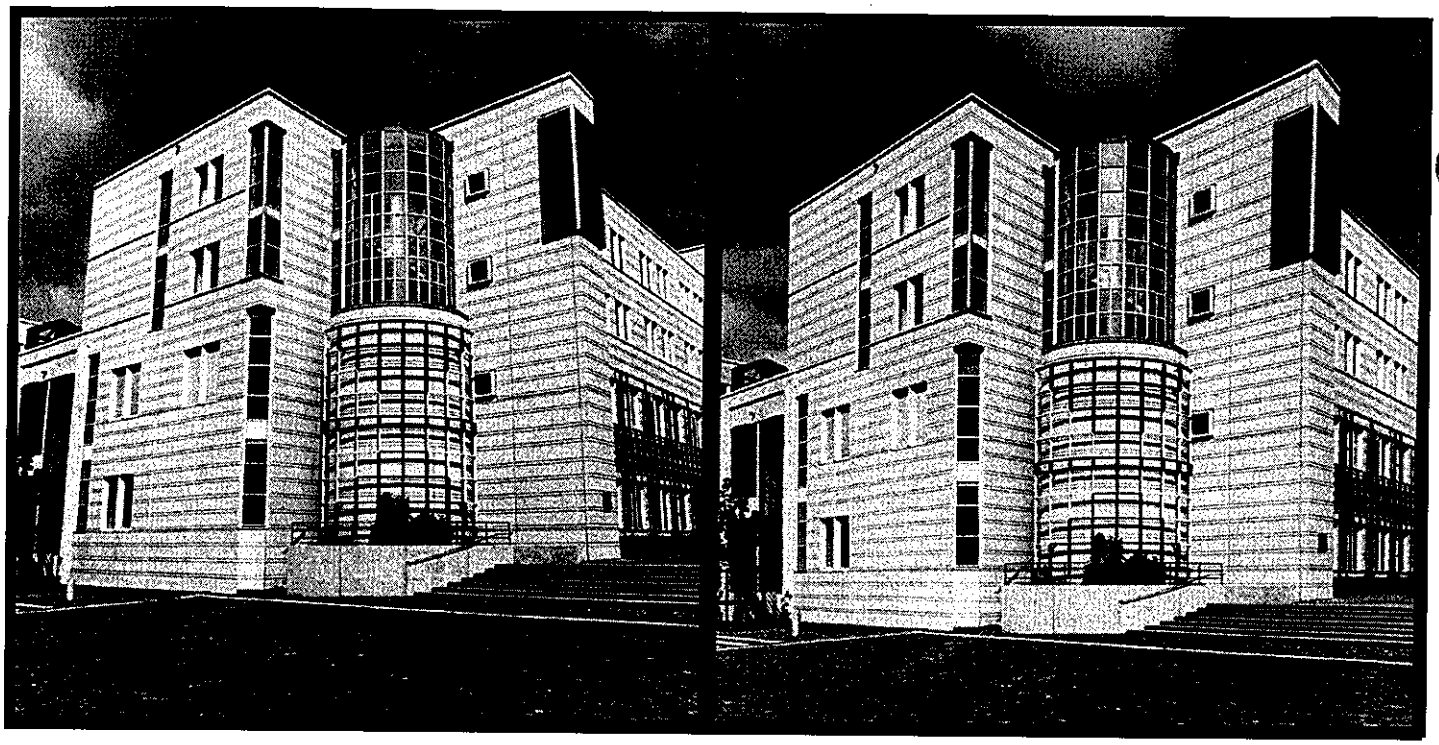
A better choice for documentary photography than a "point-and-shoot" camera is a single-lens- reflex (SLR) camera. With this camera, you look through the camera lens, making framing and focusing very easy. The lenses are usually interchangeable, so various focal lengths can be used. Another advantage is that shutter speeds and lens openings [f-stops] are adjustable, either manually or automatically.

There are a few range-finder-type 35-mm cameras (i.e., *Leica M-6, Contax G-1, Konica,* etc.) with interchangeable lenses available, but they are expensive. Instead of looking through the lens, as in the SLR, you sight through a range-finder prism on top of the camera. Focusing for the range-finder is very accurate. Some people have trouble using the frames in the viewfinder to compose their pictures because of the frame outlines seen through the viewfinder. These outlines represent the area of actual view. They are called bright frames. Each one represents a different focal length in the viewfinder. Range-finders also suffer from parallax problems. Parallax is the difference seen between the viewfinder and the lens. At infinity, there is no significant problem. The closer you get to the subject, the more parallax occurs. The photographer may see the complete image in the viewfinder, but because of parallax, the lens fails to capture the entire subject. (See **Glossary**.)



Rangefinder Camera. (Frederic Athearn, 1995)

A normal lens for a 35-mm camera is 50mm in focal length. It is called normal because the angle of view is approximately the same as the human eye. A 50-mm lens is usually the lens sold with the camera. It is perfectly usable for documentation. However, a wide-angle (24-mm to 35-mm) lens gives the photographer a wider view of the scene, taking in more of a building, for instance. Wide-angle lenses may induce distortion. The greater the angle, the greater the distortion. Lines tend to curve and parallels converge. A cheaper lens



The photo on the left was taken using a Zeiss Distagon 60mm lens. The one on the right was taken with a Zeiss Distagon 40mm lens plus Zeiss PC-Mutar 1.4x Shift Converter for Hasselblad. Without the PC lens the building appears to be leaning backward. (Photos courtesy of Hasselblad, 1990)

has more distortion than an expensive, highly corrected lens. The wide-angle lens is useful for photos in tight places, for interiors, or for photographs where the whole image cannot be composed on film without a wider view.

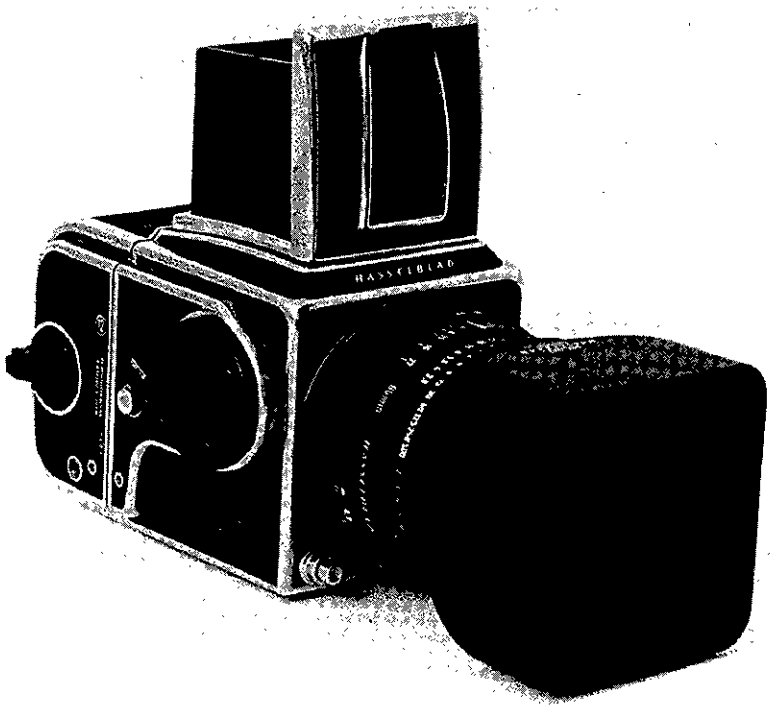
On the other hand, moderate-to-long (100-mm to 400-mm) telephoto lenses are sometimes useful for documentation. When it is possible to get back far enough from a building to use a telephoto lens, the perspective created by that distance is very pleasing. Distortion of the property is minimal. Lines are straight and parallels do not converge. Telephoto lenses are also useful for photographing a site from a distance that is not accessible for closeup documentation. However, atmospheric haze and heat effects may interfere with the clarity of images taken with a telephoto lens. Use a telephoto lens with caution. Generally, image quality is not as good as could be obtained close up, but telephoto lenses are really useful for occasions when one cannot get up close to a feature or detail. The longer the lens, the greater the need for a tripod.

Zoom lenses are another type of lens that can be useful in photographing historic buildings and landscapes. Zooms are very common for 35-mm cameras. They range in focal length from 20-60mm to 200-500mm. The most common is probably 35-70mm and 70-200mm. Zooms are very versatile, providing the photographer with a range of focal lengths from which to choose. The primary virtues of a zoom lens are convenience and choice. Cheaper zoom lenses fail to produce images of sufficient sharpness for National Register standards.

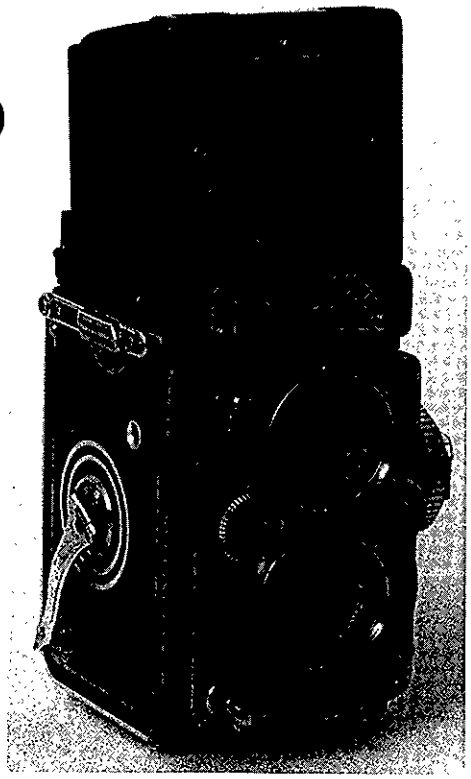
Perspective correction (PC) or shift lenses are made for both 35-mm and medium-format cameras. They can be used in architectural documentation to eliminate convergence. These lenses usually are moderately wide-angled (24mm) and shift side-to-side and up and down. Some perspective correction lenses also tilt, like a view camera. (See camera descriptions.) The advantage of this type of lens for the photographer of architecture is that it can be moved to correct perspective, convergence, or distortion. In the case of converging parallel lines, for instance, the lens can be moved off its axis to correct the lines. PC or shift lenses are mandatory equipment for quality small-format architectural photography. Currently, both *Nikon* and *Olympus* provide the flexibility of offering both 35mm shift lenses as well as other wider-angle shift lenses. Several other manufacturers produce shift lenses for their SLRs in a single focal length, most often 35mm. Perspective correction lenses or cameras should be used with a tripod and level or the benefits they offer are negated.

Most 35-mm films end up at a drug store or a photo shop to be developed, where machine prints are standard. Black and white prints are required for nominations. While it is somewhat more expensive (about 25 percent on the average) and usually more time-consuming to have stable, permanent 35-mm negatives and prints made, it is worth some extra expense, because the goal is long-term storage and retrieval of these materials. Black and white photographs produced by machine processing are marginally stable (perhaps fifty years). However, they may be submitted with National Register nominations provided they contain no evidence of residual chemicals, fading, or yellowing.

The 35-mm camera is easy and quick to use, but a 35-mm negative does not provide the level of detail and quality that a negative from a larger format camera can. Small-format films stretch the limits of resolution (resolution is measured in lines per millimeter) and sharpness. Most 35-mm single lens reflex cameras



6 x 6 cm Single-Lens-Reflex Camera with lens shade. (Frederic Athearn, 1995)



Twin-Lens-Reflex Camera. (Frederic Athearn, 1995)

have very good lenses on them. But when a 35-mm negative is enlarged to 8 x 10 inches or 11 x 14 inches, the image undergoes degradation to the point that important details can be lost.

For photographic documentation where color slides (transparencies) are needed, 35-mm film is helpful. Using *Kodachrome* film (for long life), a 35-mm slide gives the viewer an idea of the tones and shades of a structure and what the environment looks like; however, using slides is NOT an acceptable substitute for archival black and white negatives and prints. (Color slides are required in the formal review of National Historic Landmark nominations.)

MEDIUM-FORMAT CAMERAS AND LENSES

A medium-format camera is superior to a 35-mm camera for recording historic resources that may be eligible for inclusion in the National Register of Historic Places. The medium-format camera captures details and allows for greater enlargement of negatives than the 35-mm camera without significant quality loss. Medium-format refers to cameras that use 120/220-size roll film. Medium-format photography is a compromise between small (35mm) format and large (a 4- x 5- inch) format negatives. Most working photographers acknowledge the superiority of a medium-format image over a small-format image.

By definition, any camera that uses 120/220-size-roll films is medium format. Standard medium formats are 6 x 6cm (2 1/4- x 2 1/4-inch), 6 x 7cm, 6 x 8cm, and 6 x 4cm. Using a medium-format camera, a photographer can make a detailed record of a historic property without the expense and difficulty of a 4 x 5, or larger, view camera. Medium-format equipment is also more commonly available and easier to use than large-format equipment.

The same comments that apply to 35-mm cameras regarding wide-angle lenses and telephoto lenses apply to medium-format cameras. Their use is seriously limited in architectural photography because normally they cannot be shifted to correct for distortion and perspective. Most current manufacturers make lenses for medium-format cameras that can be shifted called perspective correction or "pc" lenses. Perspective correction lenses are necessary for photographers using a medium-format camera to photograph architecture. They are expensive and they do not provide as much shift movement as a large-format view camera, nor do they offer as much shift movement or as wide an angle-of-view in their formats as do 28-mm or 24-mm shift lenses in the 35-mm format. Some currently available medium-format cameras that have interchangeable lenses (and in some cases, removable film backs) include: *Hasselblad, Bronica, Mamiya, Pentax, Rollei,* and *Fujica.*

Older, medium-format cameras like the Twin-Lens-Reflex are sometimes found in the closets of small museums and historical societies. Twin-Lens-Reflex (TLR) cameras were once the standard cameras for 2 1/4- x 2 1/4-inch negatives. Now Single-Lens-Reflex (SLR) cameras have replaced them. While TLRs do not have removable film backs, or interchangeable lenses, they are perfectly usable for photographing architecture. (Today, there are only two TLRs on the market, the *Rolleiflex* and the *Mamiya Twin Lens.* The *Mamiya Twin Lens* offers interchangeable lens capability, while the *Rolleiflex* does not. (Both of these cameras are 6- x 6-cm format.)

LARGE-FORMAT CAMERAS

Large-format cameras commonly have film formats of 4- x 5-inches; less common is 5- x 7-inch. Many commercial studios and art photographers use 8- x 10-inch film. The primary virtue of the large-format camera is that it is fully adjustable. It will swing, tilt, shift, and move in almost any direction. It is the best camera for architectural photography, resulting in fully corrected photographs.

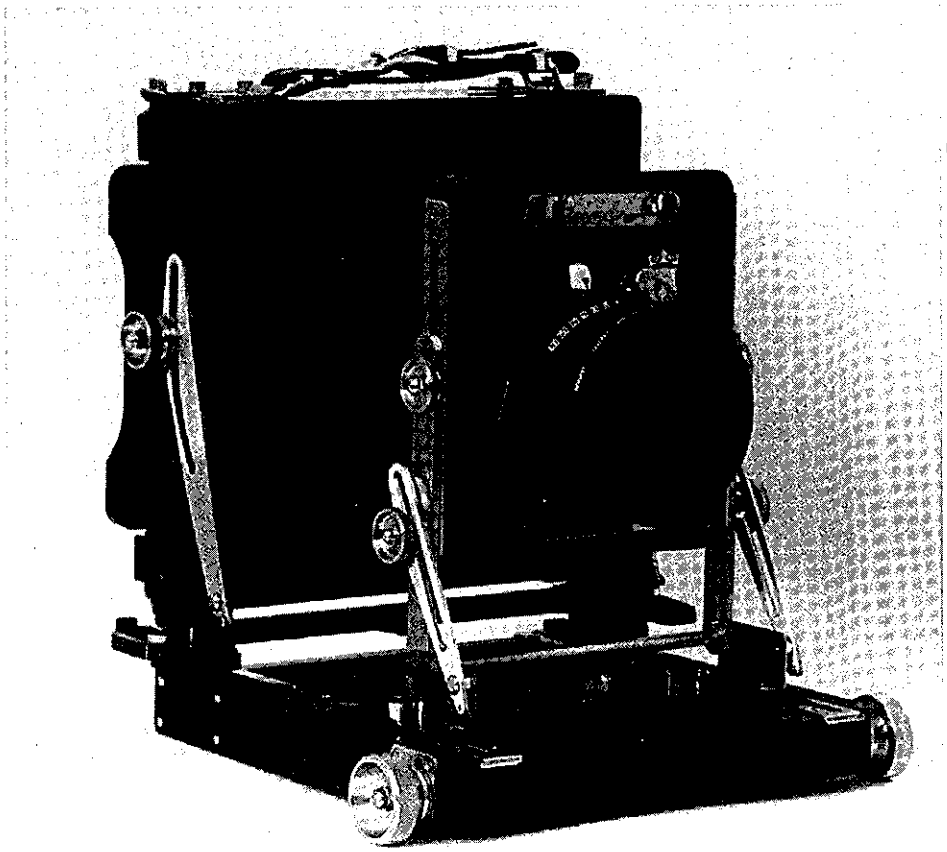
The three most common types of large-format cameras are the view camera, the field camera, and the technical, or press camera. A view camera is basically a unit with a front standard and a rear standard, with light-tight bellows in between, mounted on a rail or board. It can weigh as much as 20 lbs. The lens is on the front and the film holder is on the rear. The subject is viewed from the rear of the camera on a ground glass back. The viewed image is reversed and upside down. A heavy duty tripod is essential to hold a view camera steady.

Film for a large-format camera comes in cut-to-size sheets, not rolls. The film sheets go into light-proof film holders that are inserted at the back of the camera. The dark slide is removed, the film exposed, and the slide is replaced. (All film loading and unloading from the film holder(s) must be done in total darkness.)

The field camera differs from the view camera. It is basically a box with a drop bed to which the front standard and bellows are lowered. This camera is very compact, lightweight, and portable compared to the view camera. A wooden 4 x 5 field camera can weigh less than 3 lbs. A lighter tripod can be used with a field camera, reducing field weight. A field camera may have fewer moves than a view camera, but for most architectural purposes, it is perfectly adequate. Viewing and film exposure occur exactly in the same way as a view camera. Field cameras are popular with photographers who must hike into remote areas to take photographs.

A technical camera (or a press camera) is very similar to a field camera, except that it is heavier and may have features like a rangefinder. It also has more limited moves, in particular, shift and tilt abilities. There are many old press cameras available, the *Speed Graphic* for one, that are usable for producing 4 x 5 photographs.

The primary advantage of using a view or field camera is that architectural perspective corrections are easy to make. Also, the large-film-format gives sharper, more detailed images. A 4- x 5-inch negative, for example, needs only twice the enlargement to produce an 8- x 10-inch print. A 35-mm negative, on the other hand, needs eight times greater enlargement to produce an 8- x 10-inch print. A good 8- x 10-inch negative can be greatly enlarged without losing quality. An 8-x 10-inch contact print can be absolutely exquisite. It has a quality like no other photographic print.



4- x 5-inch Wood Field Camera. (Frederic Athearn, 1995)

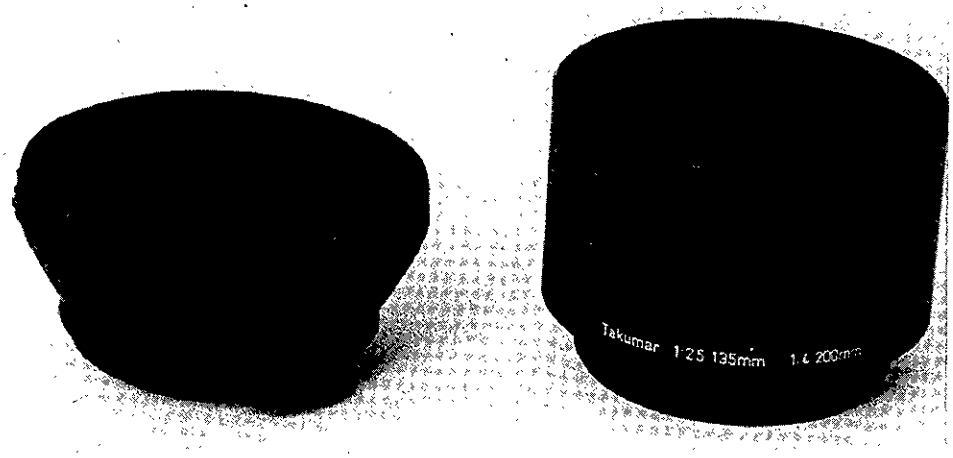
DIGITAL CAMERAS

A new and promising development in the field of photography is the digital camera. This camera is being used increasingly to record historic structures for publication. Since the 1980s, digital photography has developed as a means to store, view, and manipulate images without film. Images are stored in the camera's memory or on disk; the images are then downloaded for viewing on a computer. Digital images can easily be posted to the Internet or distributed via electronic mail.

BASIC TIPS ON LENSES AND FILTERS

TRIPODS AND HAND-HOLDING THE CAMERA.

The use of a good tripod will eliminate camera movement—resulting in a sharper image. This is particularly true if you are using a 35-mm camera. If you must shoot without a tripod, shoot at the highest possible speed to reduce camera shake. When you use a telephoto lens longer than 135mm, you should have the camera on a tripod. The longer the lens, the greater the shake. A general rule is, if you must handhold a long lens, your camera speed should be at least two times the length of the lens. For example, a 200-mm lens should be shot at 400th of a second.



Lens Hoods (Shades). L. rubber, clip-on type. R. metal, screw-on type. (Frederic Athearn, 1995)

FILTERS AND HOODS.

High quality filters can improve photographs of architecture by enhancing details and bringing out surfaces that might otherwise go unnoticed. One of the most useful filters is a medium yellow, which increases contrast and helps to define the texture of wood, brick, and other surfaces. Orange and deep-yellow filters increase the effect even more. Green filters enhance foliage and plants, while a red filter can provide dramatic contrasts between dark and light areas. Photographs shot with a red filter can also provide more details when shooting masonry and poured concrete. A filter mounted over a lens will always degrade image quality somewhat, so use quality filters to reduce light and contrast loss.

Another useful filter for the photographer is the polarizing filter, for reducing or eliminating reflection. This is particularly helpful if the photograph includes bodies of water or large areas of glass. Using a polarizer makes it possible to shoot through glass or into a situation where there is considerable glare. Polarizers can also increase contrast and/or darken blue skies in black and white photography.

All lenses with filters require exposure compensation, because they transmit less light than an unfiltered lens. A camera with a built-in light meter can calculate the correct speed and aperture. Because of light loss, working speeds and/or apertures will be lower than they would be without a filter. When using hand-held meters and cameras without light meters, the photographer must calculate the filter factor to assure properly exposed images. For example, if a medium-yellow filter has a filter factor of 2X, the f/stop must be increased by two stops or decreased by 2X. That would mean without a filter, you might be shooting at f/8 at 1/125th second. The f/stop is reduced to f/4 or reduced to 1/130th of a second to compensate for light loss from the filter. Again, if the camera has a through-the-lens metering system, compensation occurs automatically.

A simple, cheap and effective way to increase photographic quality is to use a lens shade (hood) for all shots. A lens hood should always be used on all lenses and cameras because it reduces flare and distortion and results in sharper, crisper photographs. Hoods also protect the front element of a lens from damage or from water when working in adverse conditions.

It is critically important to keep lenses clean, because dirt and fingerprints decrease contrast and sharpness. Dust should be blown off a lens, not rubbed off. If gentle blowing does not work, wipe the lens carefully with a special cleaning tissue available at most camera stores. Use cleaning fluid formulated for photographic lenses only. Use it sparingly to avoid loosening the lens elements or damaging the delicate multi-coatings. Dampen the tissue with the lens cleaning fluid. Apply with a circular motion. Finish with dry lens tissue. Do not ever rub a lens surface with an ordinary cloth; it will put tiny scratches in the lens coating. Camera manufacturers do not recommend using canned, pressurized air to blow off dust because the air pressure can damage lens surfaces, mirrors, and focusing screens. The best protection is to keep a UV or skylight filter screwed onto the lens more or less permanently.

III. DOCUMENTING HISTORIC PLACES ON FILM

NATIONAL REGISTER GUIDELINES FOR PHOTOGRAPHIC COVERAGE

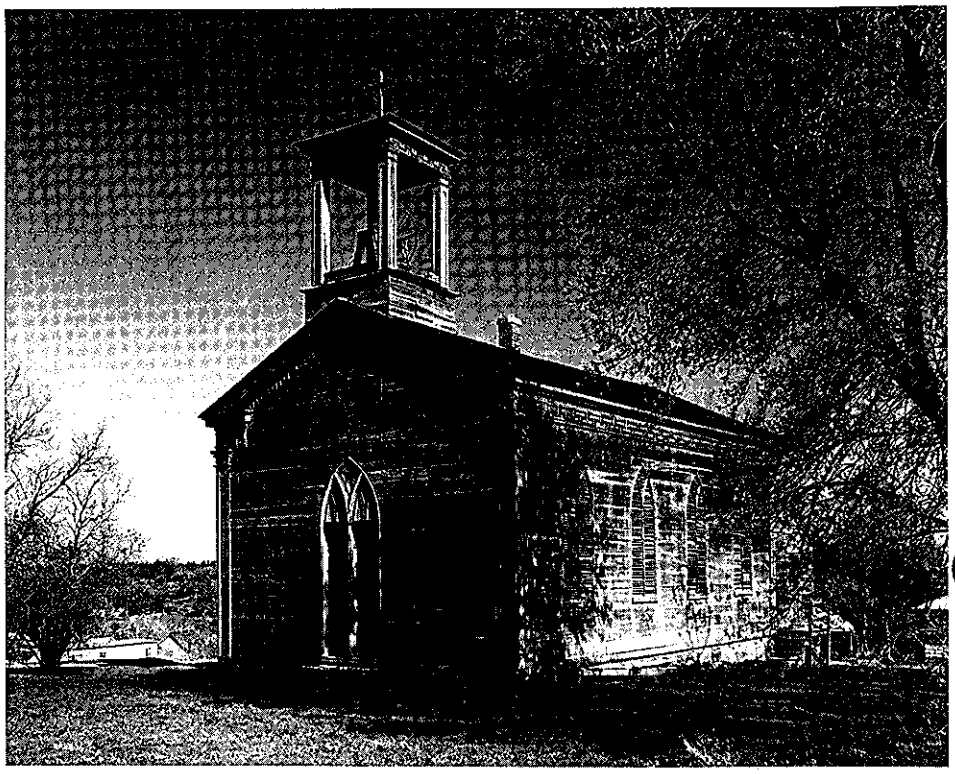
The number of photographic views depends on the size and complexity of the property. Submit as many photographs as needed to depict the current condition and significant aspects of the property. Include representative views of both contributing and noncontributing resources. Prints of historic photographs may supplement the documentation.

BUILDINGS, STRUCTURES, AND OBJECTS

- Submit one or more views to show the principal facades and the environment or setting in which the property is located.
- Additions, alterations, intrusions, and dependencies should appear in the photographs.
- Include views of interiors, outbuildings, landscaping, or unusual details if the significance of the property is entirely or in part based on them.

HISTORIC AND ARCHEOLOGICAL SITES

- Submit one or more photographs to depict the condition of the site and any aboveground or surface features and disturbances.
- If they are relevant to the evaluation of significance, include drawings or photographs that illustrate artifacts that have been removed from the site.
- At least one photograph should show the physical environment and configuration of the land making up the site.



The St. Augustine Church, built in 1844 in New Diggings, Wisconsin, was photographed with a medium-format camera, a PC lens, and a yellow filter. (Jeff Dean, 1981)

ARCHITECTURAL AND HISTORIC DISTRICTS

- Submit photographs representing major buildings and styles, representative noncontributing resources and any important topographical features defining the character of the district.
- Streetscapes, landscapes, aerial, or oblique views are recommended.
- Views of individual buildings are not necessary, if streetscapes and other views clearly illustrate the significant historical and architectural qualities of the district.
- Key all photographs to the sketch map for the district.

ARCHEOLOGICAL DISTRICTS

- Submit photographs of the principal sites and site types within the district following the guidelines for archeological sites.

Historic buildings can be saved on film. Many of them typify a particular time, type, or style. Urban streetscapes, rural landscapes, battlefields, archeological sites, and other historic resources are also worthy of photographic documentation. The following paragraphs discuss a variety of historic properties and photographic situations and suggest ways to photograph them for the National Register.

Obviously, the more complex a historic property, the more photographs will be needed. Some simple resources can be documented with one or two photographs. However, trying to save film by shooting the minimum number of views to document a site is false economy. Film is inexpensive relative to time, personnel, and equipment. It is far more expensive to go back to a site to shoot more photos than it is to have more than you need when you leave.

It makes good sense to shoot at least two, preferably three, different exposures of each view, if you are using a manually adjusted camera. This insures that at least one exposure will be printable. Based on a meter reading, one initial shot can be made. Then take exposures on either side of that reading. That will give you a bracket of exposures—one f/stop overexposed and one f/stop underexposed. For example, if the light meter calls for f/11 at 1/125th of a second, a bracket would be f/8 at 1/125th of a second and f/16 at 1/125th of a second.

Use common sense to make good photographs. The photographer's goal should be how to best portray a district, site, building, or object. In order to get the best possible image, extraneous subject matter should be kept to a minimum. Avoid shooting overhead power lines, telephone poles, and other distracting elements. Cars and trucks in the foreground should be removed. If that is not practical, consider shooting in early morning, late afternoon, or on Sunday morning when traffic is lighter. The same goes for pedestrian traffic. If there are many people in the foreground, wait until they are gone. Sometimes it may be helpful (and only if you have permission from the owner) to trim shrubs and weeds before shooting. The fewer extraneous elements in the picture, the better.

Walking around a site to assess the situation and lighting before shooting is of great value. By planning your shots, you can avoid wasting film, or worse yet having to go back and retake the shots. The best lighting, good angles of view, and other factors that will greatly affect the quality of your photographs should be determined before the pictures are taken.

Some potentially difficult situations for the photographer are:

Backlighting. This occurs when the main light source is behind the primary subject. The subject is silhouetted and the details in the foreground of the photograph are wiped out. To overcome backlighting, if you are using a manually adjusted camera, set your camera to meter for the dark foreground area, not the bright backlighted location. (If using an automatic camera, press the backlight button.) By compensating, either manually or automatically, for the overly bright area, the subject will be more or less properly lighted in the final print. Backlighting can best be avoided by keeping your back to the sun, but sometimes this is not possible. However, it is vitally important to prevent the sun from shining into the camera lens. Use a lens hood, or have a friend shield the lens from the sun. You may have to reposition yourself slightly.

Sunny days vs. Cloudy days. The photographer should shoot on bright days to get the maximum amount of available light and, if shooting color, brighter colors. However, if color intensity is not an issue, an overcast day provides more even lighting and reduces the problem of shadows. There is also a difference in the quality of light. Northern light is usually softer. Southern exposure is harsher and brighter, making some difference in exposure times and how a photo is shot. Early morning or late evening light is also unique. Color values change, becoming much redder, and the amount of available light is decreased. Thus, if photographers choose to shoot at these times of day, a longer exposure will be needed to adequately light the subject.

Sharpness and Depth of Field. Lenses are generally sharper at small apertures (f stops) than at large. Thus, f/11 will be sharper than say, f/4, under normal circumstances. Also, as the aperture is decreased, the distance that will be in focus increases. (See **Glossary** for f stops.) This phenomenon is called **depth of field** or hyperfocal distance. The rule is truer with short focal lengths (a wide angle) than with longer lenses. A telephoto lens has very little depth of field. Depth of field is important, because when a 50mm lens is stopped down to, say f/11, it will focus from four feet to infinity. Whereas, if it is opened up to f/2, it may only focus from three to six feet. Everything out of that focal range will be out-of-focus. When a small aperture (f/8 or smaller) is used, not only is the image sharper, but focusing becomes less critical. If f/11 is used, the camera does not need to be focussed, unless it is closer than the nearest limit of the lens.

HISTORIC BUILDINGS, STRUCTURES, SITES, AND OBJECTS.

Photographing buildings, structures, sites, and objects for the National Register is not particularly difficult if you understand that the main goal is to adequately **document and record** the resource. Very simple buildings require fewer photographs than larger, more complicated ones. On the other hand, even fairly basic properties, or archeological sites, might need more information, based on National Register requirements. Non-contributing features or intrusions should be photographed for all categories of historic properties. The photographer must decide (if possible, after consulting with architects, engineers, or historians who are working on the project) how many shots are needed to document a property for the National Register.

For buildings, structures, sites, and objects not only is the primary feature photographed, but also all secondary features. The relationship of buildings, structures, sites, and objects to features is as important as the architectural information. Also, the environmental setting as it relates to the historic property should be adequately represented. The following photographs should be created for most historic properties, larger than a single, simple building:

- All sides of the primary building, structure, site, or object (this would be the ideal level of documentation) **OR**,
- Perspective views of each corner of the primary building, structure, site, or object;
- Detailed views of, for instance, windows, doors, unusual features, construction style, or other notable elements;
- Views that show materials used in construction of the building, structure, site or object;

This Victorian house in Independence, Jackson County, Missouri, was the home of Harry S. Truman, 33rd President of the United States, from 1919 to 1972. On the death of Bess Truman in 1982, the house became the Harry S. Truman National Historic Site. *(Historic American Buildings Survey. Jack E. Boucher, 1983)*

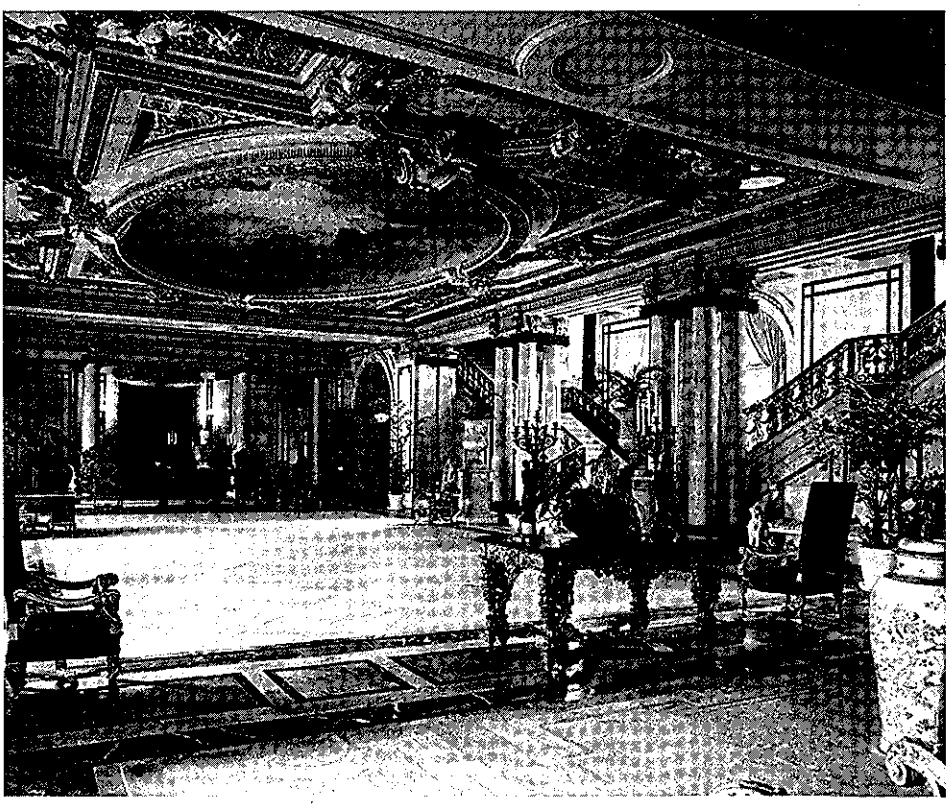
- An overall view of the principal building, structure, site, or object showing how it relates to the landscape;
- At least two, perspective views of each outbuilding or smaller feature on the property; thus assuring that all contributing and non-contributing resources will be documented;
- Appropriate views that show how outbuildings or features relate to each other and to the landscape; and
- Views of unique or special details of outbuildings, foundations, or features that may not be obvious in general photographs.

INTERIORS

While interior shots are not necessary for all National Register nominations, they must be included if the significance of the property is entirely or partly based on them. Interior views can add valuable information to the nomination by helping the reader visualize descriptions of floor plans, details, decoration, and so forth. Special problems arise when photographing interiors. Backlighting, caused by sunlight penetrating windows, will wash out the surrounding details. (See **III, Backlighting**, on how to deal with this problem.) Backlighting may be avoided by photographing interiors on overcast days, or at night. (It is better to avoid taking interior photographs at night, if you can because of the undesirable appearance of "black" windows) Natural daylight is most desirable. Time exposures taken in the daytime with small-lens-aperture settings can produce pleasing, natural-looking interiors. Try to use a tripod. If artificial lights are necessary, use photoflood lights (such as quartz halogen), which are set up on stands and plugged into an AC outlet.

Electronic flash can also be used to light interiors. A single flash unit will not normally cover a larger interior. Many photographers tilt the flash toward the ceiling to bounce the illumination; the result is softer lighting through elimination of harsh shadows. Several flashes connected with secondary electronic flash units that have built-in or attached electric eyes can also be used to effectively light a large area.

Interiors are normally cramped. Unless large public buildings are



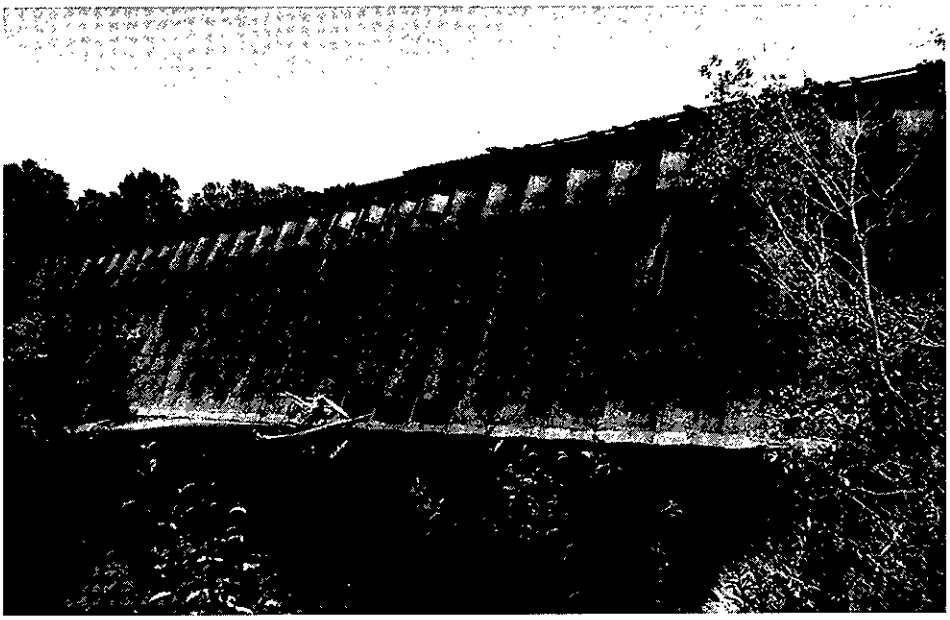
Now a museum, Whitehall, *the Henry Morrison Flagler House, Palm Beach County, Palm Beach, Florida, is a magnificent mansion built by Flagler for his wife Mary Lily Kenan in 1901. This interior view shows the Marble Hall and Grand Staircase, designed by Carrere and Hastings. (Historic American Buildings Survey. Jack E. Boucher, 1969)*

being chronicled, photographing interiors usually requires a wide angle lens, even then results may not be entirely satisfactory. Generally, the wider the angle of view, the more distortion. When doing interiors, a photographer must strike a balance between how much will be seen versus how much distortion is acceptable. A perspective correction, or PC, lens can reduce distortion in interior shots, as will care in selecting camera positions.

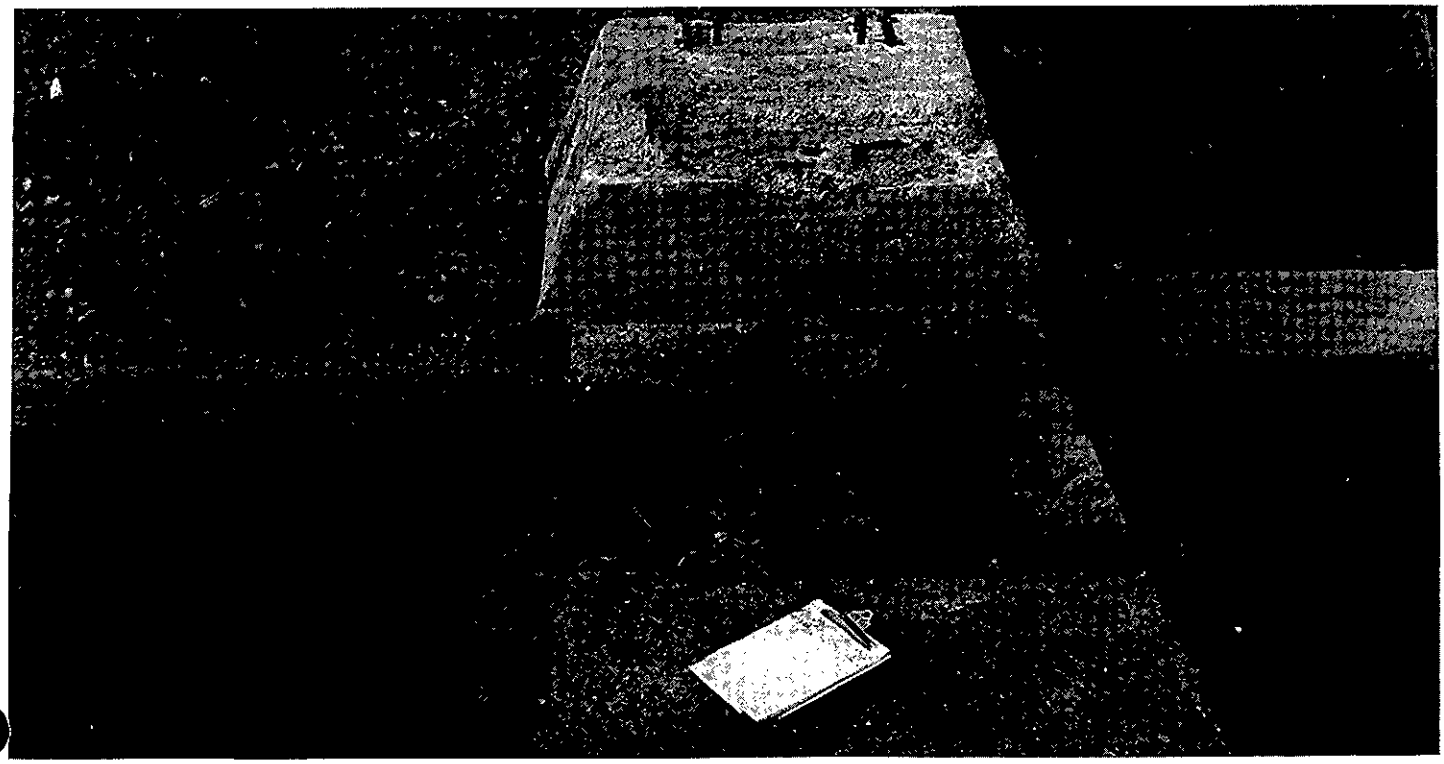
HISTORIC ENGINEERING PROPERTIES

Historic engineering properties include everything from dams to mining stamp mills and industrial processes. Photographing these resources can be difficult, because the goal is to impart not only what the features look like, but also what their purpose is, or was. There are no set rules for industrial or engineering properties, because no two resources are exactly alike, but several basic features should be recorded, including:

- An overall view of the resource showing the relationship between various components;
- The significant features of the resource that are discussed in the written documentation of the property;
- The architectural or structural aspects of the property;
- The technical aspects of the property. (For instance, in a mining



The Redridge Steel Dam, *built in 1900, is one of two dams on the Salmon Trout River, near the village of Redridge, Houghton County, Michigan. A few hundred feet upstream stands an earlier stone-filled, log, crib dam built in 1894. The steel dam replaced the log one, which was submerged within its reservoir from 1901 until the reservoir was drained in 1960. (Terry S. Reynolds, 1989)*



View facing north of the machinery foundation above the wheel pit at South end of ditch at the Thompson—Cape Dam and Ditch Engineering Structure, *San Marcos, Hayes County, Texas. Note clipboard placed near spindle head and gear to show scale. (Texas Historical Commission. Margaret Howard, 1984)*

stamp mill, the various components such as the stamps, ovens, tables, vats, etc. should be photographed.);
- Details of design of construction, including structural systems, and special features of the building or property, both interior and exterior;
- Machinery, tools, specific processes, and other intricate parts of the building's technology;
- If copies of historic photos of the property are available, they can be copied on standard film and processed normally. This is particularly true of industrial and engineering resources where the property may have been photographed when new, but has been substantially changed, or destroyed, over the years.

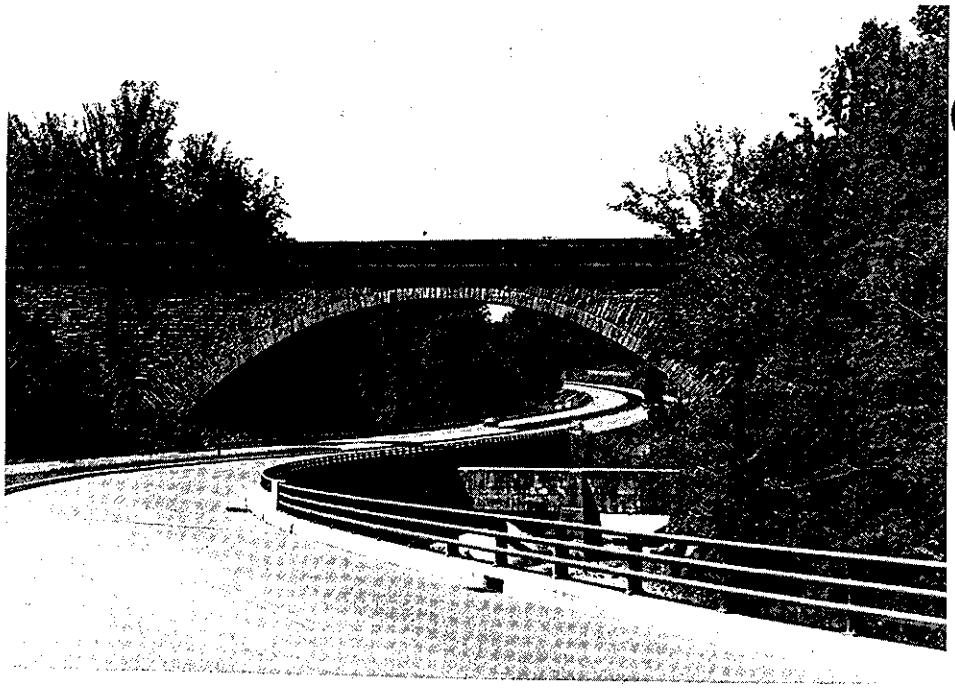
BRIDGES, TRESTLES, AND AQUEDUCTS

Bridges, trestles, and aqueducts are parts of transportation systems for moving goods and people. Bridges and trestles are parts of rail or road systems. Certain basic views to cover are:

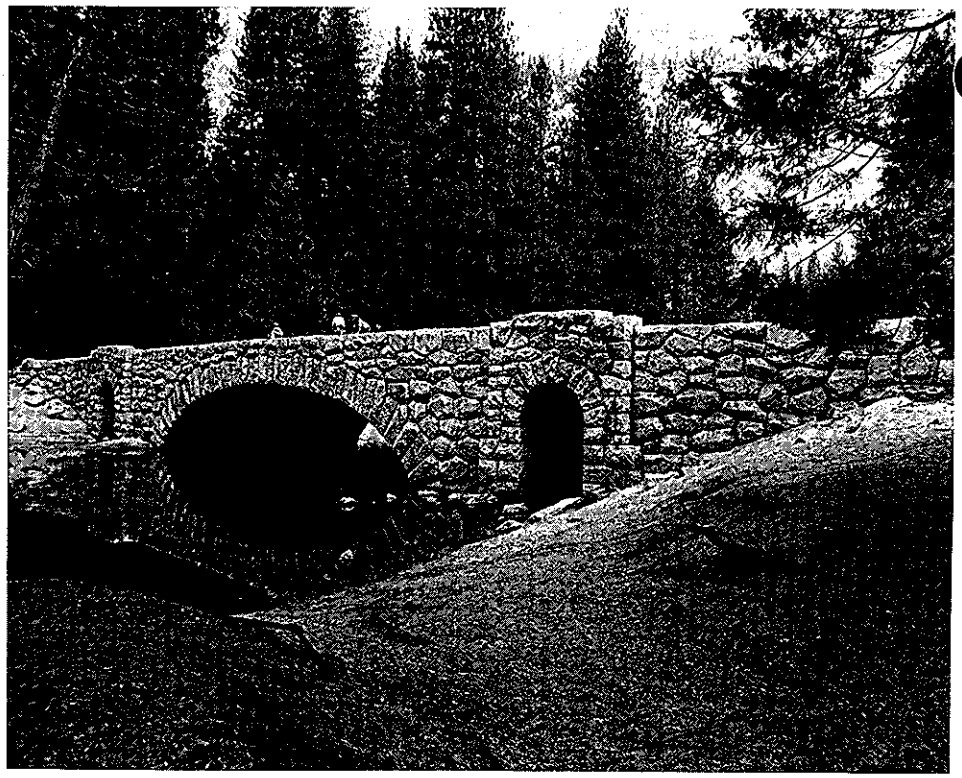
- An overall view of the span(s) from both sides. If the bridge is very long, an ultra wide angle lens is most valuable in giving adequate coverage. A good vantage point may be either end of the bridge where the entire span can be seen. Depending on the density of the foliage and the season, a nearby hill looking down on the site may also be a good vantage point.
- Adequately lighted views of the structural systems of a bridge or trestle, including truss types, connections between components, pilings, and abutments and other features;
- Detailed shots of specific features such as builder's plates, rivets, bolts, flanges, and other materials;
- Materials used in various parts of the structure; and
- Approaches to the structure.

RAILROADS

A railroad is a linear feature with engineering components along the right-of-way. There may be numerous buildings and structures associ-



Cabin John Aqueduct, *Montgomery County, Maryland. This stone arch was built in 1869 and was the world's longest until 1903. It was designed by Montgomery Meigs, U.S. Army Corps of Engineers. The aqueduct provided the principal source of water to Washington, D.C. throughout the late 19th century. (Michael Bourne, 1969)*

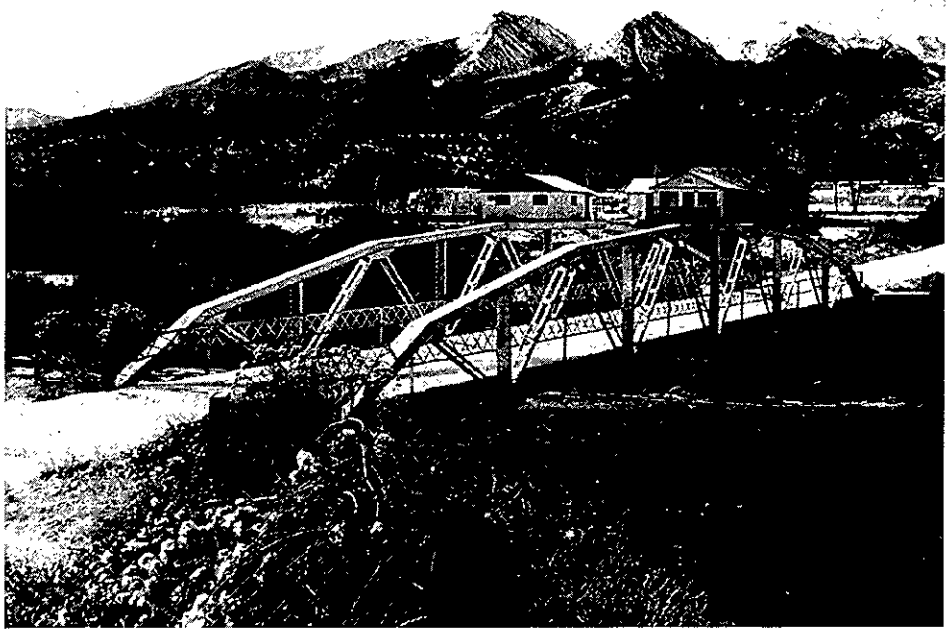


View showing the east facade of the Stoneman Bridge, Yosemite National Park, *Mariposa County, California, designed and built by the National Park Service in 1933. The bridge is reinforced concrete faced with rough boulders of native granite to give it a rustic appearance. The photograph shows the exterior material very clearly and also shows significant features—the equestrian tunnels—and how they are built out from the face of the wing walls for decorative emphasis. (National Park Service. Dean Shenk, 1976)*

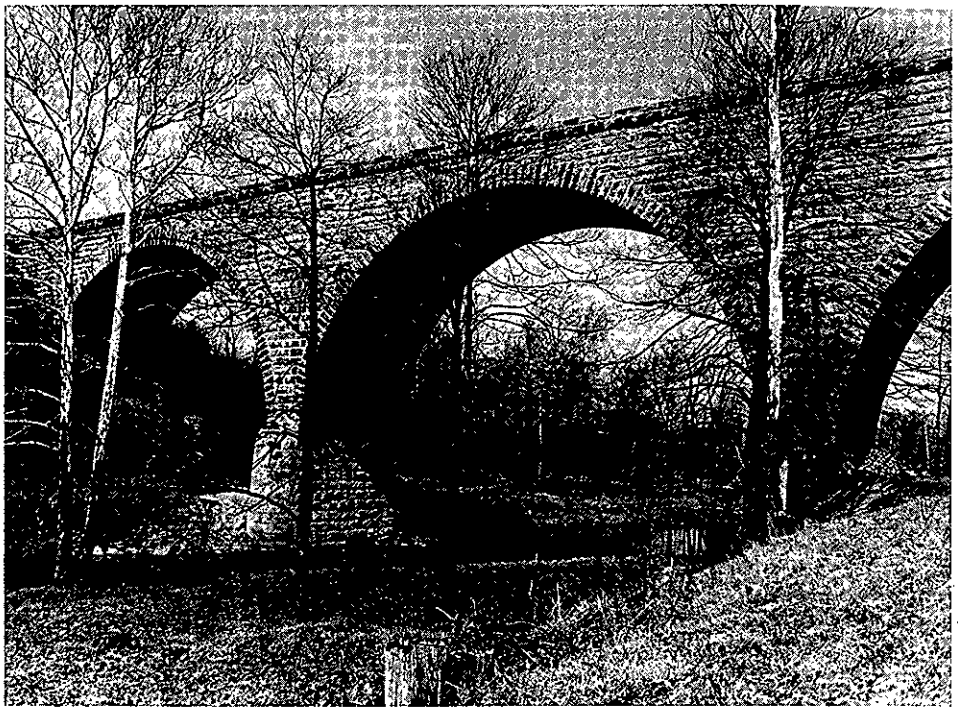
ated with it, such as: stations, roundhouses, yards, water towers, section houses, freight houses, bridges, and other resources. Railroad equipment including: passenger cars, freight cars, locomotives, and specialized equipment like snow plows, flanges, or cranes may need to be photographed. Most likely you will need written permission to be on the property.

Depending on the scope, the following features should be documented:

- Linear features such as a railroad line (either operational or abandoned) should include a view down the roadbed. A perspective correcting lens or camera will assist in this task. Additionally, engineering features such as cuts, fills, tunnels, crossings of drainage, and stone culverts should be documented.
- Architectural resources, both contributing and non-contributing, such as: stations, outbuildings, water towers, freight houses, section houses, signal towers, guard houses, sheds, locomotive sheds, roundhouses, and turntables should be recorded using the guidelines in *How to Complete the National Register Registration Form.* Views showing relationships between buildings are important, as are shots of objects and structures that may be on the property. If a railyard is the subject, the relationship between architectural features and the layout of the yard should be shown.
- Bridges and trestles are recorded as described in the section on bridges. (See above.)
- Tunnels can be photographed using flash equipment to light the interior. The information within a tunnel is the construction detail, for example, the cast iron lining of a subaqueous tunnel. Ventilation mechanisms are worthy of photographic coverage. Often the portals are nothing but rock into which the tunnel was blasted; in other cases, they are elaborate edifices. They should be photographed.



View from the Northeast of the Howard Bridge in Colorado, showing the structure and approaches to the bridge. (Clayton B. Fraser, 1983)



The Baltimore and Ohio Viaduct over the Black River, near Lodi, Medina County, Ohio, is a monumental masonry civil engineering structure. The photograph shows the timeless simplicity of the stone arched viaduct built in 1892 on the main line of the Baltimore and Ohio, linking Chicago with the East. (Eric Johannesen, 1975)

A word of caution: many structures, sites, and complexes are extraordinarily dangerous environments. Eternal vigilance is the price of your safety—even life. Trains, sometimes traveling at 125mph will literally be upon you before you can move to safety. Apparently safe roofs and floors can collapse under your weight. Hard hats are almost always required in industrial settings. In any risky situation, however slight the risk, have a companion.

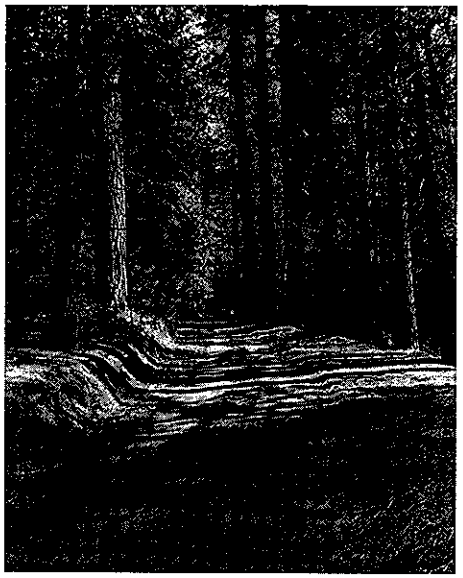
ROADS AND TRAILS

Similar to railroads, trails and roads are linear features that may or may not have buildings associated with them. They may have engineering qualities that make them special, and certain shots should be taken to assure coverage of the site. In general, the following should be documented:

- A view of the length (or portion of the length) of the road or trail. Details of special features need to be photographed. For example, if the road is made of an unusual asphalt, it should be recorded.
- Selective views of cuts, fills, culverts, bridges, trestles, and other engineering features. These are similar to railway features and can be treated in the same way.
- Detailed views of roads and trails documenting special or unusual parts of the site, such as ruts, wagon tire marks (in rock most likely), pavements (asphalt, brick, macadam, etc.), and other small features such as mile posts, signs, markers, and other road-related items.
- Associated buildings or structures along a road or trail should be photographed using the guidelines for buildings. (See above.) If the features are in ruins, they should be photographed according to the suggestions for archeological properties.

HISTORIC DISTRICTS

Since historic districts encompass larger geographic areas than a single building or site, only essential features should be photographed, including: major buildings, streetscapes, landscape features, overviews and special features such as monuments or parks that are found within the district. It is not necessary to record each and every feature in a historic district for a National Register nomination, but the essence of the district should be captured. Important features need to be portrayed, as do scenes that suggest the character of the entire district. For individual buildings, the guidelines in **Historic Buildings, Structures, Sites, and Objects (See page 11)** may be useful, while for landscapes and streetscapes, see **Landscapes, Streetscapes, and Battlefields** (On this page).

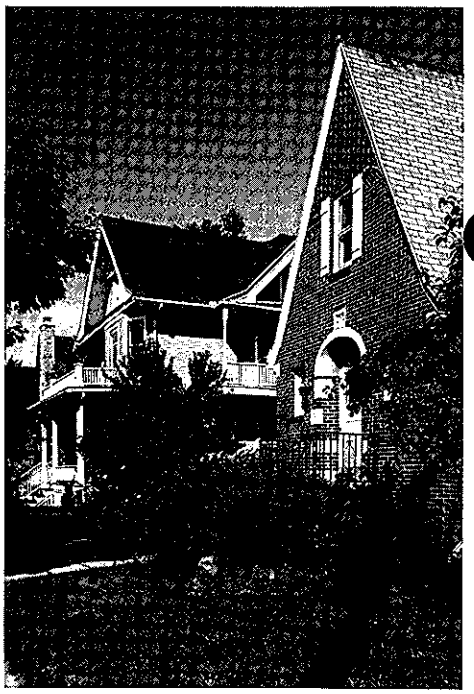


The Great Sierra Wagon Road, *constructed in 1882 by Chinese workers for the Great Sierra Silver Mining Company, remains relatively unchanged from its earliest days. (Leslie S. Hart, 1976)*

LANDSCAPES, STREETSCAPES, AND BATTLEFIELDS

Photographing landscapes and streetscapes involves recording all of the above features. For further information about features in rural landscapes, see National Register bulletins *Guidelines for Evaluating and Documenting Rural Historic Landscapes,* p. 29. A streetscape can be urban and contain buildings, roads, and other manmade features in a city or town setting. Battlefields are also part of the landscape that should be recorded as historic places. For more information about battlefields see *Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields,* p. 17. For these properties, where photographs are intended to record a wider view, the following recommendations should be kept in mind:

- A wide-angle lens is usually the best choice for landscapes and streetscapes because it provides an angle of view that takes in the overall scene, including the environmental setting. A landscape photograph in this case is a generalized view of the scenery. It is not a photograph of a specific feature.



Sherman Avenue Historic District. *Detail of Doorway and Houses. (Kathryn Rankin, 1987)*

- There may also be details that need to be recorded. In the case of a planned landscape (such as a city park), various features should be recorded, including benches, statues, flower beds, paths, trails, gazebos, etc. They should also be shown within the context of the overall landscape.

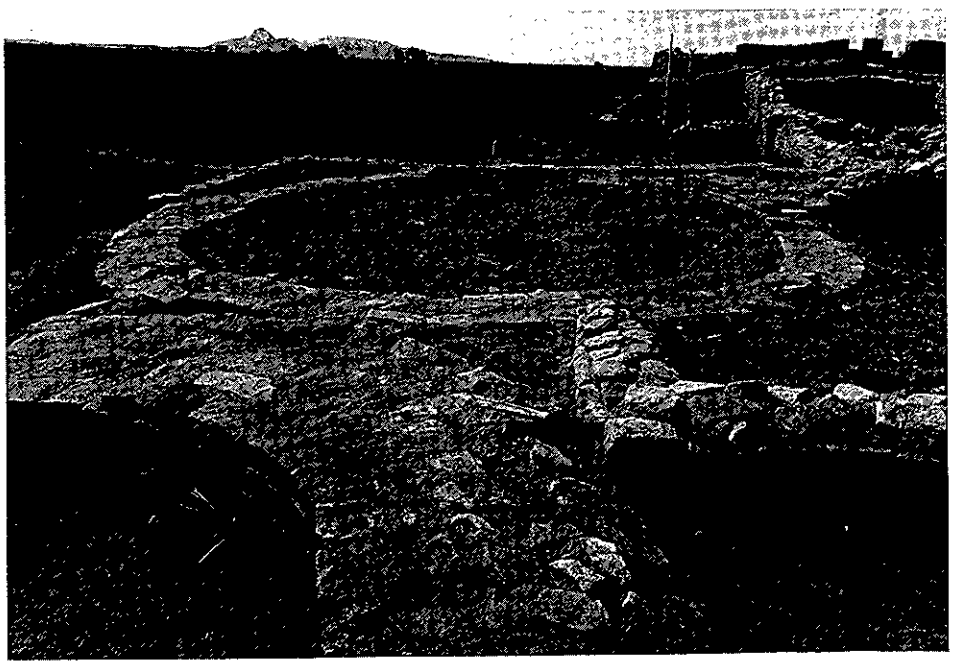
Three views of Chicago's Lincoln Park. *(Joanne Nathan, 1990)*

- Areas of landscapes involving historic events, or historic places may be recorded in a similar manner. Representative features such as mine waste piles, slag heaps from industrial sites, clear-cuts in forests, vegetation manipulations, and surface disturbances that alter the original natural landscape should be recorded. This is particularly true in the case of historic districts. However, it is not suggested that documentation of each and every feature is required. Representations of contributing and noncontributing features, structures, monuments, and other parts of the overall area should be considered.
- Battlefields should be documented to show the lay of the land, as well as representations of contributing and noncontributing features, structures, monuments, and other parts of the overall area including the environmental setting.

ARCHEOLOGICAL PROPERTIES

Archeological sites are different from other historic properties because they often contain no standing structures, although prehistoric as well as historical archeological sites may include aboveground features such as ruins or earthen structures. Historical archeological sites may also include such features as dumps, trash pits, outhouse pits, cellars, and foundations. Photographing archeological sites may involve close-ups made in excavation units, requiring flash equipment. Sometimes large areas of a complicated site complex are best shown with aerial photographs that can be taken from a high point of land or an airplane. The photographer needs to work closely with the archeologist to determine the correct number and type of shots. In general, thorough photographic documentation for an archeological site would include:

- An overall view of the site;
- Views of the environmental setting, such as vegetation, soils, geography, and other important features;



Lowry Ruins. *National Historic Landmark. Archeological site in Montezuma County, Colorado. (Frederic Athearn, 1995)*

- Views of excavations, if appropriate, to show the extent of the work being undertaken;
- Detailed views, if appropriate, of stratification, artifacts, etc. photographed in context to show how the materials lie in the soil;
- View showing significant disturbances;
- View showing the overall integrity of the site/district;
- View showing the condition of the site and any aboveground or surface features;
- Views of contributing and noncontributing features, as appropriate.

Scaling elements, to establish a reference, should be included in most archeological views.

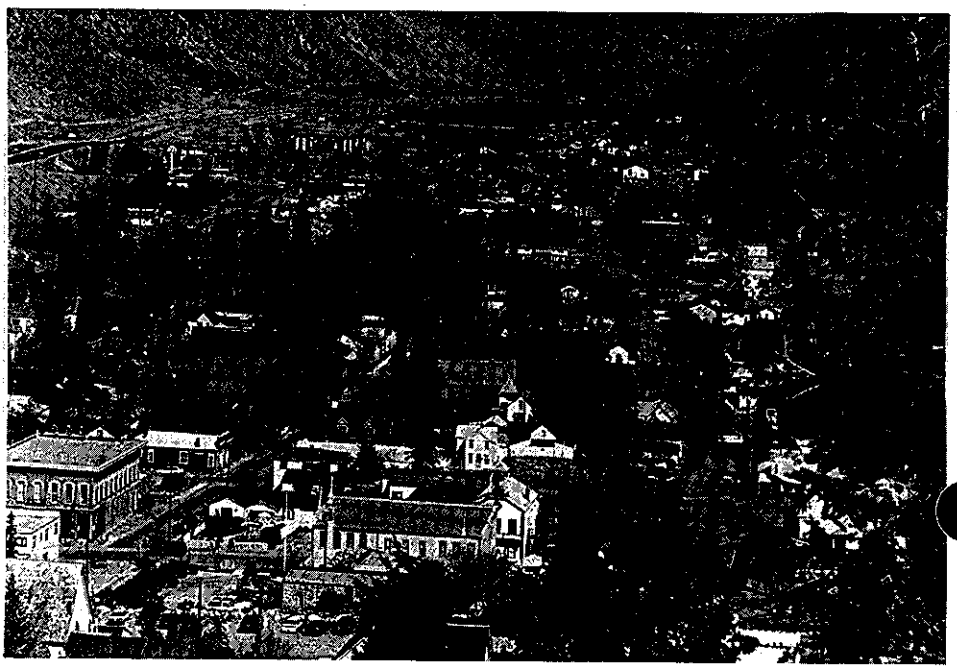
For some research purposes, archeologists depend on color reproduction because black and white photographs do not adequately indicate soil colors, stains, vegetation types, and other scientific information. If color film is wanted, stable films such as *Kodachrome* should be used and the results printed on Ilford's *Ilfochrome* paper. Color photographs are not required as part of National Register documentation.

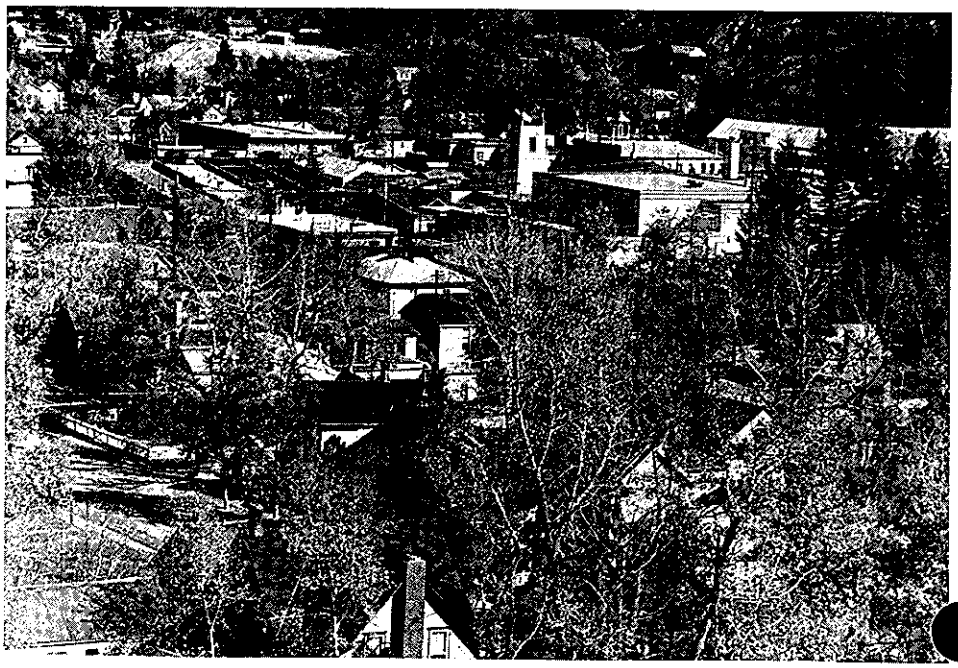
AERIAL AND OBLIQUE PHOTOGRAPHY

Aerial or oblique views are useful for documenting large areas, linear features, and historic districts. These types of photographs can also be used to document landscapes. The environment of a place is hard to show through a series of on-the-ground photos of discrete sites. There are several ways to shoot aerials, without an airplane. Where the resource is surrounded by hills, the photographer may be able to climb the nearest hill to get an oblique view of the area. (When you study historic photographs, you can tell that there are many views shot from hillsides or tall buildings, looking down on a historic property, district, or site.) You can hire a fire department cherry picker for overhead shots. Also, the property or site may already have been photographed from the air, by either the military, the U.S. Geological Survey, a state highway department, or a city planning office. These sources often have prints that can be copied for submission with a nomination.

Do not use a wide-angle lens. The site image will be so small that it may be useless. A moderate telephoto lens such as a 100-mm or even a 135-mm on a 35-mm camera works well to pick up details. If you need more of an overall view, shoot from a higher altitude, if possible. Even a 50-mm lens works fine for aerial photographs, as long as the airplane is low enough to allow for details. One of the more useful camera accessories for aerial work with a 35-mm camera is a motor drive. A motor drive permits the photographer to track the scene as the aircraft moves. With automatic film advance, the photographer never has to take an eye away from the camera. The result is a smoother series of photos.

As in the case of surface photos, filters are indispensable. When shooting black-and-white film, a yellow or orange filter helps cut haze and increases contrast. This will result in better-detailed prints. If shooting with color film, use an ultraviolet filter to cut atmospheric haze.





These two oblique views are of Georgetown Silver Plume Historic District, *Colorado. (Frederic Athearn, 1995)*

ON THE ROAD

by Jeff Dean

former State Historic Preservation Officer and Director, Historic Preservation Division, State Historical Society, Wisconsin

Jeff Dean, former Wisconsin SHPO, ready to go out on a photo shoot!

Author's note: My longtime friend, Carol Shull, Keeper of the National Register of Historic Places for the National Park Service, asked me to prepare the following material for How to Improve the Quality of Photographs for National Register Nominations, *in order to add a flavor of everyday life to photographing buildings.*

I enjoy photographing old buildings and structures. It is fun and technically interesting. It gets me out of the office and into the real world of historic buildings and the people who care about them.

Most people gain their information about old buildings and the fabric of their neighborhoods and communities through their eyes. In the 1950s, television came along and quickly became the center of family home entertainment, replacing the radio. The human being is a visual being.

Photographs disseminate information about architecture efficiently and widely. They are the basis of such information in books, magazines, and in university courses in architectural history. I cannot imagine how the nation's historic preservationists, architects, and architectural historians could have been educated and trained without the pervasive 35mm slide and heavily illustrated books.

I believe that architects and historic preservation professionals must put some time and effort into training themselves to take good photographs. This means, among other things, acquiring the right kind of camera and camera equipment. Composition, lighting, clarity, or just taking snazzy pictures are concepts that should not be alien to architects, architectural historians, and historic preservationists who are intensely visual beings with great interest in the esthetics of their environment.

In a 1982 article in the *APT Bulletin, Photographing Historic Buildings,* I wrote:

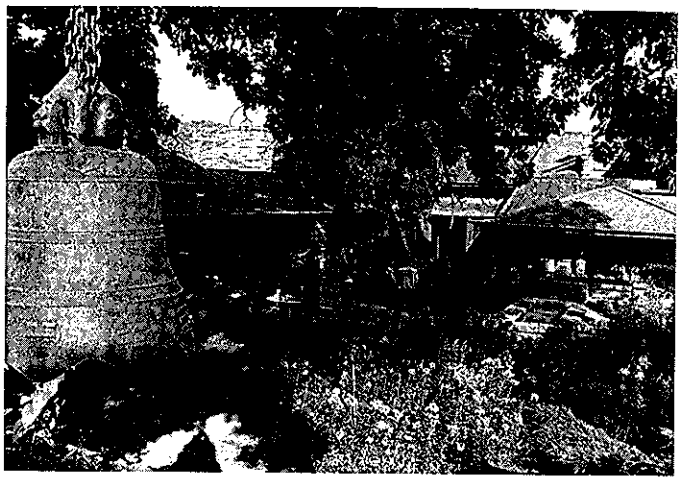
Never before have so many buildings and structures been photographed so frequently by the (historic preservation) multitudes. There is hardly a city in the United States that hasn't witnessed an architectural surveyor stalking its streets, draped with cameras and clipboards, peering at and photographing buildings and structures. Yet I would estimate also that never before has such a small percentage of photographs been executed really well.

This remains true today. Taking good photographs of architecture with small format equipment is not terribly difficult. It requires only the following: common sense, thinking ahead (a.k.a. planning), visual sensitivity, appropriate technical knowledge, and the right equipment. Common sense and visual sensitivity cannot be taught from scratch. The rest can.

Frederic Athearn covers the purpose of architectural photography in some depth here in this bulletin. I have been asked to describe how I go about doing it when on the job. Below, I write about how I photograph architecture with small-format equipment. I don't cover special activities such as rectified photography or large-format photography.

When I am charged by myself, or by others, to photograph buildings, the first thing I must know is which way the buildings face. This often requires me to consult maps or site plans, keeping my fingers crossed that the primary facade does not face north. If it does, it may well mean waiting until early in the morning or late in the afternoon in late June or early July.

Once I know the direction the buildings face, I can plan my trip. Or can I? Not necessarily. It depends on how far ahead I plan and how open my schedule is. In my neck of the woods, if I am in pursuit of fine exterior photographs, I often cannot plan beyond the coverage of a reliable weather forecast. It can be very frustrating to drive to a site only to find the sky overcast or that clouds have just moved in. If this is indeed the case, I remind myself that overcast days are excellent for interior photography and head inside. (Remember also that some buildings and structures may photograph best in the soft light of an overcast day, for instance a building with dramatically deep overhangs and shadows. (See below.)



Frank Lloyd Wright's Taliesin *near Spring Green, Iowa County, Wisconsin, placed on the National Register in 1973. Buildings such as this one with deep overhangs photograph better in shade, or on an overcast day. (Jeff Dean, 1980)*

A medium-format camera mounted on a tripod with a 75-mm shift lens. (Jeff Dean, 1980)

When I'm traveling to unfamiliar cities, I study road maps for these communities to locate the subject buildings on them, so I can get in and out with the least wasted motion.

Assuming the buildings, the weather, the distance, and the schedule are all in fortuitous conjunction, I load up. First, that means determining what equipment I need to take with me. As Athearn notes, most National Register photographs are taken with 35-mm equipment. That includes me. So, I usually take two 35-mm SLR camera bodies (one for fine-grained black-and-white film and the other for Kodachrome slides), both equipped with cross-hair-grid viewfinder screens. Occasionally, I also take a 6- x 7-cm SLR with a shift (perspective correcting) lens. Colored filters for black-and-white cameras are a necessity, and UV filters for slide cameras are a wise inclusion, as are a tripod and level.

What if it is hot outside? How do I protect film from heat damage? I never leave film of any sort in a parked car or in motorcycle saddlebags in the sun. Never! I would suggest you bring along a small cooler with a little ice or another coolant inside it in which to keep your film on hot days. If you use ice, remember to wrap your film in a watertight package to protect it. Humidity can also be a problem for film stored in an ice chest. Always try to keep your film as cool and dry as possible when outdoors in the summer.

I always pack a shift or PC (perspective correcting) lens for architectural photography. They are made by several camera manufacturers in 35-mm-format focal lengths, ranging from 24mm to 35mm. Such lenses correct for the visual distortion found in architectural photographs taken with normal, nonshifting lenses. Without the use of a PC lens, buildings in photographs typically appear to be tilted backwards, as though falling over. Though pricey, these lenses are in fact necessary if serious small-format architectural photography is the goal;

The perspective correcting lens shown on this 35-mm camera corrects visual distortion. (Courtesy of Nikon)

if you do not have one, get one. Currently, *Nikon, Olympus,* and *Canon* systems have the flexibility of offering multiple PC lenses in more than a single focal length—the standard 35mm—plus a wider lens. Several other manufacturers produce PC lenses for their SLRs, but just in one focal length.

PC lenses are manual lenses. The view you see through the viewfinder will darken as you decrease the aperture opening. You need to know how your particular camera handles exposure when using manual lenses.

Some cautions about using PC lenses in the field:

First, always take meter readings before shifting the lens. Otherwise, exposure readings will be incorrect.

Second, I think it is better to undershift a little than to overshift a PC lens. Therefore, I recommend not trying to align vertical lines in perfect parallelism, but to accept slight convergence or undershifting. This gives a building a natural appearance and avoids the disaster of producing an overshifted photograph.

Third, good hand-held photographs can be taken with shifted lenses if you are careful about it. If you find this too difficult, mount the camera on a tripod which will hold it steady for you, but be sure your tripod is positioned properly. (See later discussion.)

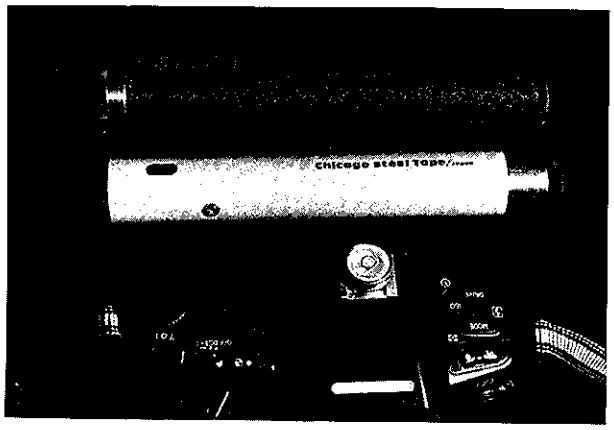
Fourth, I recommend you use a special grid viewfinder screen for most architectural subjects. The exception would be an historic building that is leaning. In this case, the grid would be useless.

Three photos of the 1858 Robert M. Bashford House, *Madison, Dane County, Wisconsin, placed on the National Register in 1973. (Jeff Dean, 1996)*

In the first photo, the camera has been leveled, but no shift lens was used. The top of the house isn't in the picture at all!

The second shows what results when the same camera without a shift lens is tilted to get the whole house. The house looks like it is falling over backwards.

The third view, from the same angle, but this time with a shift, or PC, lens gives the results wanted.



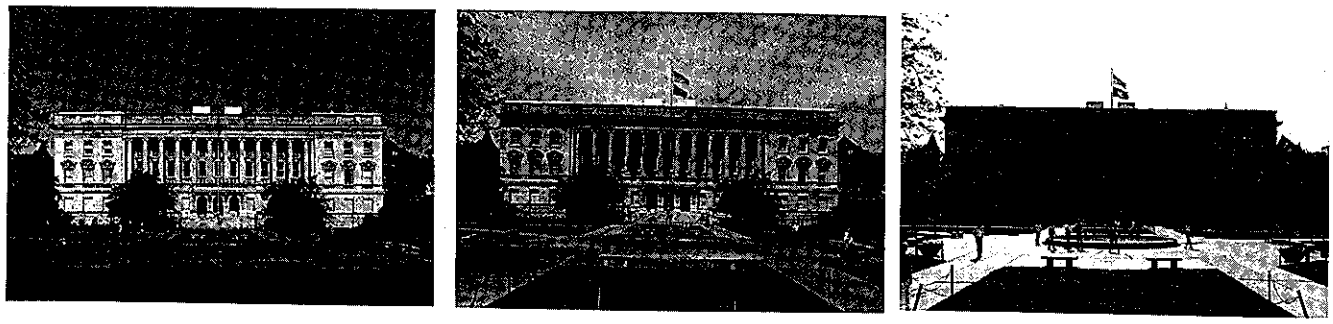
Three levels. The top two are hand levels and the bottom is a bubble level mounted on the camera hot shoe. (Jeff Dean, 1996)

I like to use a hand level for small-format architectural photography. They are available at drafting supply and land surveyor supply stores. Resembling a small telescope, the hand level contains a horizontal cross-hair and bubble level that allows me to locate camera-aiming targets on a building that are at the same level as my eye. The better hand levels offer modest magnification, which provides for more accurate targeting. An alternate way of leveling your camera is with the assistance of a bubble level mounted in the camera hot shoe. This works fine if you work exclusively with a tripod. Personally, however, I find that using a hand level, without a tripod, gives me more accurate results than a diminuitive bubble level with a tripod.

Other lenses I use for a typical job include moderate telephoto lenses, including zoom lenses, for close-up detail views. On rare occasions, I have even used a 500-mm-telephoto lens to move in on a distant detail; this, however, is not routine.

Finally, I pack the widest-angle lens I own, currently 20mm, which is often not wide enough for interiors of small rooms. It seems that when it comes to interior photographs of buildings, I can never have a lens with a focal length that is too short. Even a lens with a 20-mm focal length, however, has to be used carefully. It can induce radical convergence of lines when a camera's film plane is not perpendicular to the ground plane.

Loaded up, I am ready to go get my photographs. I know which way the first building faces, so that determines when I have to get to it if I want sunlight on the primary facade. Remember, the sun rises in the east, is overhead at solar noon (don't forget to compensate for daylight-saving time), and sets in the west. I would recommend that you get there in the morning, if the building faces east. This seems almost too obvious to state, but many of the photographs submitted to our state historic preservation office show a lack of understanding of this basic point.



Three photos of the State Historical Society of Wisconsin, *Dane County, Madison, Wisconsin, placed on the National Register in 1972.*

In the first, the light is shining directly on the front facade of the building. The contrast is so great that details are lost in the shadow areas.

The second was taken with the light over the photographer's shoulder, from the left. There is greater depth, less contrast.

The third is backlit.

The relationship of the building to the sun is absolutely critical for capturing a decent photograph. So is the atmosphere. High humidity brings with it haze that turns a sky from deep blue (with color film) or a dark tone (in filtered black-and-white film) to an uninspiring whitish-gray. Partly cloudy weather means I get to stand around a lot waiting for the sun to peek out. Changing weather causes me to stomp on my accelerator to try to get there before the clouds do. I (and other photographers) have many tales to tell about successes and failures resulting from the disastrous or happy convergence of time, traveling speed, and rapidly moving weather systems.

A caution here about property owners and their pets. (While this is not truly architectural photography, it certainly is an issue in the photography of architecture!) Request permission if you want to go on someone's property. You do have the right to photograph buildings you can see from the public right-of-way. However, do not insist on that right if questioned by a property owner. Be sure you have official i.d. and your boss's phone number with you. Finally, dogs can run very fast, love to bark and growl at anyone carrying a camera, and often have full sets of canines. Usually a car with closed doors and windows provides adequate protection from them.

At the site, I check out a historic building before I start photography. I walk around it, looking for angles, shadows, and potential frames in the environment to place it in its setting. If it's a single-family house, I knock on the door and announce my presence. In such cases, the owner normally is proud of his or her dwelling and may well have old photographs of it and historical documentation.

That done, I decide what general views I want, and which of the lenses I have with me would work best. Close-in trees or other buildings often call for my widest shift lens—28mm or even 24mm. When I can go with a 35-mm shift lens for overall views, I prefer to do that because there is little distortion and less of a problem with light falloff at the edges of the image at extreme shifts. Normally, I use the fastest shutter speed possible and reasonable, certainly no slower that 1/125th-second speed for hand-held shooting. This is one reason I prefer a fast *Kodachrome* film for slides.

Mounting the lens, I use the camera as a framing device as I move around again to check the best angles. With initial views selected, here is how I proceed to take each overall exterior view:

1. I sight on the building with my hand level and pick some spots that are at eye level.

2. With my camera set to manual control, I center the lens, mount a filter, and approximate the desired view while setting the exposure. Later, if I reset the exposure, I re-center the lens.

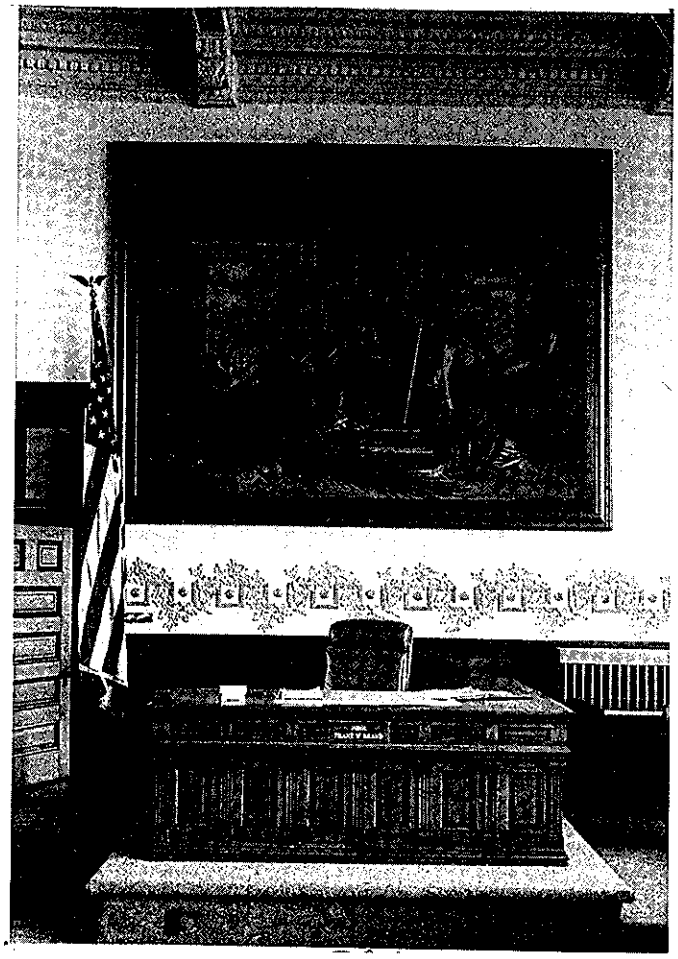
3. With exposure set, I aim the camera at the eye-level-point.

4. While holding the camera body steady, I shift the lens as needed. If, when you are doing this, you become uncertain, center the lens again and re-aim the camera at the point you identified with your hand level. Many photographers prefer to use a tripod (certainly this is the most accepted procedure), but I find that a tripod is difficult to set accurately, and if it is set incorrectly every photograph then taken will be useless. I have more consistent success (in good light conditions) aiming a hand-held, grid-screen-equipped 35mm SLR, after consulting a hand level.

5. I squeeze the shutter to take the photograph. Never punch the shutter. (If you are using a tripod, use a cable release.)

When exterior views are completed, I photograph architectural details and ornamentation, often with telephoto or zoom lenses.

If interior views are called for and possible, I bring out a tripod and wide-angle lenses and head inside. For National Register photography purposes, you usually can take perfectly fine interior photographs using available light. Interior photography is difficult, especially in daylight when uncovered windows are in view. In such cases, bracket exposures on the side of seeming overexposure, and expose more for shadows than bright areas. (Another way to do this is to take a meter reading of the lightest area in the photograph and one of the darkest areas and average the two readings.) Most interior photographs arriving in our office are badly underexposed because exposure meters are overwhelmed by light sources within the views. Err, therefore, on the side of overexposure when bracketing.



Interior detail of the Green County Courthouse, *Monroe, Green County, Wisconsin, placed on the National Register in 1978. The camera was equipped with a shift lens and was mounted on a tripod. The photographer used available light. (Jeff Dean, 1980)*

When I am finished with my tasks, I return home with lots of exposed film for processing. When I get film processed, I request simply film development and contact sheets—no enlargements at this point. When I select views for printing that is where the hard work begins—work that needs to be reinvented regularly.

If you do your own printing and processing, or your agency has good in-house printing, count your lucky stars. Finding good black-and-white printing in the commercial market today is very difficult and requires continual sleuthing of potential vendors, especially if you do not live in a large city. I have experienced a regular turnover of printers. Typically, I find a one-man shop which will do good work to my specifications, including the use of fiber-base paper, careful focusing of the enlarger, and the type of archival processing that Athearn describes so well. That shop owner then becomes very successful and hires new employees. Somewhere around this time, prices soar and print quality declines to an unacceptable level as the talented owner becomes a personnel and business administrator and may even buy an automated printing machine guaranteed to produce acceptable prints. About then another one-man shop opens and the cycle repeats itself.

This has happened to my agency at least three times in the past decade, and it will happen again. As black-and-white processing and printing become ever more arcane, this situation will deteriorate further. The ultimate answer may be the establishment of permanently staffed, professional darkrooms in major state photographic archives and museums. It is likely in time that quality, affordable black-and-white printing no longer will be available from local commercial outlets.

Currently, the State Historical Society of Wisconsin's staff is preparing text and illustrations for *Buildings of Wisconsin*. Co-edited by Geoffrey Gyrisco and Marsha Weisiger, it will be one of a series of books being published by Oxford University Press and the Society of Architectural Historians in their joint *Buildings of the United States* series. In this project, we are using a number of photographers, both paid and volunteer. I have been especially pleased by the work of volunteer photographers from non-photographic professions who have learned, with only minimal coaching, to take excellent photographs of architecture. This has reaffirmed my belief that anyone possessed of common sense and visual sensitivity, and who has appropriate training and the minimum of proper 35-mm SLR equipment, can learn to take good, publishable photographs for the National Register. ■

IV. PREPARING PHOTOGRAPHS FOR SUBMISSION TO THE NATIONAL REGISTER

BASIC REQUIREMENTS

Basic requirements for photographs to be submitted to the National Register are given in **III. Documenting Historic Places on Film.** In addition, photographs submitted for National Register nominations must be:

- At least 3- x 5- inches, but 8- x 10- inches is preferred;
- Printed on single-weight paper with a glossy finish;
- Correctly processed and thoroughly washed according to manufacturers' instructions;
- Labeled either in pencil on the reverse, or on a continuation sheet (**See below** for detailed instructions);
- Unmounted (do not staple, clip, or glue photographs to nomination form);
- Taken with black and white film only;
- Complete enough to fully illustrate the property being nominated; and
- Well-composed, sharply focused, and clear.

PAPERS

The National Register of Historic Places will accept black and white photographs printed on resin-coated paper, however, it is preferred that prints be produced to archival standards using fiber-base paper. Prints submitted on resin-coated paper must have no evidence of residual chemicals, fading, or yellowing.

LABELING PHOTOGRAPHS

Photographs should be labeled with the following information:

- Name of property or, for districts, the name of the building or street address, followed by the name of the district;
- County and State where the property is located;
- Names of photographer and/or assistant;
- Location of original negative;
- Date of photograph;
- Description of view, indicating direction of camera; and
- Photograph number. (For districts, use this number to identify vantage point on the accompanying sketch map.)

Use a No. 1 or No. 2 pencil to label photographs on fiber-base paper. Resin-coated paper will not accept pencil. Never use an ink pen on either fiber-base or resin-coated paper, because it can leak through the emulsion and damage the image. However, a permanent audiovisual marking pen or pencil may be used. Also, permanent, soft-tip pens can be used on the front margins, if applicable. In addition, do not use adhesive labels on photographs, and do not mount photographs on the nomination form itself.

An acceptable alternative for identifying photographs is on a National Register Continuation Sheet *(NPS 10-900-a)*. Number each photograph and write the name of the property, county and State on the back with a soft pencil. List the rest of the required information on the continuation sheet. Information common to all photographs, such as the photographer's name, or the location of the negatives, can be given once accompanied by a statement that applies to all of the photographs.

ADHESIVE LABELS

Photographs with adhesive labels will not be accepted, because the labels separate from the photograph and their acidity may cause the photograph to deteriorate.

USE OF NATIONAL REGISTER PHOTOGRAPHS

By allowing a photograph to be submitted to the National Park Service with a National Register form, **photographers grant permission to the National Park Service** to use the photograph for publication and other purposes, including: putting it on the World Wide Web; duplication; display; distribution; study; publicity; and audiovisual presentations.

Nashold *20-sided barn. Town of Fountain Prairie, Columbia County, Wisconsin. (Jeff Dean, 1987)*

V. STORAGE OF FILM AND PRINTS

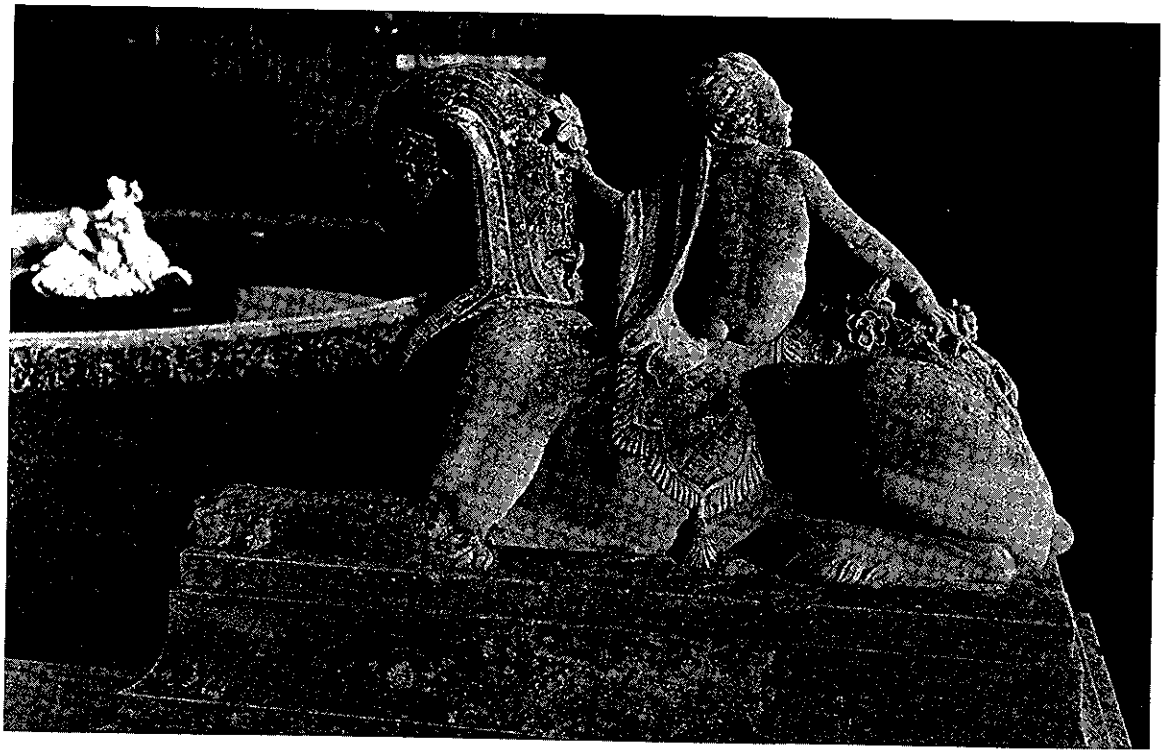
Cool, dark, dry places are always best for conserving photographic media. Black and white media should be stored in dark areas with no more than 50 per cent humidity. While these are ideal archival conditions, they are rarely practical for most people. The general rule is to keep both prints and negatives in as cool, dark, and dry a place as possible.

Negatives should be kept in an acid free, dust free, dark environment using stable (low pH, i.e., low acid) envelopes in baked enamel filing cabinets. Current polypropylene and polyacetate holders are often termed archival. However, due to newness, no one knows how long they will last. Polyvinyl chloride (PVC) slide/negative holders should never be used, because they give off gasses that literally destroy emulsions. Easily identified by their glossy look and slippery texture, PVC slide holders are generally made of much heavier plastic than current holders.

Cardboard, black construction paper, manila envelopes, paper envelopes, non-rag bond paper, print holders such as so-called magnetic albums and albums that use non-acetate plastic are all unacceptable for storage. When buying albums, it is important to make sure the leaves are acetate plastic.

Acid-free paper envelopes are the best method for storing both prints and negatives. The only plastic that is acceptable for archives is non-PVC, as noted above. Film holders and print sheets are available in archival plastic, but for absolute safety and long-term storage, acid-free paper envelopes are superior storage media. Mylar transparent sleeves should be used for film.

There are numerous suppliers of archival photographic storage materials as well as information on photographic conservation. Two excellent publications devoted to the conservation, care, and permanence of photographs include: *Eastman Kodak's Conservation of Photographs*, (Rochester, New York: Eastman Kodak Company, 1985) and Henry Wilhelm's The *Permanence and Care of Color Photographs*, (Grinnell, Iowa: Preservation Publishers, 1993).



Statue, Garden of Shadowlawn, *West Long Branch, New Jersey. (Walter Smalling, 1978)*

APPENDIX I

FORMAL DOCUMENTATION OF HISTORIC PROPERTIES

Prior to the mid-1930s, there was no national program designed to systematically document historic properties. Local and state historical societies recorded sites and buildings, but there were no standards that provided guidelines for the long-term preservation of documentation materials. The establishment of the Historic American Buildings Survey (HABS) in 1933, and the Historic American Engineering Survey (HAER) in 1969, administered by the National Park Service, resulted in national documentation standards. A HABS (and later HAER) Collection was established in the Library of Congress to store those records.

Photography is an important part of HABS/HAER documentation. In addition to measured architectural drawings and written historical reports, photographs provide views of the property. Because photographs must meet architectural or engineering standards for accuracy, HABS/HAER will accept only large format negatives corrected for perspective distortion. HABS will not accept negatives smaller than 4- x 5-inches nor larger than 8- x 10-inches. The preferred size is 5- x 7-inches. Only a large-format view camera can be fully adjusted to compensate for distortion and perspective problems. Additionally, a large-format negative provides a wealth of detail that is often impossible to obtain with smaller format film.

HABS/HAER requires the following equipment and film:

1. **Lenses.** No soft focus lenses (or filters) may be used. The complement of lenses will include at least one normal focal length, one wide angle, and one telephoto lens. They must have adequate covering power to accommodate both front and rear view camera movements without *vignetting*. (See **Glossary**.)
2. **Filters.** A polarizing filter may be useful. A medium-yellow filter enhances details.
3. **Film.** A fine-grain, cut film with a minimum resolving power of 80 lines per millimeter high-contrast range, and 30 lines per millimeter low contrast range is acceptable. Films such as *Tri-X, T-Max,* or *Plus-X*, etc. are suitable. Film packs are not accepted. Color films, either negative or positive, are absolutely not acceptable. For copy work (old photographs, etc.) *Kodak Professional Copy Film Type 4125*, or equivalent, must be used to make continuous-tone copy photographs. For copy line drawings, *Kodalith*, or similar film must be used. All films must be fresh (in date) and have a polyester base.
4. **Paper.** All documentary photographs produced for HABS/HAER must be printed on fiber-base paper. It should be single-weight, glossy, and processed to archival standards. The use of resin-coated paper is unacceptable.

PROCESSING HABS/HAER PHOTOGRAPHS

In order to produce archivally stable photographs, both negatives and prints must be handled carefully. The primary culprit in film or paper damage is a fixer residue. All film and paper should be treated in a cleaning bath such as *Permawash, Kodak Hypo Clearing Agent*, or *Orbit* bath. Films and papers must be washed both before and after the hypo-clearing treatment. A two-hour wash is strongly recommended to assure removal of all fixer, unless a hypo-clearing or neutralizing agent is used. HABS/HAER has found that film and prints developed and fixed using machine processors repeatedly fail testing for hypo. Therefore, neither machine-processed prints nor films are acceptable for HABS/HAER documentation.

PRINTING HABS/HAER PHOTOGRAPHS

HABS/HAER negatives are large format. Easily yielding considerable detail, these negatives must be contact printed only. Prints should be made on the next largest size of paper (i.e., a 4- x 5-inch print on 5- x 7- inch paper). Prints should not be large than 8- x 10-inches. All edges of the negative **must** show in the print. The prints should be made on single-weight, glossy-finish, fiber-base paper. Resin-coated paper is not acceptable.

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GLOSSARY

Aperture—See f/stop, below.

Baryta substrate or base—The paper upon which emulsion is coated. Baryta is a fiber base paper that is more stable than plastic coated paper.

Brightframes—These are commonly found in range finder type cameras. These are the outlined (rectangular) box seen through the viewfinder that represent the area of the actual photograph. What appears outside of the frame will not be recorded on film.

Contact Print—A contact print is made by "contacting" the negative to a sheet of paper and exposing it. The result is a direct print that is the same size as the negative.

Film—the medium used to capture an image.

Film Speed (ISO)—An arbitrary number placed on film that tells how much light is needed to expose the film to the correct density. Generally, the lower the ISO number, the finer grained and slower a film. ISO means International Standards Organization. This term replaces the old ASA speed indicator. The slower the film, the more light is needed to expose it.

Black and White

ISO 25-100—Very fine grained and low contrast.

ISO 100-400—Fine to Medium grain and higher contrast.

ISO 400-3200—Heavy grain and considerable contrast.

Color Negative Films

The same rule applies to negative color films as black and white films. The lower the ISO number, the finer the grain.

Transparency Films

These are color reversal films. Again, in general, the lower the ISO the finer the grain, and the lower the contrast. Recently, new film emulsions in the ISO 50 to ISO 100 range have been released. They are very fine grained, but are also extremely color saturated. This means the colors are bright and vivid, but not necessarily accurate.

Fixer (Hypo)—A chemical, sodium thiosulfate, used to remove residual silver halides (grain) from films and prints when processing them. Fixer "fixes" the remaining silver halides in place on either film or prints. Fixer is also called *hypo*.

F/stop—A metal plate or diaphragm that controls the amount of light entering a lens barrel. In most cases, the diaphragm is iris shaped. The larger the hole in the diaphragm, the smaller the f/stop number. For instance, f/1.4 is wide open, whereas f/16 is the smallest hole, or fully stopped down. The reasons to use f/stops are: (1) to get a sharper picture (the smaller the f/stop the sharper the image); (2) to get greater depth of field (the smaller the aperture, the greater the depth of field); and (3) to control the exposure (the smaller the aperture, the less light gets in.

Gelatin-base films—All films are gelatin based. Gelatin is used to bind the emulsion to the plastic film base. This technology has been available for more than a century.

Large format—Generally any film format in which negatives are larger than 4 x 5 inches is considered large format. Other sizes include 5 x 7 inches, 8 x 10 inches, and 11 x 14 inches. Most large format cameras are view cameras, field cameras, or specialty cameras.

Medium format—Any camera that uses 120 size roll film is considered to be medium format. This film is 6-cm wide and yields images that can be from 6 cm x 6 cm to 6 cm x 9 cm. The format is between 35 mm and 4 x 5 inches in size.

Negative film—A reversed (negative) image is created when this type of film is used. Black and white and color negative films are called negative films. The negative image is reserved. Whites are black and blacks are white. When printed, a positive image results with whites being white and blacks being black. And colors are correctly imaged when printed.

Oblique photographs—These photographs are neither perpendicular nor parallel to a given line or surface. Rather than being vertical or horizontal, oblique photographs are shot at an angle (45 degrees, for example).

Parallax problems—This occurs mainly with range finder and twin lens reflex cameras. The distance between the center of the lens and the viewfinder causes parallax. The closer the lens is focused to the subject, the more evident the parallax. The top of the image will be cut off if the range finder or viewfinder is not corrected for parallax.

PC—See *Perspective Control Lens*

Perspective-control lens — A small- or medium-format manual lens that shifts off its axis in any direction on sliding tracks to correct perspective convergence; shifting is controlled by a screw, a rotating control ring, or by friction.

Positive film—A positive image (such as color slides) is created when this type of film is used. Color transparencies are positive films.

Selenium—A chemical that is used to tone prints for longevity. Selenium leaves the prints with a silver look. Toned prints are less subject to light damage and oxidization.

Shift lens — See *Perspective-control lens.*

Silver halide—The silver crystals that make up an image on a negative or print. When exposed to light, they create an image. Those that are not exposed are washed off, leaving either a negative (film) or positive (print) image.

SLR — See Single lens reflex.

Single lens reflex—A type of camera that uses a prism and mirror system allowing viewing of the subject through the taking lens of the camera. The photographer looks through the rear of the camera and sees the subject (and focuses) through the lens. When the picture is taken, the mirror swings out of the way and the film is exposed.

Small format—Refers to a small size film such as 35-mm films. The image size is 24 x 36 mm for 35-mm negatives. The sizes of the small format films are: 126, 828, and 110.

Thermal dye prints—A process for generating computer (digital) images on paper using a printer. The process uses thermal dyes to create the color image.

Toning and toners—Changing the visual appearance of a silver image by converting some or all of the silver halides to a different type, resulting in an image tone. This can be accomplished with either prints or negatives. The most common toning colors are brown and sepia.

View camera—A large format camera that has a front and rear standard, bellows between them, and rides on a rail. The photographers views the image from the rear of the camera on a ground glass screen. The camera is capable of swings, tilts, and shifts, which makes it ideal for architectural photography. Due to its size and weight, a view camera is generally used in a studio setting.

Viewfinder screen — In SLR camera, this is the screen upon which a lens projects its image for composition and focusing. The photographer views the viewfinder screen through a pentaprism that makes the image eye level and so that it appears right-side-up and not reversed. For architectural photography, a viewfinder screen is etched with horizontal and vertical lines resembling the grid of a tic-tac-toe board to aid in alignment and composition.

Vignetting—This refers to the cutting off of image edges (usually the corners) when something interferes with the front of the lens. The most common cause of vignetting is a lens shade that is the wrong size for the focal length being used and using a PC lens at an extreme shift, especially with filters. Wide-angle lenses are often vignetted, because a lens hood was used that was not wide enough.

APPENDIX II: LIST OF NATIONAL REGISTER BULLETINS

The Basics

How to Apply National Register Criteria for Evaluation *

Guidelines for Completing National Register of Historic Places Form
Part A: How to Complete the National Register Form *
Part B: How to Complete the National Register Multiple Property Documentation Form

Researching a Historic Property *

Property Types

Guidelines for Evaluating and Documenting Historic Aids to Navigation *

Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields

Guidelines for Evaluating and Registering Historical Archeological Sites

Guidelines for Evaluating and Registering Cemeteries and Burial Places

How to Evaluate and Nominate Designed Historic Landscapes *

Guidelines for Identifying, Evaluating and Registering Historic Mining Sites

How to Apply National Register Criteria to Post Offices *

Guidelines for Evaluating and Documenting Properties Associated with Significant Persons

Guidelines for Evaluating and Documenting Properties That Have Achieved Significance Within the Last Fifty Years

Guidelines for Evaluating and Documenting Rural Historic Landscapes *

Guidelines for Evaluating and Documenting Traditional Cultural Properties *

Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places

Technical Assistance

Contribution of Moved Buildings to Historic Districts; Tax Treatments for Moved Buildings; and Use of Nomination Documentation in the Part I Certification Process

Defining Boundaries for National Register Properties*

Guidelines for Local Surveys: A Basis for Preservation Planning *

How to Improve the Quality of Photographs for National Register Nominations

National Register Casebook: Examples of Documentation *

Using the UTM Grid System to Record Historic Sites

The above publications may be obtained by writing to the National Register of Historic Places, National Park Service, 1849 C Street, NW, NC 400, Washington, D.C. 20240. Publications marked with an asterisk (*) are also available in electronic form on the World Wide Web at www.cr.nps.gov/nr, or send your request by e-mail to nr_reference@nps.gov.

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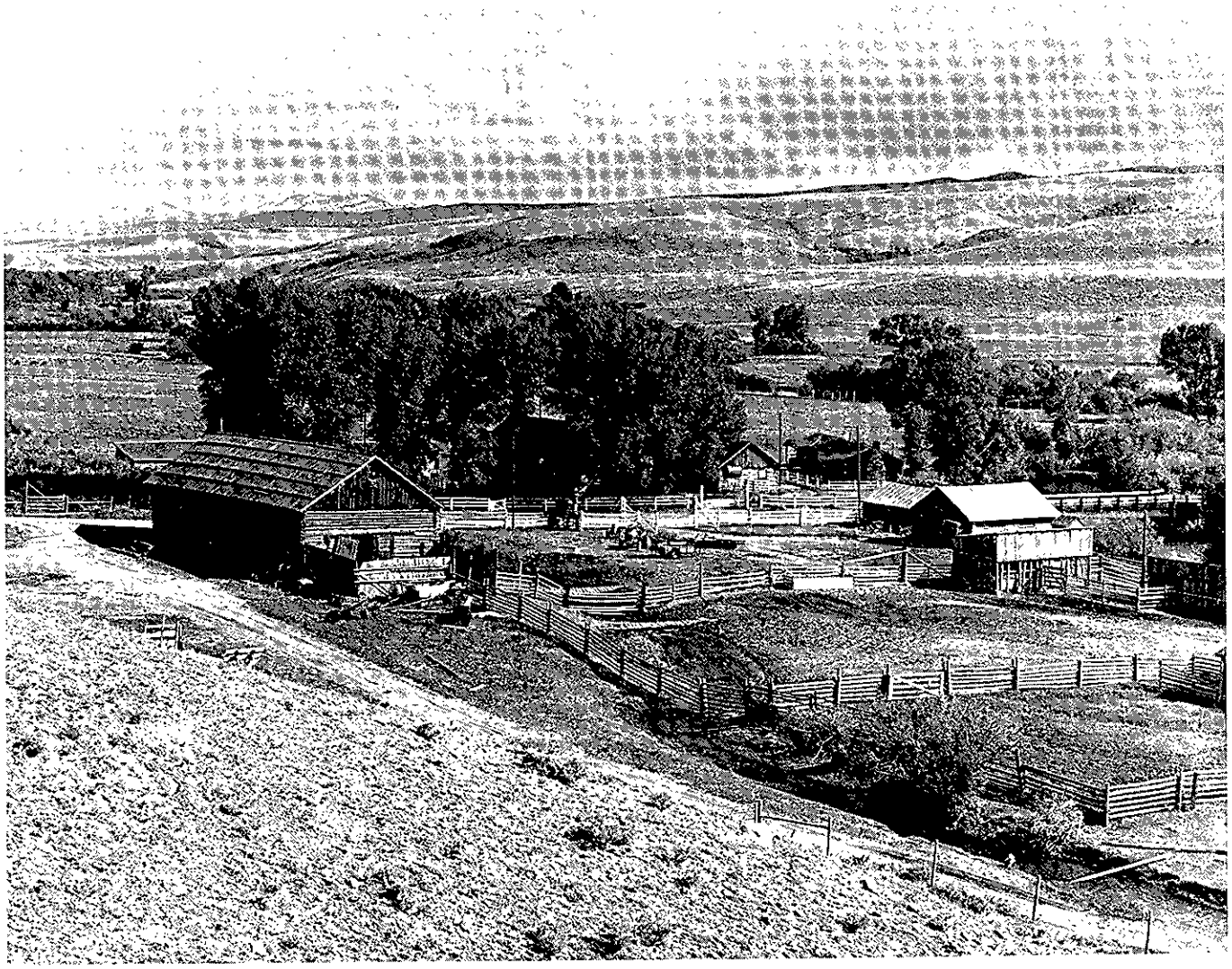
NATIONAL REGISTER BULLETIN

Technical information on comprehensive planning, survey of cultural resources, and registration in the National Register of Historic Places.

U.S. Department of the Interior
National Park Service
Interagency Resources Division

Guidelines for Evaluating and Documenting Rural Historic Landscapes



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 also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting 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.

On the eastern slopes of the Rocky Mountains, the Nathaniel K. Boswell Ranch reflects the 100-year evolution of a typical Wyoming livestock ranch. Hay was grown on the bottomland along the Laramie River, while cattle and other livestock grazed on hillsides of sage and grass. The headquarters, consisting of a house, barns, bunkhouses, sheds, privies, fences, pens, and corrals, reflects the central operations of the ranch and is also a distinctive collection of late 19th century log construction. (Mark Junge)

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Guidelines for Evaluating and Documenting Rural Historic Landscapes

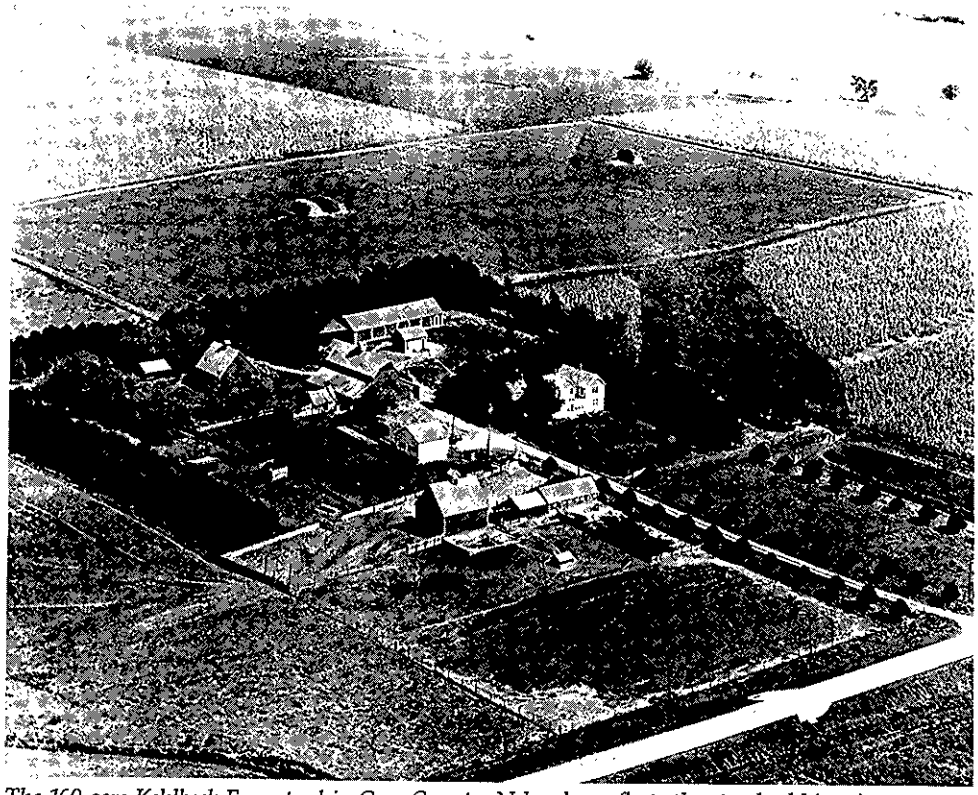
Linda Flint McClelland
National Park Service
and
J. Timothy Keller, ASLA
Genevieve P. Keller
Robert Z. Melnick, ASLA
Land and Community Associates

INTRODUCTION

This bulletin offers guidance to Federal agencies, State Historic Preservation Offices, Certified Local Governments, preservation professionals, and interested individuals in the successful preparation of nominations to the National Register of Historic Places and requests for determinations of eligibility for historic sites or districts known as *rural historic landscapes.* In recent years, there has been a growing interest among preservationists in recognizing and protecting the cultural values that centuries of land use and occupation have embodied in rural America. Understanding the forces that have shaped rural properties, interpreting their historical importance, and planning for their protection are current challenges in historic preservation. This bulletin responds to the many questions that have risen out of efforts to apply the National Register criteria to rural properties possessing significant land areas.

This bulletin defines a *rural historic landscape,* describes its characteristics, and suggests practical methods for survey and research. It also closely examines how the National Register criteria can be applied, significance and integrity evaluated, and boundaries drawn for rural properties having significant acreage. Finally, the bulletin discusses the information needed to register these properties in the National Register.

The bulletin is organized under three general headings—identification, evaluation, and registration. It puts forth a practical approach, not a complete or rigid methodology, that can be applied within a preservation planning framework to both the general development of historic contexts and the evaluation of properties within rural areas. It should be used with National Register Bulletins 24, *Guidelines for Local Surveys: A Basis for Preservation Planning* and 16, *Guidelines for Completing National Register of Historic Places Forms,* which provide general guidance on developing historic context, conducting surveys, and completing National Register forms.



The 160-acre Kehlbeck Farmstead in Cass County, Nebraska, reflects the standard historic property formed by the United States rectangular land survey. The farm's spatial organization indicates the separation of agricultural activities and many of the improvements, functional and aesthetic, that midwestern farms underwent in the late 19th and early 20th centuries. Landscape features include a formal allée and curved entry drive, windbreaks of Eastern Red Cedar and Austrian Pine, a farmyard with orchards and vegetable gardens, pastures with livestock enclosures, and outlying fields of corn, hay, or oats. (Nebraska State Historical Society)

WHAT IS A *RURAL HISTORIC LANDSCAPE?*

The *rural historic landscape* is one of the categories of property qualifying for listing in the National Register as a historic site or district. For the purposes of the National Register, a **rural historic landscape** is defined as **a geographical area that historically has been used by**

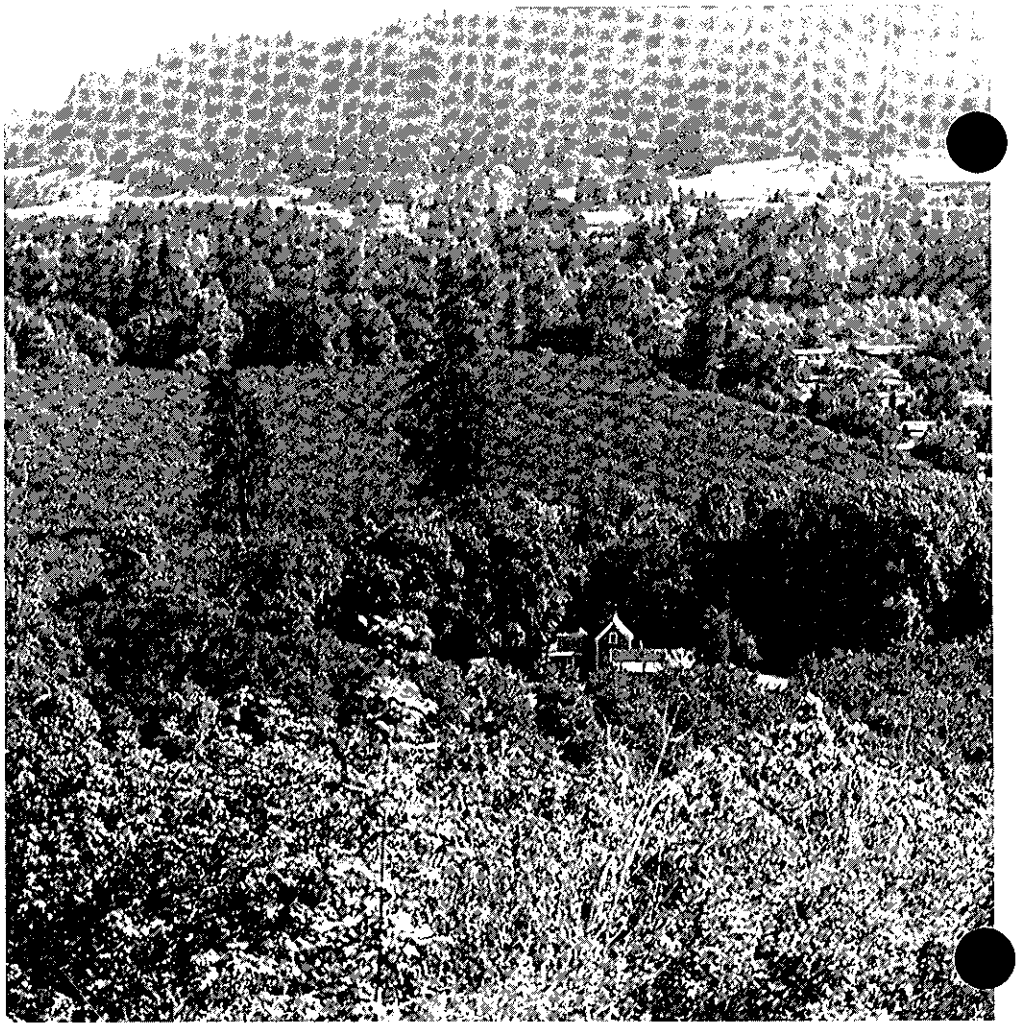
people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features.

Rural landscapes commonly reflect the day-to-day occupational activities of people engaged in traditional work such as mining, fishing, and various types of agriculture. Often, they have developed and evolved in response to both the forces of nature and the pragmatic need to make a living. Landscapes small in size and having no buildings or structures, such as an experimental orchard, are classified as sites. Most, however, being extensive in acreage and containing a number of buildings, sites, and structures, such as a ranch or farming community, are classified as historic districts. Large acreage and a proportionately small number of buildings and structures differentiate rural historic landscapes from other kinds of historic properties.

Distinct from designed landscapes (see Bulletin 18, *How to Evaluate and Nominate Designed Historic Landscapes*), rural landscapes usually are not the work of a professional designer and have not been developed according to academic or professional design standards, theories, or philosophies of landscape architecture. The properties discussed in this bulletin possess tangible features, called landscape characteristics, that have resulted from historic human use. In this way, they also differ from natural areas that embody important cultural values but have experienced little modification, such as sites having religious meaning for Native American groups (see Bulletin 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties).*

A rural area may contain one or more rural historic landscapes. It may also include other kinds of historically significant properties, such as a railroad depot or granary with little acreage. The National Register lists only those properties satisfying the National Register criteria for historical significance and integrity. An understanding of historic contexts is essential for identifying the significant properties of a rural area and determining the eligibility of any particular property.

Primary is **significance,** ascribed by specific criteria and weighed within the framework of a community, region, or State's historic contexts. Historic contexts provide background information about the patterns of history and development that shaped a particular geographical area. This information links a rural property with important historic trends or themes, such as dairy farming or cattle grazing, indicating whether the property is unique or representative of its time and place. Contextual information also allows the grouping of properties having similar patterns of historic development, making it possible to weigh their relative importance.



The cultivation of filberts, seen at Dorris Ranch in Lane County, Oregon, is just one of the many activities for which a rural landscape may be significant in agriculture. *From a single orchard of 50 trees planted in 1903, George B. Dorris started a ranch that became known nationally for its production of filberts and hardy planting stock. Today, orchards cover 75 acres, contain 9250 trees, and produce an average of 56 tons of nuts annually.* (Willamalane Park and Recreation District)

Historic Integrity, a measure of a property's evolution and current condition, is also necessary. A comparison of the changes experienced by a group of properties related by common historic contexts helps define the historic characteristics and qualities of integrity that qualify a rural property for listing. Recent changes that have erased historic characteristics, and do not have exceptional importance, make a property ineligible, even if scenic qualities are still present.

Spatial organization, concentration of historic characteristics, and evidence of the historic period of development distinguish a rural historic landscape from its immediate surroundings. In most instances, the natural environment has influenced the character and composition of a rural area, as well as the ways that people have used the land. In turn, people, through traditions, tastes, technologies, and activities, have consciously and unconsciously modified the natural environment. Politics, social customs, ownership, economics, and natural resources have determined the organization of rural communities and the historic properties they contain.

SYNOPSIS

A **rural historic landscape** is:

a geographic area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features.

The evidence of human use or activity is examined through eleven landscape characteristics:

- *land uses and activities*
- *patterns of spatial organization*
- *response to the natural environment*
- *cultural traditions*
- *circulation networks*
- *boundary demarcations*
- *vegetation related to land use*
- *buildings, structures, and objects*
- *clusters*
- *archeological sites*
- *small-scale elements.*

Rural historic landscapes are listed in the National Register as:

- *sites or*
- *historic districts*

following:

- *identification of historic landscape characteristics,*
- *evaluation according to the National Register criteria, and*
- *documentation on a registration form.*

To **identify** a rural historic landscape:

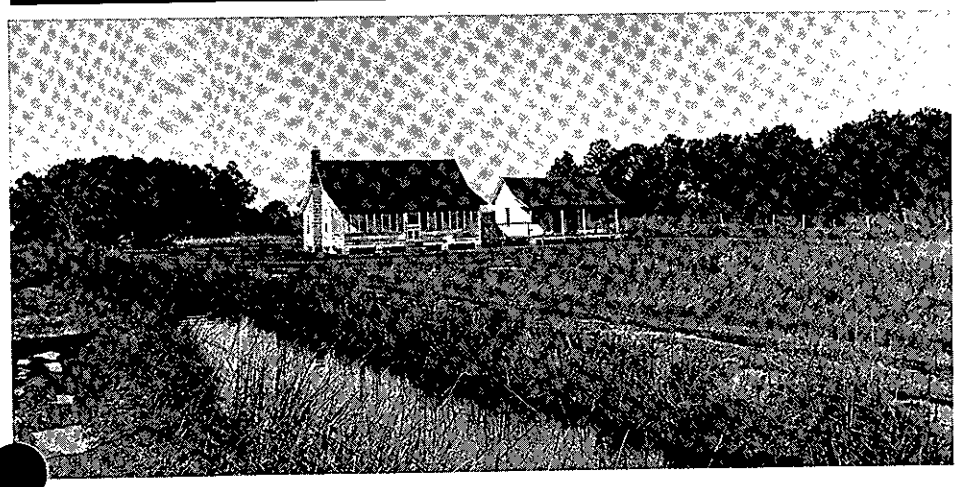
- *develop historic context,*
- *conduct historic research, and*
- *survey the landscape.*

To **evaluate** National Register eligibility:

- *define significance,*
- *assess historic integrity, and*
- *select boundaries.*

To **register** a rural historic landscape:

- *complete the National Register Registration Form (NPS 10-900), and*
- *follow the procedures in 36 CFR Part 60.*



Drainage ditches and canals divide the agricultural fields and flat plains of Lake Landing in Hyde County, North Carolina. Implemented in the 19th century, this system made possible water transportation and the farming of swampy lowlands. Coastal plain cottages represent the common housing stock of the region. (J. Timothy Keller)

TYPES OF RURAL HISTORIC LANDSCAPES

Rural historic landscapes usually fall within one of the following types based upon historic occupation or land use:

- agriculture (including various types of cropping and grazing)
- industry (including mining, lumbering, fish-culturing, and milling)
- maritime activities such as fishing, shellfishing, and shipbuilding
- recreation (including hunting or fishing camps)
- transportation systems
- migration trails
- conservation (including natural reserves)
- sites adapted for ceremonial, religious, or other cultural activities, such as camp meeting grounds.

Although diverse, these types all contain substantial areas of vegetation, open space, or natural features that embody, through past use or physical character, significant historical values. Buildings, industrial structures, objects, designed landscapes, and archeological sites may also be present. Many will be integrally related to historic activities and contribute to the significance of a large historic district. Some may also qualify individually for listing in the National Register.

Rural historic landscapes, especially those composed of a variety of land uses, may incorporate more than one of the types listed above. While this bulletin introduces a methodology that can be used for evaluating all of the above types, it focuses primarily on agricultural properties.

CHARACTERISTICS OF THE RURAL LANDSCAPE

A classification system of eleven characteristics has been developed for **reading** a rural landscape and for **understanding** the natural and cultural forces that have shaped it. **Landscape characteristics are the tangible evidence of the activities and habits of the people who occupied, developed, used, and shaped the land to serve human needs; they may reflect the beliefs, attitudes, traditions, and values of these people.**

The first four characteristics are **processes** that have been instrumental in shaping the land, such as the response of farmers to fertile soils. The remaining seven are **physical components** that are evident on the land, such as barns

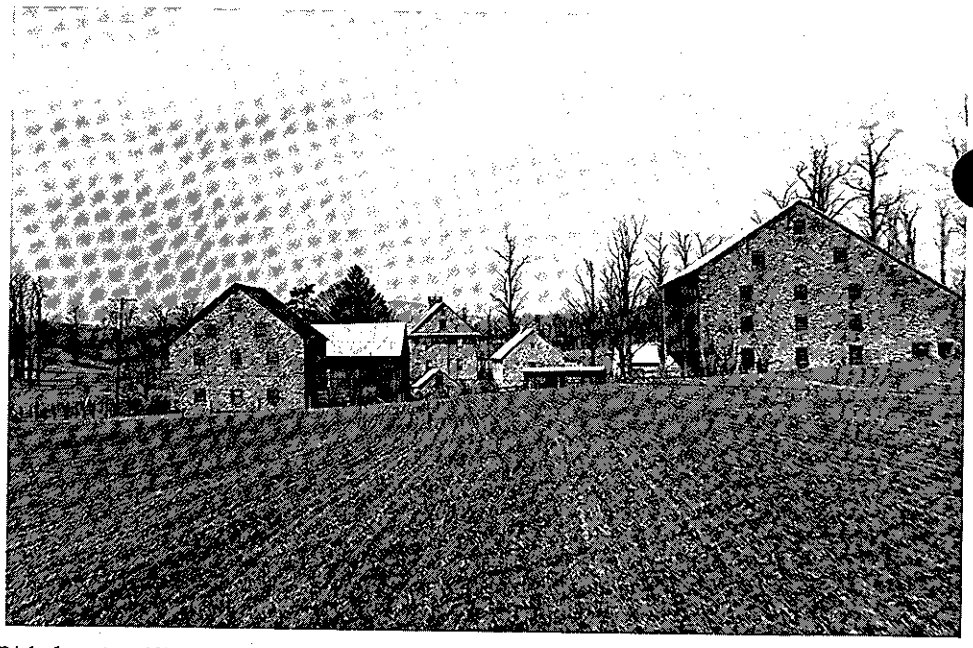
or orchards. Many, but not all, rural properties contain all eleven characteristics. When historic processes are linked to existing components, the rural landscape can be viewed as a unified whole. The chart on pages 15-18 shows the relationship of the eleven characteristics and the features represented by them.

This classification system is a tool for gathering and organizing information. First of all, it is used to develop historic contexts for rural areas. The processes define specific themes, such as dairy farming or Belgian settlement, that have influenced historic development. The physical components define historic features of the landscape that may be used to describe significant property types and to identify properties eligible for listing in the National Register.

Second, the system is used to identify and evaluate the significant properties of a rural area or to determine the eligibility of a particular rural landscape. Through field survey and historic research, characteristics are associated with specific features, such as field patterns or roadways, and provide an understanding of an area or property's historic land uses and physical evolution.

Third, as information about existing characteristics is related to the historic contexts for a geographical area, assessments of significance, integrity, and boundaries can be made for specific properties. Information is evaluated to determine whether, within a rural area or region, a large historic district or separate properties should be considered for listing in the National Register. A comparison of past and present characteristics within a single property helps determine whether the property retains historic integrity and what the National Register boundaries should be.

Finally, the classification system provides a format for documenting rural properties on National Register forms. It can be used to organize the description and statement of significance for a specific rural property on the registration form. It is also useful for organizing information about rural historic contexts and property types on the multiple property documentation form.



Rich deposits of lime and limestone ensured the prosperity and agricultural productivity of Oley Township, Pennsylvania. In response to the natural environment, settlers farmed fertile soil, operated limekilns, and constructed homes, barns, outbuildings, and walls of native limestone. (Oley Resource Conservation Project)

Processes

1. Land Uses and Activities: Land uses are the major human forces that shape and organize rural communities. Human activities, such as farming, mining, ranching, recreation, social events, commerce, or industry, have left an imprint on the landscape. An examination of changing and continuing land uses may lead to a general understanding of how people have interacted with their environment and provide clues about the kinds of physical features and historic properties that should be present.

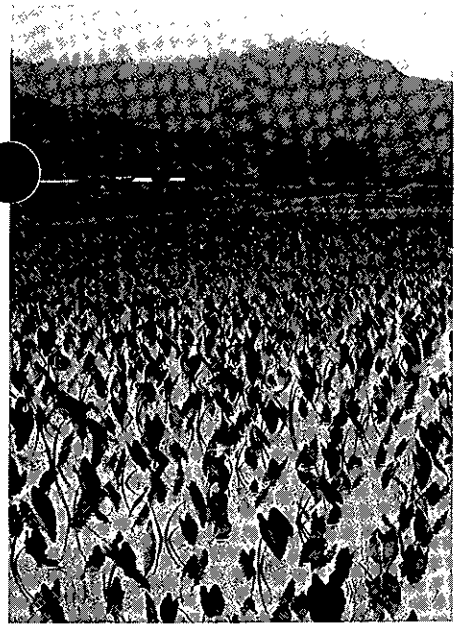
Topographic variations, availability of transportation, the abundance or scarcity of natural resources (especially water), cultural traditions, and economic factors influenced the ways people use the land. Changing land uses may have resulted from improved technology, exhausted soils or mineral deposits, climatic changes, and new economic conditions, as well as previous successes or failures. Activities visible today may reflect traditional practices or be innovative, yet compatible, adaptations of historic ones.

2. Patterns of Spatial Organization: The organization of land on a large scale depends on the relationship among major physical components, predominant landforms, and natural features. Politics, economics, and technology, as well as the natural environment, have influenced the organization of communities by determining settlement patterns, proximity to markets, and the availability of transportation.

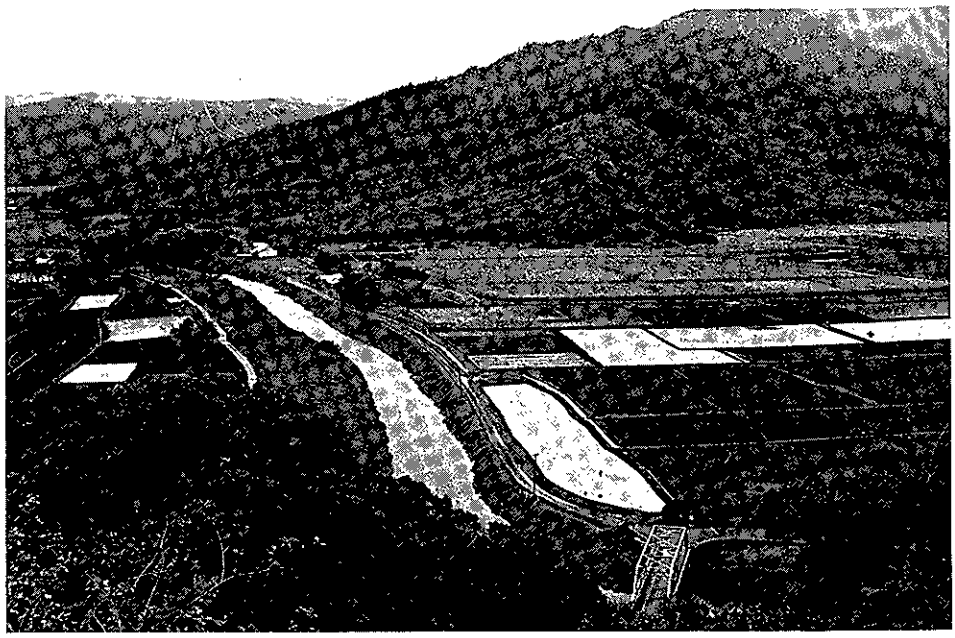
Organization is reflected in road systems, field patterns, distance between farmsteads, proximity to water sources, and orientation of structures to sun and wind. For example, spatial patterns can be seen in the grid of square mile townships and 160-acre farmsteads in the Midwest established by the land ordinances of 1785 and 1787, the distribution of towns every seven miles along a railroad corridor, and the division of land in Louisiana, by the French long-lot system, to ensure that every parcel has river frontage.

Large-scale patterns characterizing the settlement and early history of a rural area may remain constant, while individual features, such as buildings and vegetation, change over time. Changes in technology, for example, may have altered plowing practices, although the location of plowed fields, and, therefore, the overall historic pattern may remain the same.

3. Response to the Natural Environment: Major natural features, such as mountains, prairies, rivers, lakes, forests, and grasslands, influenced both the location and organization of rural communities. Climate, similarly, influenced the siting of buildings, construction materials, and the location of clusters of buildings and structures. Traditions in land use, construction methods, and social customs commonly evolved as people responded to the physiography and ecological systems of the area where they settled.



Taro, the staple of the islanders' daily diet is the primary crop of Hanalei, Hawaii. Traditionally grown, it is dependent on a warm humid climate and wetland agriculture made possible by abundant rainfall and irrigation. (Robert Z. Melnick)



Taro fields separated by earthen dikes, forested mountains, rivers and irrigation ditches, and a system of roads define the pattern of spatial organization and characterize the area's wetland agriculture in Hanalei, Hawaii. (Robert Z. Melnick)

Early settlements frequently depended upon available natural resources, such as water for transportation, irrigation, or water power. Mineral or soil deposits, likewise, determined the suitability of a region for particular activities. Available materials, such as stone or wood, commonly influenced the construction of houses, barns, fences, bridges, roads, and community buildings.

4. Cultural Traditions: Cultural traditions affect the ways that land is used, occupied, and shaped. Religious beliefs, social customs, ethnic identity, and trades and skills may be evident today in both physical features and uses of the land. Ethnic customs, predating the origins of a community, were often transmitted by early settlers and perpetuated by successive generations. Others originated during a community's early development and evolution. Cultural groups have interacted with the natural environment, manipulating and perhaps altering it, and sometimes modifying their traditions in response to it.

Cultural traditions determined the structure of communities by influencing the diversity of buildings, location of roads and village centers, and ways the land was worked. Social customs dictated the crops planted or livestock raised. Traditional building forms, methods of construction, stylistic finishes, and functional solutions evolved in the work of local artisans. For example, rustic saunas appeared among the outbuildings of Finnish farmsteads in northwestern Michigan, while community churches occupied isolated crossroads in the High Plains. Taro, grown as a staple in the Hawaiian daily diet, also assumed an important role in the traditional luau. At the Amana Colonies in Iowa, large expanses of farmland and forest, based upon communal ownership, a village settlement pattern, and religious beliefs, varied from the rectangular grid typical of midwestern family farms.

Components

5. Circulation Networks: Circulation networks are systems for transporting people, goods, and raw materials from one point to another. They range in scale from livestock trails and footpaths, to roads, canals, major highways, and even airstrips. Some, such as farm or lumbering roads, internally served a rural community, while others, such as railroads and waterways, connected it to the surrounding region.

6. Boundary Demarcations: Boundary demarcations delineate areas of ownership and land use, such as an entire farmstead or open range. They also separate smaller areas having special functions, such as a fenced field or enclosed corral. Fences, walls, tree lines, hedge rows, drainage or irrigation ditches, roadways, creeks, and rivers commonly marked historic boundaries.

7. Vegetation Related to Land Use: Various types of vegetation bear a direct relationship to long-established patterns of land use. Vegetation includes not only crops, trees, or shrubs planted for agricultural and ornamental purposes, but also trees that have grown up incidentally along fence lines, beside roads, or in abandoned fields. Vegetation may include indigenous, naturalized, and introduced species.

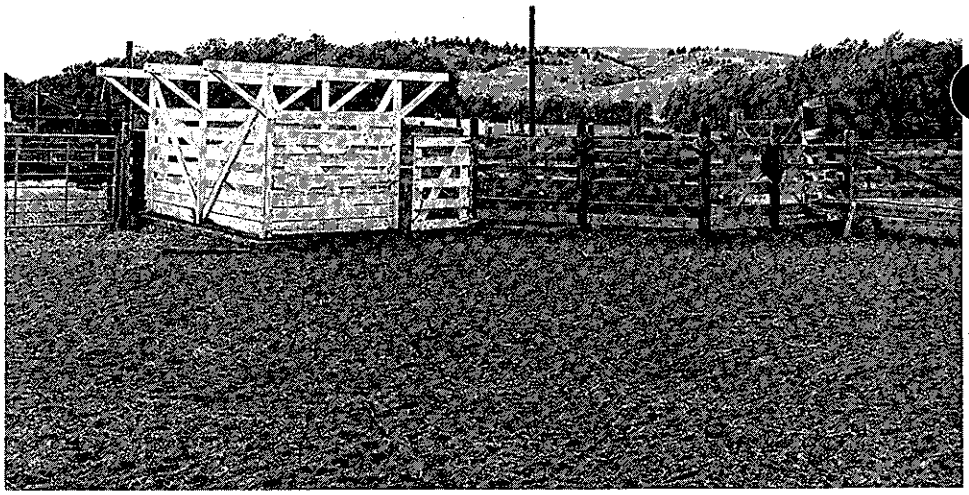
While many features change over time, vegetation is, perhaps, the most dynamic. It grows and changes with time, whether or not people care for it. Certain functional or ornamental plantings, such as wheat or peonies, may be evident only during selected seasons. Each species has a unique pattern of growth and life span, making the presence of historic specimens questionable or unlikely in many cases. Current vegetation may differ from historic vegetation, suggesting past uses of the land. For example, Eastern red cedars or aspens indicate the natural succession of abandoned farmland in the Midwest.

8. Buildings, Structures, and Objects: Various types of buildings, structures, and objects serve human needs related

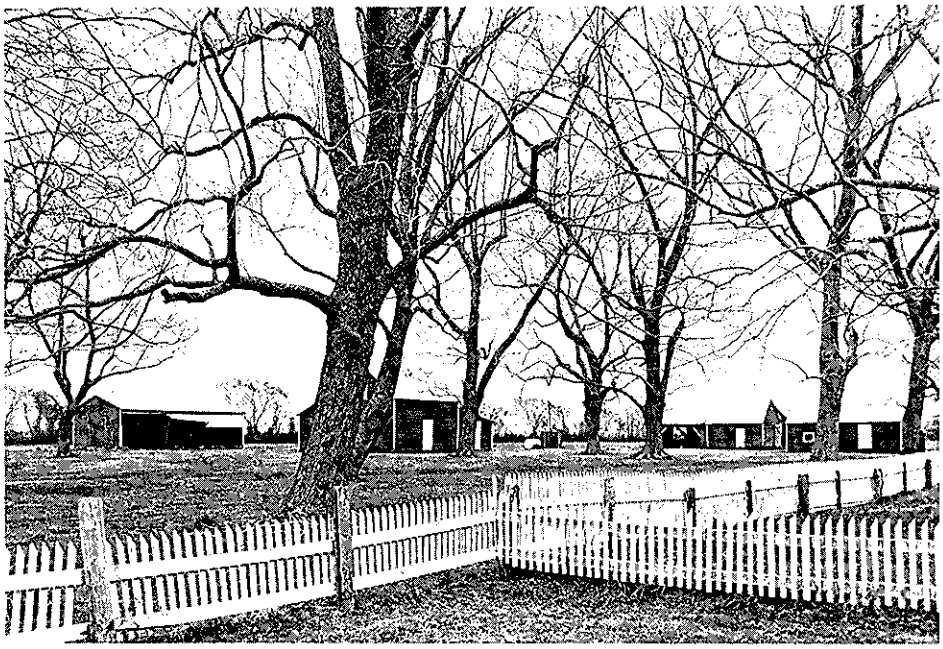
to the occupation and use of the land. Their function, materials, date, condition, construction methods, and location reflect the historic activities, customs, tastes, and skills of the people who built and used them.

Buildings—designed to shelter human activity—include residences, schools, churches, outbuildings, barns, stores, community halls, and train depots. Structures—designed for functions other than shelter—include dams, canals, systems of fencing, systems of irrigation, tunnels, mining shafts, grain elevators, silos, bridges, earthworks, ships, and highways. Objects—relatively small but important stationary or movable constructions—include markers and monuments, small boats, machinery, and equipment.

Rural buildings and structures often exhibit patterns of vernacular design that may be common in their region or unique to their community. Residences may suggest family size and relationships, population densities, and economic fluctuations. The repeated use of methods, forms, and materials of construction may indicate successful solutions to building needs or demonstrate the unique skills, workmanship, or talent of a local artisan.



The corral cluster at Spade Ranch in Sheridan County, Nebraska, contains numerous structures associated with the historic functions of a cattle ranch. These include scales for weighing livestock; pens for sorting, breaking, and branding; and chutes for roping and loading. (David Murphy)

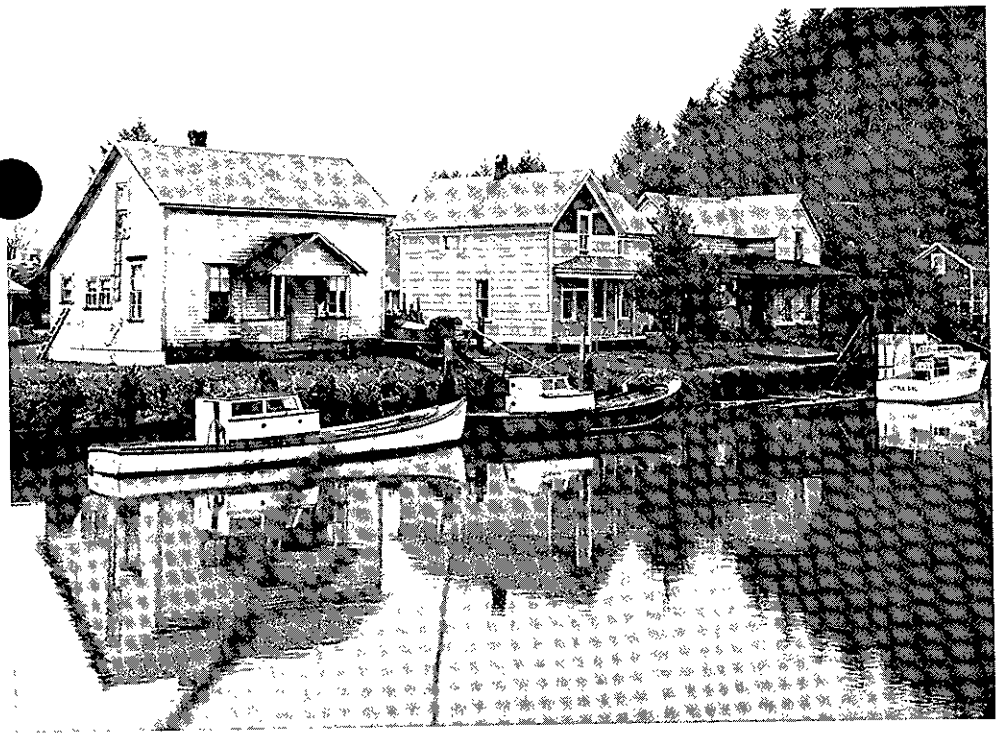


One of the most extensive and intact clusters of agricultural outbuildings in the Lake Landing Historic District, Hyde County, North Carolina, consists of a wash house, outhouse, buggy house, harness shed, chicken house, two barns, and wood fences. (J. Timothy Keller)

9. Clusters: Groupings of buildings, fences, and other features, as seen in a farmstead, ranch, or mining complex, result from function, social tradition, climate, or other influences, cultural or natural. The arrangement of clusters may reveal information about historical and continuing activities, as well as the impact of varying technologies and the preferences of particular generations. The repetition of similar clusters throughout a landscape may indicate vernacular patterns of siting, spatial organization, and land use. Also, the location of clusters, such as the market towns that emerged at the crossroads of early highways, may reflect broad patterns of a region's cultural geography.

10. Archeological Sites: The sites of prehistoric or historic activities or occupation, may be marked by foundations, ruins, changes in vegetation, and surface remains. They may provide valuable information about the ways the land has been used, patterns of social history, or the methods and extent of activities such as shipping, milling, lumbering, or quarrying. The ruins of mills, charcoal kilns, canals, outbuildings, piers, quarries, and mines commonly indicate previous uses of the land. Changes in vegetation may indicate abandoned roadways, homesites, and fields. The spatial distribution of features, surface disturbances, subsurface remains, patterns of soil erosion and deposition, and soil composition may also yield information about the evolution and past uses of the land.

11. Small-scale elements: Small-scale elements, such as a foot bridge or road sign, add to the historic setting of a rural landscape. These features may be characteristic of a region and occur repeatedly throughout an area, such as limestone fence posts in Kansas or cattle gates in the Buffalo River Valley of Arkansas. While most small-scale elements are long-lasting, some, such as bales of hay, are temporal or seasonal. Collectively, they often form larger components, such as circulation networks or boundary demarcations. Small-scale elements also include minor remnants, including canal stones, road traces, mill stones, individual fr trees, abandoned machinery, or fenc posts, that mark the location of historic activities, but lack significance or integrity as archeological sites.



Fishing boats, wharves, canals, and a cluster of dwellings at Skamokawa, Washington, illustrate the important role that salmon-fishing has played along the Columbia River since the mid-19th century. (Jake Thomas)

SKILLS REQUIRED

Examination of a rural area frequently requires the combined efforts of historians, landscape historians, architectural historians, architects, landscape architects, archeologists, and anthropologists. Depending on the area, the specialized knowledge of cultural geographers, plant ecologists, folklorists, and specialists in the history of agriculture, forestry, mining, transportation, and other types of land use may also be of assistance.

To prepare nominations for rural historic landscapes, persons should be able to identify various landscape characteristics during field investigations and should know the terminology used to describe the major processes, uses, and physical components visible in the landscape. They should also be familiar with the historical development of the region where they are working, know how to research appropriate sources, and understand the roles of the specialists listed above.

IDENTIFICATION

An in-depth study is necessary to identify the significant historic properties of a rural area or to determine if the area as a whole is a historic district. An understanding of important aspects of a community, region, or State's historic development and physiography, in the form of historic contexts, helps identify rural areas that merit study and indicates the reasons they may be significant.

The study requires several steps: the history of the area targeted for study is related to local or State contexts, historical records are examined, and existing landscape characteristics are surveyed. The purpose of the study is to gather the information needed to make decisions about the eligibility for the National Register of the entire area or smaller properties within it. The guidance below describes historic resource studies in rural areas; it supplements the general guidelines in National Register Bulletin 24, *Guidelines for Local Surveys: A Basis for Preservation Planning.*

Developing Historic Context

Information about the history and development of the rural area is organized into **historic contexts** based on common themes, periods of time, and geographical areas. A historic context is an important theme, pattern, or trend in the historical development of a locality, State, or the nation at a particular time in history or prehistory. Because rural areas often reflect multiple land uses and physical evolution over many years, they usually relate to more than one historic context.

Themes derive from important aspects of development, such as settlement, dairy farming, railroad transportation, or gold mining. They are related to the specific periods of time and geographical areas that they were influential in shaping, for example, grain production in eastern Washington, 1860 to 1940. Each theme is associated with specific types of historic properties, such as granary complexes or large wheat-growing ranches, that may be eligible for listing in the National Register.

A knowledge of historic contexts can guide the selection of a study area that is likely to possess historic landscape characteristics and contain one or more significant properties, including rural historic landscapes. For example, the knowledge that cherry production played an important role in a State's agricultural economy since the early 20th century, or that reforestation has occurred in 80 percent of a county extensively farmed in the 1840s can lead to the identification of significant cherry-producing areas or reforested farms that have evidence of early land uses and division.

A knowledge of contexts provides a historical focus for conducting a rural study. It helps in determining the appropriate sources for research, survey techniques, professionals to make up the study team, and specialists to consult. It gives team members direction on the kinds of properties they are likely to encounter in the field, the characteristics they should look for and record, and the historical documentation that will be most useful for evaluating significance. It enables them to view landscape characteristics as integral parts of overall economic or social systems rather than isolated features. For example, a drainage ditch is seen as part of an extensive system of waterways that allowed thousands of acres of tidewater to be settled and farmed.

A **written statement of historic contexts** should be developed at the beginning of the study. The statement incorporates or references information about previously identified contexts and documented historic properties. It also documents contexts identified during the initial consideration of the study area. It includes research questions to guide the analysis of landscape characteristics and describes the characteristics that an eligible rural property

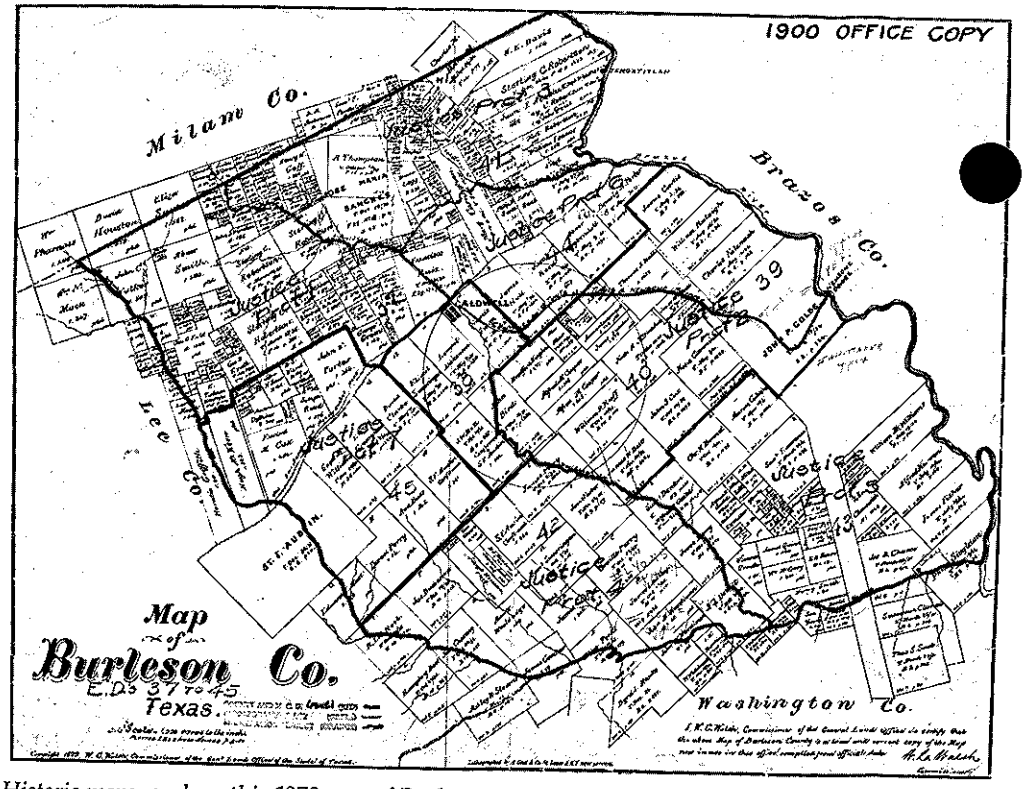
must possess. The statement can be refined, augmented, and revised as information is gathered during identification, as evaluation proceeds, and when National Register forms are completed.

State Historic Preservation Offices, Federal Preservation Officers, and some local governments, are defining historic contexts as part of their historic preservation planning process. These may be a source of comparative and thematic information about patterns of community or regional development, specialized activities, and properties important in the history of a particular State or locality.

Sources on both cultural and natural history should be consulted. Facts about the events, persons, groups, and physical development that shaped an area's cultural identity may be found in State or local histories, archeological studies, or specialized studies on topics such as transportation, ethnic heritage, vernacular architecture, irrigation, wheat farming, mining, or hardwood lumbering. Historic maps, plats, and land records provide valuable information about historic boundaries and ownership, circulation networks, clusters, and land uses. Studies on physical geography provide information about topography, soils, climate, natural vegetation, and water resources that determined land uses, circulation networks, and spatial organization. Ecological studies may address hydrology, climate, patterns of vegetation, and biotic communities that have influenced land uses, vegetation, and responses to the environment.

The eleven **landscape characteristics** relate to historic contexts in several ways. The four processes—land uses and activities, patterns of spatial organization, response to the natural environment, and cultural traditions—directly reflect themes on which contexts are based. Knowledge of a region's settlement patterns, natural topography, cultural influences, and historic land uses, provides an understanding of how a region was organized and developed historically. For example, waterways in the Colonial period influenced settlements around natural harbors and at the fords and falls of rivers, and Hispanic traditions of land division in New Mexico created a recurring pattern of long narrow fields.

Landscape processes explain how communities were structured and divided into smaller units based on ownership, land use, geography, politics,



Historic maps, such as this 1879 map of Burleson County, Texas, were used by the U.S. Census Bureau to determine district boundaries. These maps are now among the cartographic records of the National Archives. Local libraries, state archives, and published atlases are other good sources of historic maps. (Record Group 29, National Archives)

social custom, and economic needs. This information is a logical basis for defining **property types** that existed in a particular geographical area during a period of history, for example, a square-mile township, a 10,000-acre ranch, or a 160-acre farm. Rural property types can be described by the landscape characteristics and the features representing them.

Property types meeting the definition of rural historic landscape—such as a village cluster with outlying farms—become manageable units for survey, evaluation, and National Register listing. Landscape characteristics not only define the types, but also explain their interrelationship and evolution from a historical perspective. As survey and research proceed, the characteristics become the hallmarks of historic properties that should be considered for National Register listing.

Conducting Historic Research

Useful sources for studying the history of rural areas include: historic maps and plats, historic photographs, aerial photographs, census records, local and county histories, federal land-grant records, homestead papers, deeds and wills, diaries, commercial records, newspapers, farm accounts and receipts, soil surveys, vegetation surveys, oral histories, local stories and folklore, and family records.

Selection of sources, for both general information and references to specific properties, should be based upon the statement of historic context and the character of the rural area under study.

Historic maps indicate the location of historic roads, settlements, mills, ports, quarries, and meeting houses. Land records, plats, deeds, and wills indicate the historic ownership of land, patterns of land division, and historic boundaries of properties. Historic photographs indicate changes in land use practices, land division, vegetation, and clusters. Historic periodicals may help date developments in technology, such as fencing materials, dry-land farming, or irrigation techniques, that have affected the division or character of land. In addition to original applications, homestead records at the Washington National Records Center (Suitland, Maryland) include the *proofs* filed after settlement to fulfill the terms of ownership; these describe early land uses, improvements, and buildings. Changes in spatial organization can be observed by comparing aerial photographs of various dates. Population schedules of the U.S. Census provide demographic

NATIONAL REGISTER PROCESS

Identification

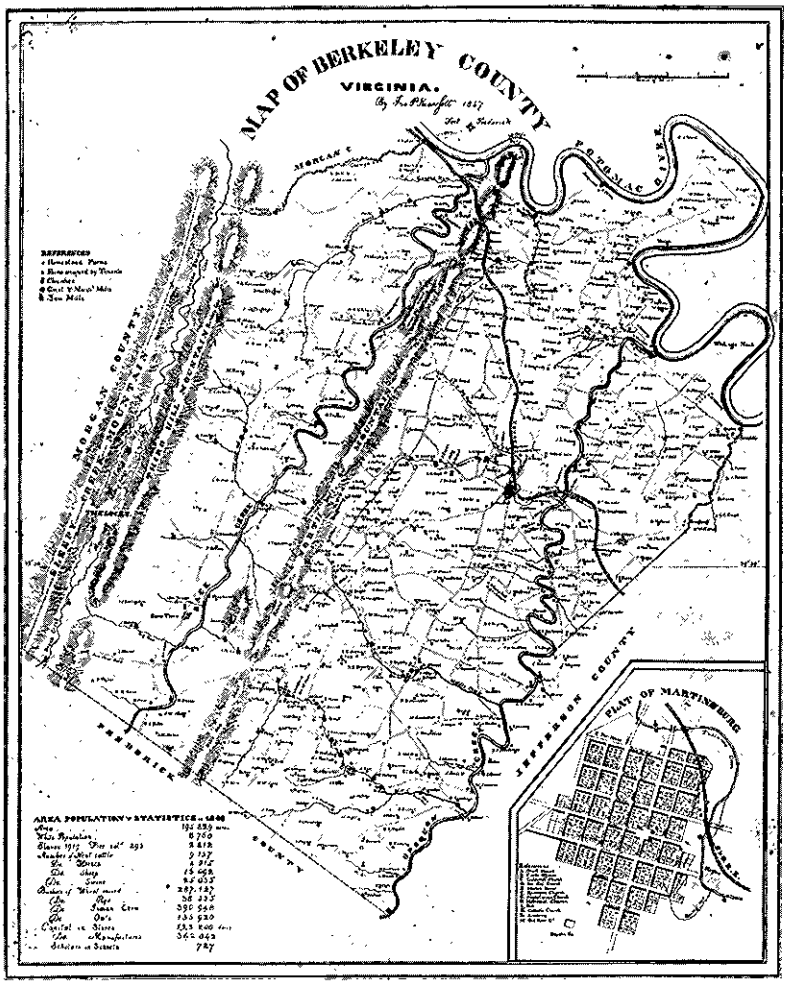
- *Develop historic context*
- *Conduct historic research*
- *Survey the landscape*

Evaluation

- *Define significance*
  1. *Apply the National Register criteria*
  2. *Select areas of significance*
  3. *Define period of significance*
- *Assess integrity*
  1. *Apply qualities of integrity*
  2. *Identify changes and threats to integrity*
  3. *Classify contributing and noncontributing resources*
  4. *Weigh overall integrity*
- *Select defensible boundaries*
  1. *Define the historic property*
  2. *Decide what to include*
  3. *Select appropriate edges*

Registration

- *Complete National Register form(s)*
- *Follow registration procedures in 36 CFR Part 60*



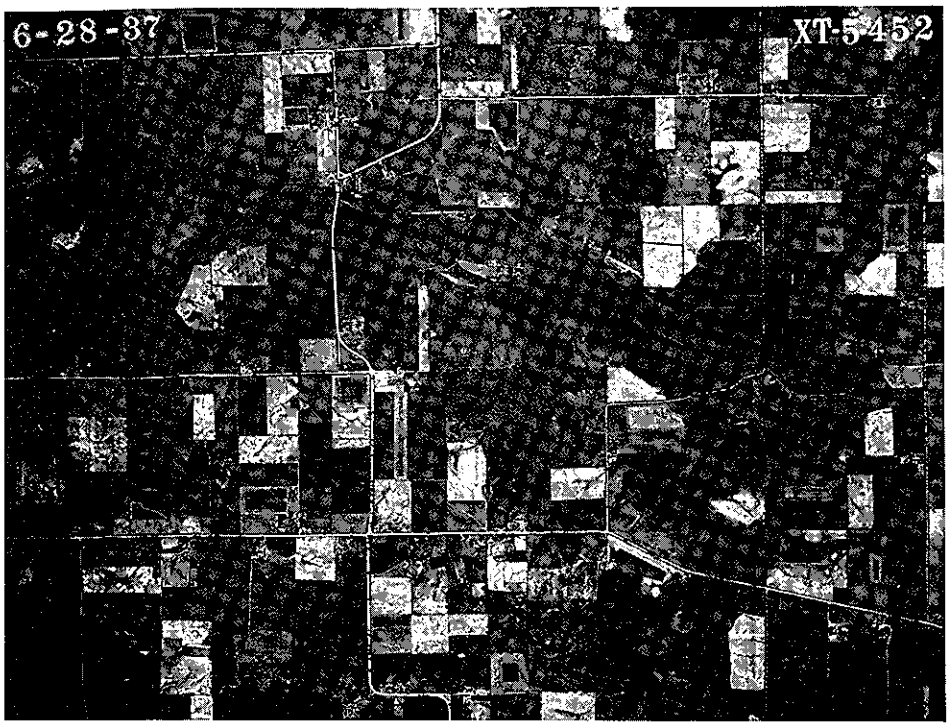
An 1847 map of Berkeley County, Virginia (now West Virginia), indicated land ownership, roads and waterways, natural features, and county boundaries. It also provided statistics on acreage, population, crop production, livestock, schools, and manufacturing capital. (Record Group 77, National Archives)

information, such as the size of households, occupations, and ethnic associations. Also, census records for agriculture and industry provide data and statistics on the historic land uses, ownership, and productivity of an area. Agricultural census records may also indicate the kinds and numbers of livestock on farms, and whether they were fenced or at free range.

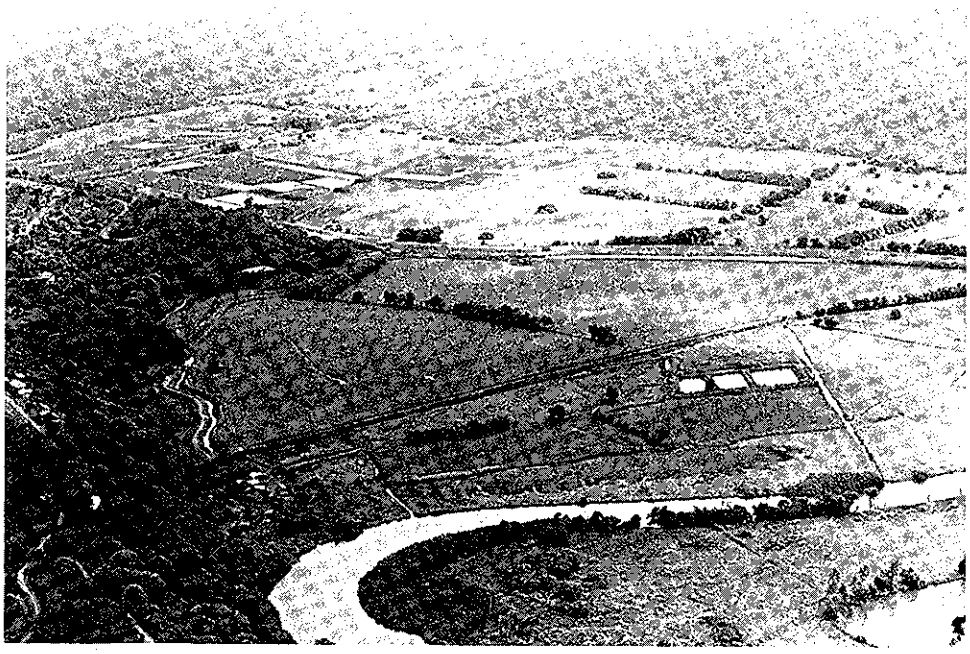
Agricultural practices generally vary from state to state, and region to region. Agricultural periodicals, such as the *Michigan Farmer* or *Connecticut Valley Farmer and Mechanics,* were published state by state or regionally beginning in the early 19th century. State colleges of agriculture, established under the Morrill Act of 1862, and experiment stations first established in 1887 became valuable sources of information for farmers on topics of science, agriculture, and even construction methods for farm buildings. Similarly, mining periodicals and the publications of mining schools, in many states, provide information about scientific and technological advances that affected mining activities.

Beginning in the 1930s, the U.S. Soil Conservation Service assumed an active role in shaping American farms by recommending the planting of wind breaks, revitalization of soils, contour plowing, and other techniques. Reports, pamphlets, and bulletins of federal agricultural programs may be found in university libraries and archives and the National Agricultural Library of the U.S. Department of Agriculture (Beltsville, Maryland). Aerial photographs and soil maps are available from the U.S. Department of Agriculture, National Archives, EROS Data Center of the U.S. Geological Survey, and private air photo services (see **Sources of Aerial Photographs**). Records of other federal agencies in the National Archives, including those of the Corps of Engineers, Bureau of Mines, Bureau of Fisheries, Coast Guard, and Forest Service, also provide information on rural land uses and activities.

Oral history is often essential. Local farmers, foresters, mining engineers, and extension agents are often valuable sources of information about the agriculture, silviculture, or mining of a particular region. Onsite interviews with local farmers may provide insight into how a farm has been managed and what changes have occurred in the past 20 to 50 years. Other longterm residents, including merchants, teachers, librarians, and town officials, may recollect events or activities related to



In 1935, the Soil Conservation and Agricultural Stabilization and Conservation Services began recording rural areas through aerial photography. A 1937 photograph of South Lima Township, Washtenaw County, Michigan, shows a typical midwestern pattern of farmyard clusters, roads, orchards and fields, and wetlands. (Record Group 145, National Archives)



Aerial photography is a valuable tool for surveying large rural areas. A recent aerial view of Hanalei, Hawaii, shows the organization of taro fields, placement of irrigation ditches, system of roads, waterways and mountains, general areas of vegetation, and location of clusters. (Robert Z. Melnick)

changing community patterns. Information about current vegetation and agricultural practices is available from the agricultural extension service, State experimental stations, and plant ecologists and other scientists in universities and State government.

Surveying the Landscape

An onsite survey is essential in gathering information about a rural area, its characteristics, and condition. The chart on pages 15-18 provides a convenient checklist of the landscape characteristics that can be used in the field. The boundaries of the survey area should be based on a knowledge of historic property types, as well as current planning needs. Field investigations should be directed at identifying existing landscape characteristics and determining the extent to which historic properties and characteristics remain intact.

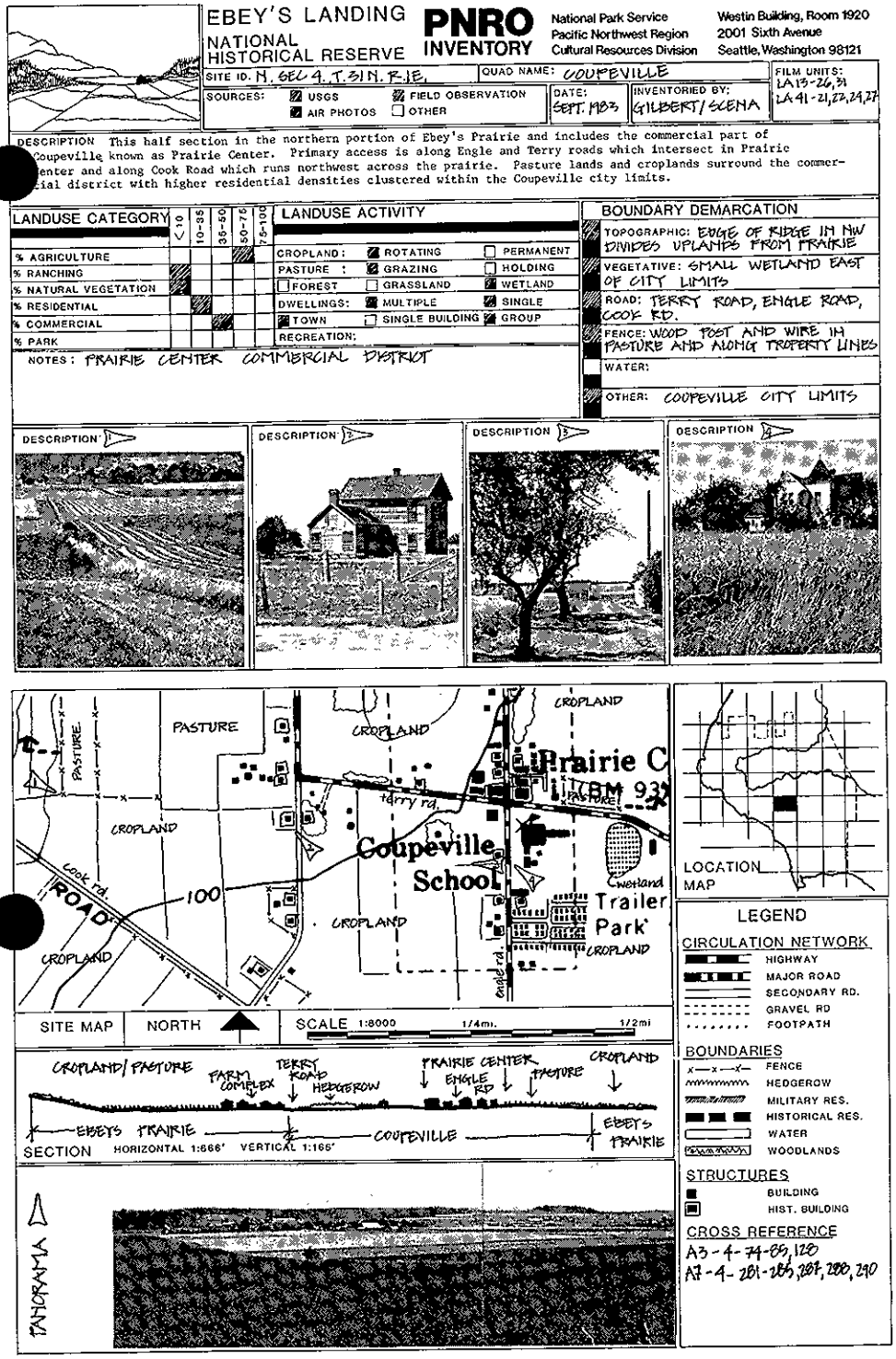
The amount of documentation to be collected for each characteristic depends on its relative size, scale, and importance. The statement of contexts should be used as a guide for determining which characteristics are most important given the area's primary activities, associations, and period of development. If, for example, canals played a vital role in the region's early 19th century development, then locks, towpaths, canal sections, natural waterways, and associated buildings should be given particular attention. Landscape characteristics meeting the National Register definitions of building, site, structure, and object, furthermore, require classification as contributing or noncontributing and must be located on a sketch map that will accompany the National Register form.

To view a rural area from various perspectives and observe landscape characteristics, the survey team should:

- travel all roadways;
- gain access to as much acreage as possible, on foot or by car, horse, bicycle, boat, or other means appropriate to study area;
- cover fields, orchards, forests, mines, waterways, pastures, and open range; and
- examine abandoned roadways, land use areas, and homesites, as well as those still in use.

Surveyors should be prepared to take photographs and make detailed notes and sketch maps in the field. They should be acquainted with the general history of the area, including major land uses, important persons and events, historic property types, and the landscape characteristics that are likely to exist. They should be equipped with maps and photographs from various time periods, as well as current topographic and base maps, for reference during field investigations. On site, surveyors should:

- describe and mark on a sketch map major natural features, archeological sites, buildings, bridges, outbuildings, roadways, waterways, orchards, fields, pastures, quarries, mining shafts, and boundary demarcations;



Form used to survey the 17,000-acre Ebey's Landing National Historical Reserve in Washington recorded landscape characteristics, percentage of land uses, types of land use activities, natural topography, types of vegetation, roadways, fences, and buildings and structures. Each form covered a half-section (320 acres) of the USGS topographic grid and was supplemented by a panoramic photograph, representative photographic views, a site map, and a sectional diagram. (Pacific Northwest Regional Office, National Park Service)

- identify vegetation that is predominant or related to land uses;
- date features as accurately as possible (they can be verified by historical research before or after field investigation);
- record the condition of characteristics, noting the evidence of historic field patterns, roadways, or boundary markers; deteriorated and altered buildings and structures; ground disturbances; new land uses and construction; age and condition of vegetation; abandoned fields or roads; reforested areas; relocated farm structures;
- note visible changes in the landscape, by comparing historic and contemporary views provided by maps, illustrations, and photographs. Indicate changes to the historic boundaries of properties due to subdivision, consolidation, growth, or abandonment;
- relate characteristics to the statement of context and historical data, by associating existing features with specific historic activities, land uses, persons, customs, and periods of time; and
- note any characteristics or processes requiring further research.

Field observations should be recorded in a standard format that can be readily used for evaluation, registration, and planning. Landscape characteristics as well as categories of information for buildings, engineering structures, districts, and archeological sites should be included. To facilitate recording landscape characteristics, the survey area should be divided into geographical units, perhaps based on the boundaries of properties under single ownership, or on quarter or half sections of United States Geological Survey (USGS) topographical maps.

Aerial surveys are useful for examining large tracts of land. Aerial views can help determine the spatial relationships among natural features, areas of land use, vegetation, waterways, roadways, and buildings and structures. When photographed at appropriate times of year, aerial views may reveal details such as stone walls or ruins that may otherwise be obscured by foliage or dense vegetation. Aerial surveys are most helpful in identifying field patterns and land division, but they are of little help in describing the condition of individual structures and buildings. Aerial photographs taken with infrared film distinguish plant materials of differing types and age, and often detect abandoned roads, buried walls, and

SUGGESTIONS FOR COMPLETING A RURAL SURVEY

1. Be comprehensive both in documentary research and site observations. Important information may be found in state and county offices, but also in local historical museums, in family collections, or through personal recollections. The physical evidence present in the landscape itself is an important source of information.

2. Use the statement of historic contexts as a guide for identifying historic properties and judging what features require the greatest attention and contribute most to historic significance. Do not hesitate to change, refine, and add to the statement as the survey proceeds. Early ideas help guide and shape further investigations.

3. Be well equipped as you enter the field with both a knowledge of the history of the area and personal tools such as maps, aerial photos, sketch pads, markers, note pads, cameras, compasses, and binoculars. Being ready *physically* may be just as important as being well-prepared intellectually. Necessities such as gasoline, water, or food are not always readily available in rural areas. Field work may require special outfitting and provisions, such as hiking boots, rain gear, or insect repellant.

4. Be sensitive to ongoing rural activities and the rights of property owners. Receive permission before entering private land. Inquire about unsafe conditions or areas that are *off-limits,* such as newly planted fields, animal pens, uncovered wells, open mining shafts, sink holes, traps, poison ivy, or potentially dangerous animals—domestic or wild. Close gates behind you, and take care not to interrupt working operations.

5. Listen to the people who know the landscape. Talk with people, try to understand the history of the place from the viewpoint of the people who live and work there. Have specialists in aspects of agriculture, mining, or local history and ecology accompany you in the field; they can provide important insights.

6. Keep careful records of photographs, maps, notes, ideas, and thoughts. Record the subject and vantage point of each photograph, and key the information, if possible, to a map or aerial photograph while you are in the field since this information may be difficult to recollect back in the office. Also record the film roll number, frame number, date, and photographer.

7. Remember, always, landscapes change. Historic photographs are good indicators of the ways things were and can be used to compare changes over time. Do not expect to find any property in its historic condition. Look for the landscape of the past as you would expect it to appear today. Trees may be larger, ground cover may be different, buildings may have been moved, fences may be lost or in relic condition, and farming techniques may have changed.

8. Do not rely upon any single source. Check and counter-check any information. Eyewitness accounts are not always accurate and historical photographs can sometimes be misleading. Judge the value of each historical photograph; it may record a moment in time, but not necessarily an important one.

refuse sites not visible from the ground.

Computerized Geographic Information Systems (GIS) are useful in analyzing data about rural land uses, viewsheds, clusters, and vegetation. Aerial photographs, historic maps, and current maps can be compared to determine the nature and extent of land use changes through time. GIS can create a standard scale for maps and photographs having different scales. Topographic information can be plotted with rural landscape characteristics to determine spatial organization and visual relationships by using typical operations such as map overlays, distance calculations, and interpolation. These operations can also be used to define the boundaries of National Register properties and to assess the visual impact of land use changes.

EVALUATION

Evaluation entails three major activities: defining significance, assessing historic integrity, and selecting boundaries. Information gathered through historic research and field survey is related to the study area's historic contexts to determine the extent to which identified properties possess the characteristics of important rural property types. Significance, integrity, and boundaries depend upon the presence of tangible landscape features and the evidence of the processes, cultural and natural, that have shaped the landscape.

Historical facts and survey data should verify the presence of significant historic landscape characteristics and the condition of the properties that made up a community or region historically. For example, the historic patterns of an agricultural community subject to increasing suburbanization may be evident in eight farms having at least 75 percent of their historic acreage, a substantial number of historic buildings, and compatible agricultural use.

Patterns of change, within a regional or local context, may affect significance. For example, in a six-county region of a midwestern State, typical farmsteads contain similarly arranged clusters of corncribs, sugar houses, wellhouses, and poultry pens; fruit orchards of a standard size; maple-lined roadways, and fenced pastures. As changing agricultural methods and new land uses destroy more and more of these characteristics, isolated communities and individual farmsteads retaining the historic configuration may become eligible for National Register listing.

Properties relating to the same historic contexts may be compared to identify those eligible for listing in the National Register and to determine the relative level—local, State, or national—which the property is significant. For example, several communities in Nebraska may have local significance for their association with Russian settlement; when they are compared, only those with a high degree of integrity, exhibited in intact field patterns, boundary demarcations, roadways, clusters of vernacular structures and buildings, and continuing traditional activities, have statewide importance.

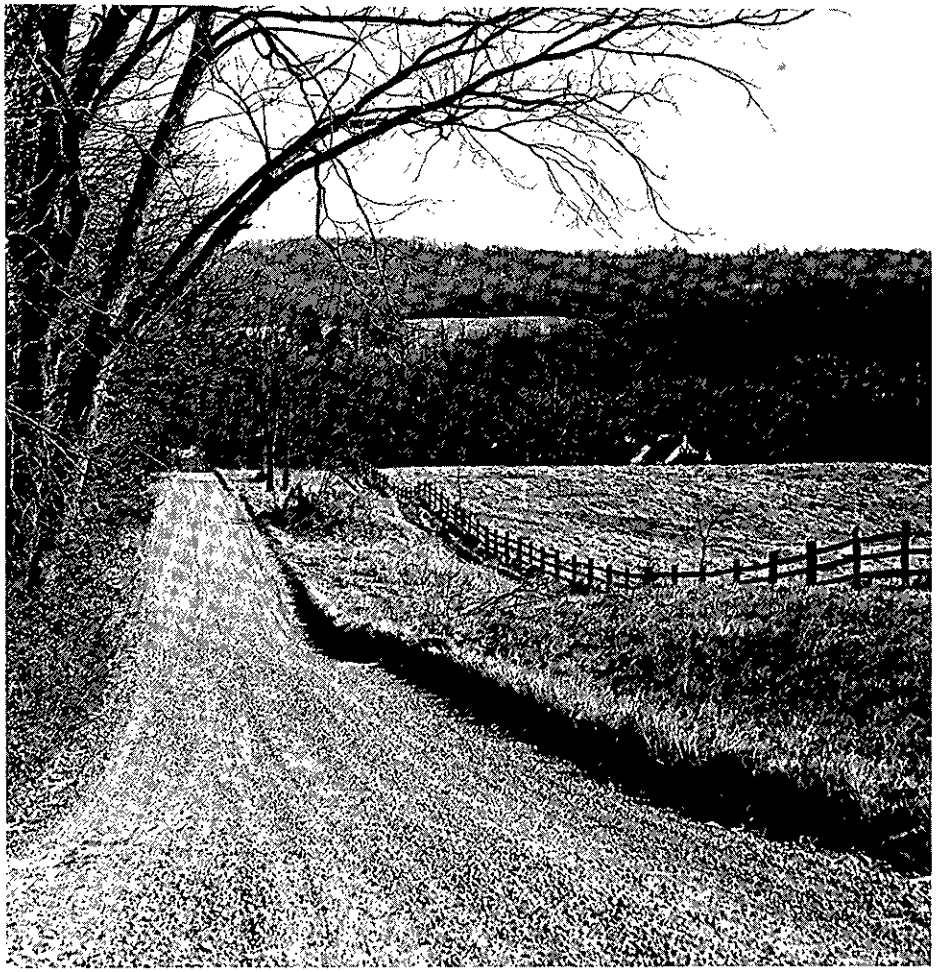
Defining Significance

An understanding of significance is paramount. It is necessary, first, to determine whether a rural property meets the National Register criteria, and, second, to guide decisions about integrity and boundaries. Historical facts are examined to define those periods of time and aspects of development in which a specific property contributed to the broad themes, or historic contexts, important to its community, State, or the nation.

1. Apply the National Register Criteria

A property must possess significance in at least one of the four aspects of cultural heritage specified by the National Register criteria. Because of their complex evolution and the layering of subsequent land uses without destroying previous ones, many rural landscapes have significance under several criteria.

The criteria can be applied to the study area as a whole and to smaller properties within it. Judgements of significance are made by relating facts about the history and existing landscape characteristics of the study area to the themes and property types recognized as important by the area's historic contexts.



Integrity of feeling is a composite of several factors—association, location, design, materials, and setting. Reflecting many years of local use, a country road in Goose Creek Historic District in Loudoun County, Virginia, retains its historic location, narrow width, unpaved surface, incidental vegetation, pastoral setting, and rural feeling. (Virginia Department of Historic Resources)

CRITERION A

Criterion A applies to properties associated with events that have made significant contributions to the broad patterns of history. Some events may have been brief, such as a battle or treaty signing. Others may be activities that spanned long periods of time and underwent substantial change, such as dairy farming or silver mining.

Criterion A recognizes the significant contributions that rural properties have made through diverse events and activities, including exploration, settlement, ethnic traditions, farming, animal husbandry, ranching, irrigation, logging, horticulture, fishing, fish culturing, mining, transportation, and recreation. Village and farm clusters, fields and other land use areas, roadways, natural features, vegetation, and boundary demarcations may together illustrate important events and activities that led to a community's development.

Although significant events are often closely related to land uses, historic significance should not be equated with general land uses or the functions of specific buildings or structures. A rural agricultural community may be more important for the role its founders played in settlement and ethnic heritage, than for the logging, farming, or fishing activities that sustained its economy. A canal system may have significance for its impact on the settlement and agricultural development of a region but have little importance in the history of transportation routes.

Many rural properties contain landscape characteristics related to agricultural land uses and practices. Eligibility for significance in agriculture on a local level depends on several factors. First, the characteristics must have served or resulted from an important event, activity, or theme in agricultural development as recognized by the historic contexts for the area. Second, the property must have had a direct involvement in the significant events or activities by contributing to the area's economy, productivity, or identity as an agricultural community. Third, through historic landscape characteristics, the property must cogently reflect the period of time in which the important events took place.

CRITERION B

Criterion B applies to properties associated with the lives of persons significant in our past. Such persons may

have, by their success, talent, or ingenuity, contributed to the historic development or economic prosperity of their community, for example, a prominent rancher who successfully employed newly available irrigation for citrus-growing in the Southwest.

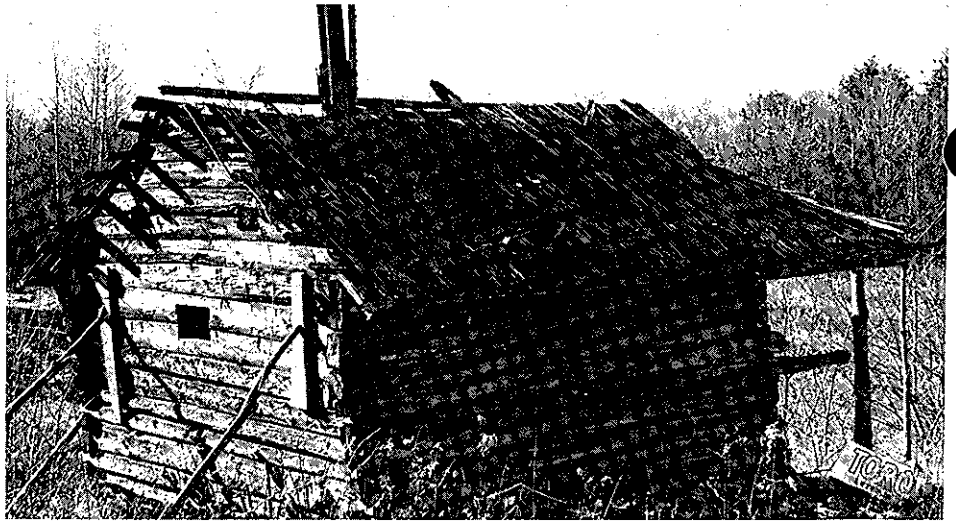
Significance under criterion B is often unrelated to historic uses. This is particularly true of farms that were the home of political leaders, writers, poets, artists, or industrialists. For example, *Connemara,* in Flat Rock, North Carolina, is significant as the home where poet Carl Sandburg spent the last 22 years of his life and wrote much of his poetry. Historic landscape characteristics are important in establishing the historic association and setting of these properties.

Properties, such as *centennial* farms, are recognized in many States for the ownership or contributions of one family over a long period of time. These properties qualify for National Register listing, under criterion B, **if the accomplishments of one or more family members stand out.** (The cumulative accomplishments of several individuals or the continuing operation of the farm over several generations may meet criterion A).

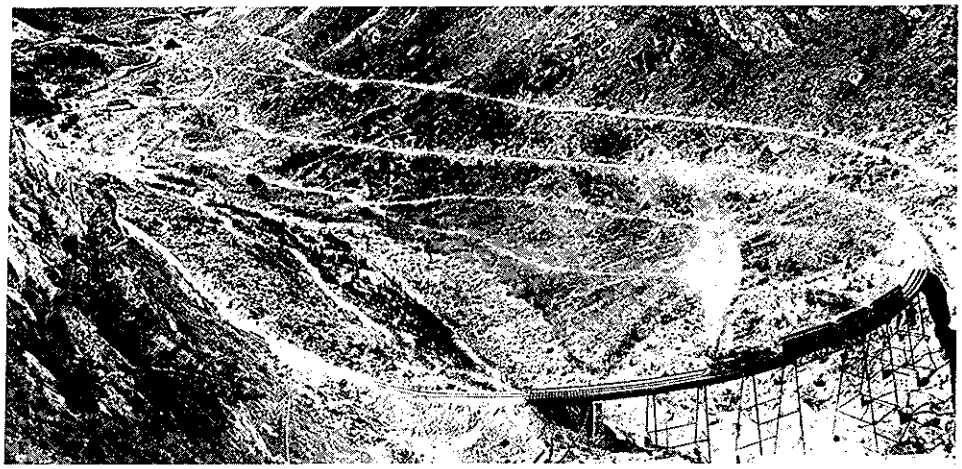
CRITERION C

Criterion C applies to properties embodying the distinctive characteristics of a type, period, or method of construction; possessing high artistic values; or representing a significant and distinguishable entity whose components may lack individual distinction.

Significant physical qualities may be present in a number of ways. The organization of space, visible in the arrangement of fields or siting of farmsteads, may illustrate a pattern of land use significant for its representation of traditional practices unique to a community. Buildings and outbuildings, whether high-style or vernacular, may be distinctive in design, style, or method of construction, and be representative of historic local or regional trends. Similarly, an irrigation or transportation system may reflect an important innovation in engineering that fostered a community's prosperity. Rural landscapes may also contain smaller, designed landscapes that have importance. These may include a formal garden having high artistic value or a farmyard laid out according to a professionally designed plan such as those published in agricultural journals and State extension service bulletins.



Homesteaded in the 1890s, the 40-acre Hanka Farm on the Keweenaw Peninsula, Michigan, retains its early organization. Significant features include a curvilinear indrive, abandoned apple orchard and fields, and numerous log buildings. Within one of the earliest and largest Finnish rural communities in the United States, the farm reflects cultural traditions and building types, such as the savusauna *or smoke sauna, that were transferred from northern Europe and adapted to the climatic, physical, and social conditions of the western Great Lakes region.* (Alan C. Pape)



Silver-mining spurred development along Clear Creek between Georgetown and Silver Plume, Colorado, in the 1870s and 1880s. By 1900, mine entrances, the ore-processing mill, and an extensive underground network of tunnels and shafts lay abandoned. The Georgetown Loop Railroad, constructed in 1877 to transport silver ore and characterized by dramatic cuts in grade, however, continued to operate as a popular tourist attraction. (William H. Jackson, State Museum of Colorado)

DOCUMENTATION OF LANDSCAPE CHARACTERISTICS

Landscape characteristics are the tangible evidence of the activities and habits of the people who occupied, developed, used, and shaped the landscape to serve human needs; they may reflect the beliefs, attitudes, traditions, and values of these people.

This chart summarizes the kinds of data, gathered through field survey and historic research, to be described on National Register forms. Certain landscape characteristics require location, dating, and detailed description, while others may be described collectively as they contribute to the general character and setting of the landscape. Generally those meeting the definitions used in the National Register for ***buildings, structures, objects,*** and ***sites,*** require the most detail. An asterisk * identifies those characteristics that should be located on sketch maps accompanying National Register forms. Preservation planning and management may call for additional documentation, for example, a detailed site plan of types of vegetation.

The features within a landscape are the physical evidence of past uses, events, and associations. They may reflect a variety of activities occurring at one time, or evolving functions in different periods of time, for example, orchards planted sequentially as a farm's productivity increased. They may or may not be historic, or contributing to the significance for which the landscape meets the National Register criteria. Although the larger and most prominent characteristics require the greatest documentation, those, less prominent, help define the landscape's setting and character, and should not be overlooked. The characteristics of a landscape interrelate and may, in some cases, overlap, for example, cultural traditions may be evident in structures and buildings, spatial organization, vegetation, and clusters.

Characteristics	Features	Documentation
Land Uses and Activities	Fields, pastures, orchards, open range, terraces, commons, cemeteries, playing fields, parks, mining areas, quarries, and logging areas.	• Describe principal and significant land uses. • Identify the tangible features related to land uses by type, general location, dates of use, condition, and related vegetation. • Describe historic processes related to land use, such as mining, irrigation, lumbering, contour farming, or quarrying. • Point out obsolete historic operations, ongoing traditional practices, or modern adaptations related to significance. • Identify threats to integrity, and indicate their location, extent, and impact on historic integrity. * Identify areas having **major importance or predominance,** by location and type, and classify as historic or nonhistoric.

Characteristics	Features	Documentation
Patterns of Spatial Organization	Overall pattern of the circulation networks, areas of land use, natural features, clusters of structures, and division of property.	• Describe any patterns characterizing the landscape as a whole. • Relate patterns to land uses and activities, responses to nature, and cultural traditions. • Relate spatial organization to components, including vegetation, boundary demarcations, and circulation networks. • Describe and locate any areas where historic spatial organization is particularly visible or substantially lost.
Response to the Natural Environment	Adaptations to climate and natural features seen in land use, orientation of clusters, construction materials, design of buildings, and methods of transportation.	• Describe the physical environment and ecological systems of the region. • Describe the kinds of the features that have resulted from cultural adaptations or responses to the natural environment. * Identify natural features that have **major importance** or **predominance,** by name, type, and location.
Cultural Traditions	Land use practices, buildings and structures, ethnic or religious institutions, community organization, construction methods, technology, trades and skills, use of plants, craftsmanship, methods of transportation, and patterns of land division.	• Describe land use practices, patterns of land division, institutions, building forms, workmanship, stylistic preferences, vernacular characteristics, use of materials, and methods of construction that have been influenced by cultural tradition. • Identify the sources of cultural influences, and name specific individuals, such as artisans, builders, community leaders, or farmers, responsible for perpetuating or establishing such traditions. • Describe the kinds of features resulting from or exhibiting cultural traditions, and name, date, and locate the primary features reflecting such traditions.
Circulation Networks	Paths, roads, streams, or canals, highways, railways, and waterways.	• Describe the principal forms of transportation and circulation routes that facilitate travel within the landscape and connect the landscape with its larger region. • Name, date, and describe principal or significant examples. * Identify **principal** roadways and other transportation routes, by name, type, and location, and **classify** as contributing or noncontributing.

Characteristics	Features	Documentation
Boundary Demarcations	Divisions marked by fences, walls, land use, vegetation, roadways, bodies of water, and irrigation or drainage ditches.	• Describe the ways in which land ownership and activities are physically divided within the landscape, and discuss the differences between historic and current practices. • Relate boundary demarcations to overall spatial organization and regional patterns of land division. • Identify the predominant features that mark divisions within the landscape and locate important historic ones.
Vegetation Related to Land Use	Functional and ornamental trees and shrubs, fields for cropping, treelines along walls and roads, native vegetation, orchards, groves, woodlots, pastures, gardens, allées, shelter belts, forests, and grasslands.	• Describe principal, predominant, and significant vegetation, by type, condition, age, use, and general or specific location. • Discuss changes that have occurred in vegetation since the period of significance. • Relate the function, massing, and details of vegetation to land uses and activities, cultural traditions, and response to the natural environment. • For rotated crops, identify the general types of crops that might be grown over a period of several years.
Buildings, Structures, and Objects	**Buildings:** residences, schools, churches, outbuildings, barns, stores, community halls, and train depots. **Structures:** dams, canals, tunnels, mining shafts, grain elevators, silos, bridges, earthworks, and highways. **Objects:** monuments, threshers, and cider mills.	• Describe the kinds of buildings, structures, and major objects present. • Relate the function, form, materials, and construction of buildings, structures, and objects to land uses and activities, cultural adaptations, and response to the natural environment. • Identify patterns and distinctive examples of workmanship, methods of construction, materials, stylistic influences, and vernacular forms. • Describe the condition of historic buildings and structures, and nature of additions and alterations. • Describe the principal and most important buildings, structures, and objects, by name, type, location, date, function, condition, methods of construction, materials, stylistic influence, and, if known, builder. • Discuss the impact of nonhistoric construction and alterations on historic integrity. * Identify **all** buildings and structures and principal objects, by location, name or number, and type, and **classify** as contributing or noncontributing.

Characteristics	Features	Documentation
Clusters	Village centers, farmsteads, crossroads, harbors, and ranching or mining complexes.	• Describe the clusters, historic and nonhistoric, found in the landscape, by general location, function, scale, spatial arrangement, density, condition, and composition. • Discuss any patterns visible in the arrangement, location, or presence of clusters, and relate these to spatial organization, cultural traditions, response to the natural environment, and land uses and activities. • Identify principal, representative, or important examples, by name, type, function, and location. • Discuss the impact of nonhistoric development on historic integrity. * Identify **all** buildings, structures, and principal objects comprising clusters, by type and location, and **classify** as contributing or noncontributing.
Archeological Sites	Road traces, reforested fields, and ruins of farmsteads, mills, mines, irrigation systems, piers and wharves, and quarries.	• Describe the types of archeological sites, their cultural affiliations, and the period of history or prehistory represented. • Indicate the extent of archeological sites within the landscape, their distribution, environmental setting, and general location. • Identify principal sites, by number or name and location, and describe surface and subsurface features, condition, disturbances, and any excavation or testing. * Identify **all** archeological sites, by site number or name, location, surface and subsurface characteristics, and condition.
Small-scale Elements	Foot bridges, cow paths, road markers, gravestones, isolated vegetation, fence posts, curbstones, trail ruts, culverts, foundations, and minor ruins.	• Describe the kinds of elements that collectively add to the landscape's setting, by type, function, general location, and approximate date. • Relate these elements to historic patterns of land use, spatial organization, cultural traditions, boundary demarcations, circulation networks, or vegetation. • Discuss the extent to which the loss of these has cumulatively affected historic integrity.

Although reforested, the abandoned fields and roads of Harrisville, New Hampshire, provide evidence of historic land division, agricultural practices, and social customs associated with the community's settlement and pre-industrial history. Stone walls, changes in vegetation, patterns of erosion and deposition, soil content, and remnant foundations are of primary interest to landscape archeologists who are examining patterns of land use or occupation for which there is little written documentation. (Duffy Monahon)

LANDSCAPE ARCHEOLOGY

It is relatively simple to determine when a building or structure has lost its structural integrity and any potential significance lies in its value as an archeological site. More difficult, however, is deciding when to treat a landscape as an archeological site. Abandoned land, when undisturbed by later development or construction, may retain surface or subsurface features that can provide information important to an understanding of historic or prehistoric activities. When land historically cleared and cultivated is reforested, visual qualities of the historic period are lost, yet landscape characteristics, such as walls, ditches, roadways, streams, and canals, may still be in place and capable of indicating important patterns of land use or organization.

Landscape archeology may involve the examination of characteristics, such as walls, road remnants, trail ruts, foundations, and refuse sites. It may also draw information from observable patterns of erosion and vegetation. A number of techniques may be used: analysis of soil statigraphy; analysis of pollens and other sediments through flotation and core sampling to determine planting patterns; surficial surveys to identify remnant vegetation, boundary demarcations, and evidence of land use; analyses of existing vegetation or plant succession; remote sensing to detect buried walls, foundations, and roadways; and excavation to uncover buried irrigation systems, canals, or planting beds.

Assessments of significance are based on a well-formulated research design that considers the historic contexts for the study area. The research design needs to indicate the landscape characteristics that are represented in the site and the information the site is likely to provide about the landscape characteristics that shaped an area in history or prehistory. It must explain how the information will add to an understanding of the property. The lack of other sources of information, such as written records or intact properties, generally increases the importance of an archeological site.

Significance may be based on vernacular patterns of land use and division, architecture, circulation, and social order. These patterns may indicate regional trends or unique aspects of a community's development. An important pattern may be represented by a single farm, or be repeated by adjoining farms within a township or county. The recognition of important patterns may require in-depth primary research, multidisciplinary study, the judgement of experts, and comparisons with survey data from other areas. Landscape characteristics may be used to define these patterns and to establish a measure of integrity, as a guide for identifying eligible properties that illustrate these patterns.

CRITERION D

Criterion D applies to properties that have yielded or are likely to yield, information important to prehistory or history. Surface or subsurface remains may provide information about agricultural or industrial land uses, settlement patterns, or ceremonial traditions. For example, the Hohokam-Pima Irrigation Canals in Arizona have provided information about the agricultural practices and engineering capabilities of the Hohokam culture from 1000–1450 and about the Pima Indians' reuse of the canals to irrigate crops in the 17th century.

Vegetation and landscape features may themselves provide archeological evidence. Pollen and soil studies, remote-sensing, and an examination of vegetation may provide valuable information about past uses or activities. The abandoned roadways, reforested fields, remnant stone walls, and farmstead clusters in Harrisville, New Hampshire, for example, indicate significant patterns of 18th and early 19th century land division and diversified agriculture. For additional guidance on historic archeological sites, see Bulletin 36, *Historical Archeological Sites: Guidelines for Evaluation.*

CRITERIA CONSIDERATIONS

National Register **criteria considerations** require some rural properties to meet additional standards. These include properties owned by religious organizations, cemeteries, commemorative properties, reconstructed farms, ceremonial sites, grounds associated with birthplaces or graves, and areas predominated by landscape characteristics less than fifty years of age.

THE NATIONAL REGISTER CRITERIA

The quality of *significance* in American history, architecture, archeology, culture, and engineering is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. that have yielded, or may be likely to yield, information important in prehistory or history.

Criteria Considerations (Exceptions): Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years *shall not be considered eligible* for the National Register. However, such properties *will qualify* if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

A. a religious property deriving primary significance from architectural or artistic distinction or historical importance; or

B. a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

C. a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life; or

D. a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

E. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

F. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or

G. a property achieving significance within the past 50 years if it is of exceptional importance.

Properties, such as farms or estates owned by religious institutions, and rural areas that were the site of religious activities, such as ceremonies or camp meetings, are eligible if they derive their primary significance from the physical characteristics of the land or from the historical events that took place there. The birthplace or grave of an historical figure of outstanding importance, with any associated land, may be eligible if there is no other appropriate site or building directly associated with the individual's productive life. Cemeteries in rural areas may be eligible if their primary significance is derived from the graves of persons of transcendental importance, or from age, distinctive design, or association with historic events, such as a cemetery that is the only tangible remains of a community's pioneering period. A commemorative property may be eligible if design, age, tradition, or symbolic value has invested it with historical importance, for example, a State forest named for an important public figure may be important for its recreational or economic uses.

Farm museums that are reconstructions of farms or artificial assemblages of moved buildings are not eligible. Historically important farms or agricultural communities, used as museums, may be eligible if their historic integrity has not been destroyed by new construction, moved buildings, or adaptive uses. Farm museums at least fifty years of age, whether reconstructions, assemblages, or original farms, may be eligible based on their significance as museums.

Continuity of land uses and cultural associations is a common concern in evaluating rural landscapes. Properties less than fifty years of age may be listed only if they are **exceptionally important.** The passage of time is necessary to recognize *historic* importance. This requirement applies to rural properties where a large proportion of buildings and structures were built or moved within the past 50 years, or where the predominant patterns of land use and division developed within the past 50 years. For guidance on evaluating exceptional importance, see National Register Bulletin 22, *Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last Fifty Years.*

2. Select Areas of Significance

Area of significance is that aspect of history in which a rural property, through use, occupation, physical character, or association, influenced the development or identity of its community or region. Although *agriculture* is most common, a number of other areas of significance may also apply, including *industry* in the case of mining or lumbering areas, *conservation* and *recreation* for parks and natural reserves, and *transportation* for migration trails. The area of significance is not necessarily the same as the general land use; for example, a farming community may be important in *ethnic heritage* but not in *agriculture.*

Several areas of significance apply to the physical qualities of a rural landscape. *Community development und planning* applies to areas reflecting important patterns of physical development, land division, or land use. *Landscape architecture* applies to properties based on established design principles or a conscious design. *Architecture* is used when significant qualities are embodied in the design, style, or method of construction of buildings

AREAS OF SIGNIFICANCE FOR RURAL LANDSCAPES

The following areas of significance commonly apply to rural landscapes:

Agriculture, where the land has been used for cultivating crops, raising livestock, and other activities that have contributed to the growth, development, and economy of a community during particular periods of its history.

Architecture, where a collection of high-style or vernacular buildings and outbuildings, by historical association, function, design, spatial arrangement, or setting, are integrally related to large areas of landscape and are indicative of the physical development, materials, or land uses of a State, region, or community, or the building practices or traditions of the people who occupied it.

Archeology, where patterns visible upon the land or evident in subsurface remains can provide important information about land use and occupation of prehistoric or historic peoples.

Community Planning and Development, where the spatial organization and character of the landscape are the result of either a consciously designed plan or vernacular patterns of land use or land division.

Conservation, where the landscape has been the subject of an important stage, event, or development in the conservation of natural or cultural resources.

Engineering, where the landscape and its uses reflect the practical application of scientific principles to serve human needs, such as reclamation, irrigation, and water power.

Exploration/Settlement, where the landscape continues to reflect the exploration, establishment, or early development of a community or region.

Industry, where the landscape has been shaped or manipulated to provide goods or services, through activities such as lumbering, mining, milling and quarrying, that have contributed to the development of a community or society in general.

Landscape Architecture, where the landscape contains sites, including gardens, farmyards, and parks, that have been based on established design principles or conscious designs, or are the work of a master, having importance within the context of landscape design.

Science, where the landscape has been the subject of research related to the advancement or understanding of agriculture, horticulture, silviculture, animal husbandry, or other scientific disciplines.

and structures, such as houses, churches, community buildings, barns, and outbuildings. *Engineering* applies to properties having significant systems of irrigation, drainage, transportation, or water power, as well as significant structures, such as dams, bridges, tunnels, mining shafts, and fencing.

3. Define Period of Significance

Period of significance is the span of time when a property was associated with important events, activities, persons, cultural groups, and land uses or attained important physical qualities or characteristics. Although it may be short, more often it extends many years, covering a series of events, continuum of activities, or evolution of physical characteristics. Properties may have more than one period of significance.

The period of significance begins with the date of the earliest land use or activity that has importance and is reflected by historic characteristics tangible today. The period closes with the date when the events, activities, and construction having historic importance ended. Properties that have evolved and achieved importance during separate periods, some spanning several hundred years, should be given several periods of significance. All landscape characteristics should be considered, since buildings and structures may date to one era, while roads, field patterns, and archeological sites to earlier ones.

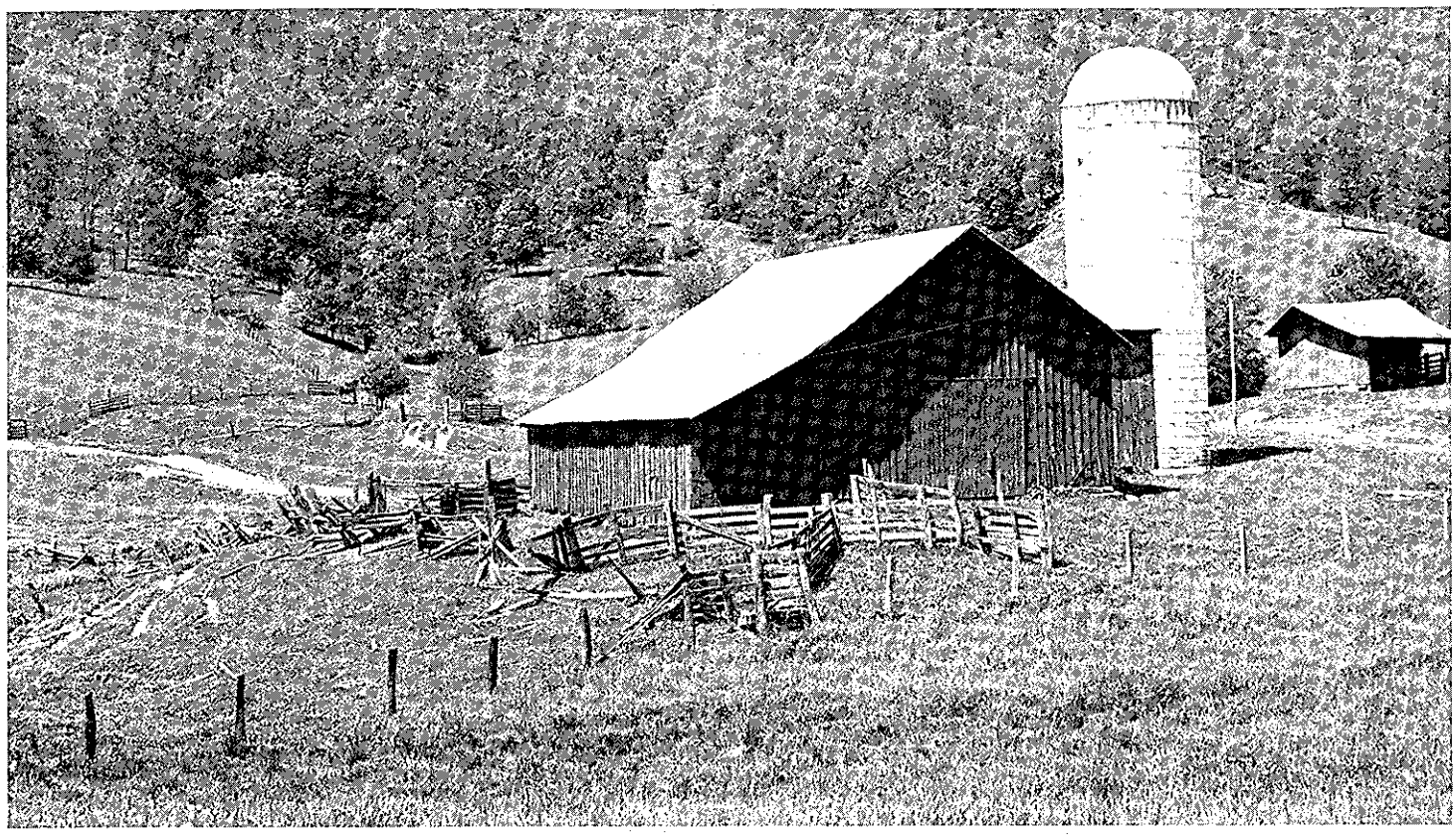
Continuous land use, association, or function does not by itself justify continuing the period of significance. The length of time should be based on the years when the property historically made important contributions in the areas of significance. Fifty years ago may be used as the closing date for the period of significance if a more specific date cannot be identified.

Assessing Historic Integrity

Historic integrity is the composite effect of seven qualities: location, design, setting, materials, workmanship, feeling, and association. Decisions about historic integrity require professional judgements about whether a property today reflects the spatial organization, physical components, and historic associations that it attained during the periods of significance. A property's **periods of significance** become the benchmark for measuring whether subsequent changes contribute to its historic evolution or alter its historic integrity.

Historic integrity requires that the various characteristics that shaped the land during the historic period be present today in much the same way they were historically. No landscape will appear exactly as it did fifty or one hundred years ago. Vegetation grows, land use practices change, and structures deteriorate. The general character and feeling of the historic period, however, must be retained for eligibility. Historical vistas that have remained open often provide a general vantage point for evaluating change. Historic and contemporary views may be compared through old photographs, diary entries, and letters.

Depending on significance, the presence of some characteristics is more critical to integrity than others. Vegetation and land uses are important to an area historically significant for grazing and cropping, while landforms and circulation networks may be essential to a mining community. The integrity of a significant collection of vernacular stone construction may rely heavily on the condition of boundary walls, farmhouses, barns, outbuildings, bridges, and community buildings. Boundary demarcations, early roadways, clusters, and small-scale elements may be necessary to depict the significant patterns of settlement and field arrangements in an ethnic community.



Setting is the physical environment within and surrounding a rural historic landscape. A fertile 40 square-mile basin atop 4,000-foot Garden Mountain, Burke's Garden Historic District, Tazewell County, Virginia, contains the material culture of occupations and agricultural activities from 8000 B.C. to the present. The district lies in the forested and sparsely settled highlands of the Southern Appalachians. (Virginia Department of Historic Resources)

1. Apply Qualities of Integrity

Because of the overriding presence of land, natural features, and vegetation, the seven qualities of integrity called for in the National Register criteria (see page 20) are applied to rural landscapes in special ways.

The relationship of landscape characteristics and integrity is complex. Patterns of spatial organization, circulation networks, and clusters directly relate to design and strongly influence the cohesiveness of a landscape. Boundary demarcations, small-scale elements, vegetation, and the evidence of responses to the natural environment all add to location and setting as well as design. Continuing or compatible land uses and activities enhance integrity of feeling and association. Buildings and structures, vegetation, small-scale elements, and land uses all reflect materials, workmanship, and design. Archeological sites may strengthen integrity by providing physical evidence of activities no longer practiced.

Location is the place where the significant activities that shaped a property took place. Geographical factors, including proximity to natural resources, soil fertility, climate, and accessibility, frequently determined the location of rural settlements. In some places, these factors have continued to spur growth and development. In others, they have insulated communities from change, fostering the preservation of historic characteristics, practices, and traditions. A rural landscape whose characteristics retain their historic location has integrity of location.

Design is the composition of natural and cultural elements comprising the form, plan, and spatial organization of a property. Design results from conscious and unconscious decisions over time about where areas of land use, roadways, buildings and structures, and vegetation are located in relationship to natural features and to each other. Design also relates to the functional organization of vegetation, topography, and other characteristics, for example, upland pastures bounded by forested hillsides and windbreaks sheltering fields or orchards.

New vegetation or reforestation may affect the historic integrity of design. Changes in land use may not seriously alter integrity if historic boundary demarcations, circulation networks, and other components remain in place. Shifts in land use from wheatfield to pasture or the introduction of contour plowing may not seriously affect the overall design, whereas the extensive irrigation and planting of fruit trees on land historically used for cattle grazing would.

Setting is the physical environment within and surrounding a property. Large-scale features, such as bodies of water, mountains, rock formations, and woodlands, have a very strong impact on the integrity of setting. Small-scale elements such as individual plants and trees, gateposts, fences, milestones, springs, ponds, and equipment also cumulatively contribute to historic setting.

Materials within a rural property include the construction materials of buildings, outbuildings, roadways, fences, and other structures. The presence of native minerals, stone, and even soil can add substantially to a rural area's sense of time and place. These may be present in natural deposits or built construction.

Vegetation, as material, presents a complex problem. Plants do not remain static but change over time and have a

Original plant materials, such as the filbert trees, at Dorris Ranch in Lane County, Oregon, enhance the significance of a rural landscape. Their presence is especially important to the integrity of landscapes significant for the cultivation and productivity of plants having lengthy life spans. (Willamalane Park and Recreation District)

predictable lifespan. While hardwoods and evergreens thrive for decades, most crops are seasonal and demand rotation. Plants and trees are subject to blights and disease and may be damaged by weather and climatic changes. Furthermore, the relationships among plant species vary over time due to differing growth patterns and lifespans, animal grazing behavior, and changes in soil conditions. Soil exhaustion, erosion, improper crop rotation, availability of water, and pollution may affect soil productivity and alter the succession of vegetation.

Original plant materials may enhance integrity, but their loss does not necessarily destroy it. Vegetation similar to historic species, in scale, type, and visual effect, will generally convey integrity of setting. Original or in-kind plantings, however, may be necessary for the eligibility of a property significant for specific cultivars, such as a farm noted for experiments in the grafting of fruit trees.

Workmanship is exhibited in the ways people have fashioned their environment for functional and decorative purposes. It is seen in the ways buildings and fences are constructed, fields are plowed, and crops harvested. The workmanship evident in the carved gravestones of a rural cemetery endures for a long time. Although the workmanship in raising crops is seasonal, it does contribute to a property's historic integrity if it reflects traditional or historic practices.

Feeling, although intangible, is evoked by the presence of physical characteristics that reflect the historic scene. The cumulative effect of setting, design, materials, and workmanship creates the sense of past time and place. Alterations dating from the historic period add to integrity of feeling while later ones do not.

Association is the direct link between a property and the important events or persons that shaped it. Integrity of association requires a property to reflect this relationship. Continued use and occupation help maintain a property's historic integrity if traditional practices are carried on. Revived historic practices, traditional ceremonies or festivals, use of traditional methods in new construction, and continuing family ownership, although not historic, similarly reinforce a property's integrity by linking past and present. New technology, practices, and construction, however, often alter a property's ability to reflect historic associations.

2. *Identify Changes and Threats to Integrity*

Historic integrity is threatened by single major changes such as large scale farming practices that obliterate historic field patterns, flatten the contours of the land, and erase historic boundary markers, outbuildings, and fences. Integrity may also be lost due to the cumulative effect of relocated and lost historic buildings and structures, interruptions in the natural succession of vegetation, and the disappearance of small-scale features that defined historic land uses.

The following changes, when occurring after the periods of significance, may reduce the historic integrity of a rural landscape:

- abandonment and realignment of roadways and canals
- widening and resurfacing of historic roadways
- changes in land use and management that alter vegetation, change the size and shape of fields, erase boundary demarcations, and flatten the contours of land
- modern methods of mining that leave large open pits or massive tailings uncharacteristic of historically significant extraction methods
- introduction of nonhistoric land uses (quarries; tree farms; sanitary landfill; recreational areas; limited access highways and interchanges; power plants, wastewater treatment plants, and other public utilities; subdivision for residential, commercial, or industrial development)
- loss of vegetation related to significant land uses (blights, abandonment, new uses, reforestation, and introduction of new cultivars)
- deterioration, abandonment, and relocation of historic buildings and structures
- substantial alteration of buildings and structures (remodelling, siding, additions)
- replacement of structures such as dams, bridges, and barns
- construction of new buildings and structures
- disturbance of archeological sites (bulldozing, earth removal, highway construction, nonscientific excavation)
- loss of boundary demarcations and small-scale features (fences, walls, ponds, and paving stones)

3. Classify Contributing and Noncontributing Resources

Buildings, structures, objects, and sites are classified as contributing or noncontributing based on their historic integrity and association with a period and area of significance. Those not present during the historic period, not part of the property's documented significance, or no longer reflecting their historic character are noncontributing.

Criteria considerations may affect the classification of religious properties, moved structures, birthplaces and graves, cemeteries, reconstructions, commemorative properties, and properties less than fifty years of age. These may contribute as *integral* parts of districts, that is, resources that relate, by date and function, association, or character, to the historic significance of the overall property. Examples include: a church founded by an ethnic group that settled an area, a corncrib moved during the period of significance to serve a farm's ongoing evolution, a rural cemetery where generations of local families are buried, and a historic war memorial within a village green.

Reconstructed fields and orchards, as well as buildings and structures, may contribute if suitably located and accurately executed according to a restoration master plan.

Buildings and structures built or moved within the past fifty years generally do not contribute. They affect historic integrity by altering the historic relationships of buildings, structures, and land areas, and by disrupting historic patterns of land division and organization. Recent agricultural buildings, whether built by traditional methods or in modern forms and materials, such as Harvestor silos or corrugated metal hay barns, may be recognized as contributing when sufficient time has lapsed to consider them integral parts of the historic landscape.

4. Weigh Overall Integrity

The final decision about integrity is based on the condition of the overall property and its ability to convey significance. The strength of historic landscape characteristics and the nature, extent, and impact of changes since the periods of significance are important factors to consider.

Integrity depends to a substantial degree on the area's historic contexts. This information indicates the extent of integrity that can be expected for a particular type of historic property given the unique aspects, cultural and natural, of the area and the condition of comparable properties. The survival of significant characteristics, such as field patterns and boundary demarcations, that in other areas have been lost can make a rural property significant despite the deterioration of its buildings and loss of outbuildings.

Loss or relocation of a few features usually does not affect a rural property's overall historic integrity. But the repeated loss of buildings, structures, roadways, and small-scale elements, as well as gradual changes to boundaries and land uses, may cumulatively destroy integrity.

New construction and incompatible land uses covering extensive acreage—such as residential subdivisions, modern mining or quarrying operations, refuse dumps and land fill, limited access highways and their interchanges—cause the greatest damage. Not only do they introduce major visual intrusions and interrupt the continuity of the historic scene, but they reshape the land, disturb subsurface remains, and introduce ahistorical characteristics.

Large rural districts may be able to absorb new development and still maintain their overall historic integrity, provided large-scale intrusions are concentrated in a relatively few locations and cover a proportionately small percentage of the overall acreage. For example, the 15,000 acres of Oley Township Historic District, Pennsylvania, maintain a strong sense of the agricultural activities begun in the 18th and 19th centuries despite the presence of several sizeable modern quarries, a large housing subdivision, and contemporary houses along roadways. While the new development is noncontributing it occurs in isolated pockets and covers only 10 percent of a historic district otherwise characterized by cultivated fields and scattered farmsteads.

Modern-day quarrying in Oley Township, Pennsylvania, bears little relationship to historic practices. The operations and the ever-growing pits and tailings they create threaten the district's historic integrity. Despite new quarries and residential subdivisions, Oley Township was listed in the National Register in its entirety, because 90 percent of the 15,000 acres retained the historic pastoral and agricultural character. (Oley Resource Conservation Project)

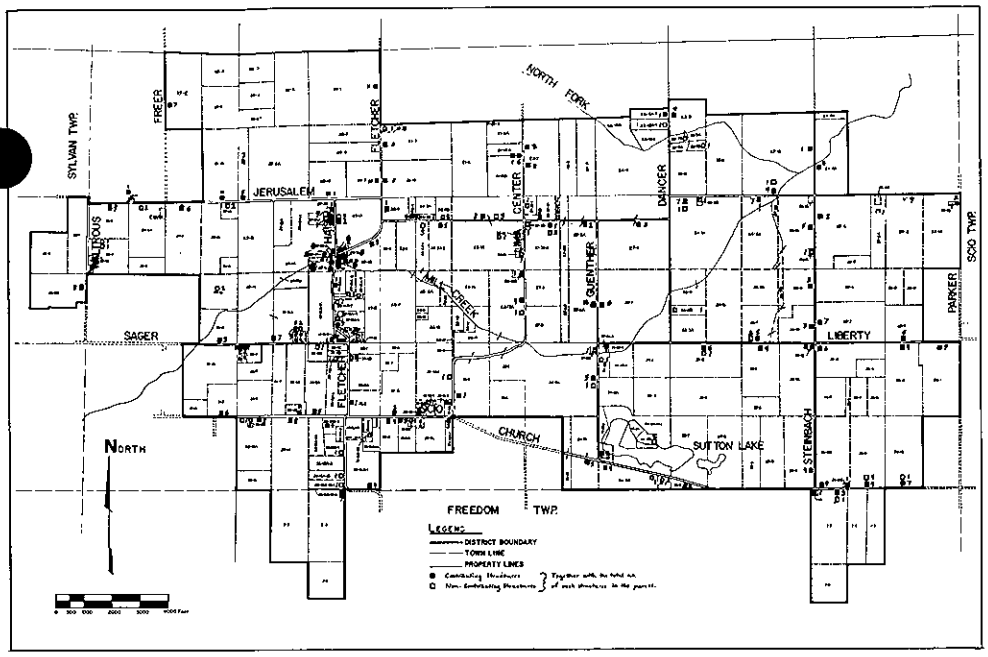
Selecting Boundaries

Boundaries for rural historic landscapes must encompass the area having historic significance, rather than just scenic values, and contain contributing resources that express the characteristics of the historic landscape. For this reason, all of the acreage making up a rural site or district should be reviewed, through either an onsite survey or aerial photography.

1. Define the historic property

The historic property is the unit of land actively managed, occupied, settled, or manipulated during the historic period for purposes related to significance.

In the development of historic contexts, the types of historic properties for an area were identified. This information helped determine the study area and focus research and survey activities on specific properties. As



The boundaries of South Lima Township Rural District, Michigan, are based on property lines, most of which coincide with the historic rectangular grid of the Midwest. Peripheral farms were included or excluded on the basis of their historic integrity. (Lynda Koch)

On September 17, 1862, "Bloody Lane" witnessed some of the most intense fighting of the Civil War. Continuing agricultural land uses and the historic integrity of the sunken farm lane and adjoining fields evoke the historic scene in a photograph taken in August 1934. Monuments along the lane mark commemorative activities that occurred at Antietam National Battlefield in the late 19th and early 20th centuries. (Allan Rinehart, National Park Service History Collection)

facts were associated with existing historic landscape characteristics, the existence of historic properties or portions of them were verified.

Historic properties may be evaluated at various geographical scales. A rural property, such as a farm, may have its own significance, but also be part of a significant collection of neighboring farms or an entire community with a village cluster, outlying farms, and interconnecting roads, that form larger historic districts. The initial step in selecting the boundaries of a rural historic landscape is to determine the extent to which properties at the smallest scale, such as a single farm, are intact and form larger properties that may be listed as large and cohesive historic districts.

If the study area was based on a historic property clearly defined by physical characteristics, historic ownership, or concentration of activity, National Register boundaries may vary little from those of the area studied. In cases, however, where a large area was studied, such as a township or county, with the purpose of identifying eligible properties, a number of properties of varying scales and boundaries may be defined, for example, a large village district and several outlying farms and mill sites.

2. *Decide what to include*

National Register boundaries must encompass a concentration or continuity of historic landscape characteristics. Many properties will not retain their historic property lines or possess significant characteristics throughout. The next step in selecting boundaries is deciding what land within the historic property today has both historic significance and integrity.

Information from survey and research —including historic land uses, dates of buildings and other components, and changes since the period of significance —can indicate to what extent the historic property was actively used and today reflects that use. Consulting historic maps, land plats, aerial photographs, land grant records, property deeds, and oral history data can help determine the evolution of the historic property. The overlaying of transparent maps of the same scale to represent various stages of development, including the current condition, is useful for comparing changes over time and for arriving at boundaries. Geographic Information Systems (GIS) can also be used for this purpose (see page 12).

Continuity is essential. Historic landscape characteristics should predominate and occur throughout. Peripheral areas having a concentration of nonhistoric features should be excluded, while the impact of centrally located ones on historic integrity should be considered. If, because of their density, distribution, and predominance, nonhistoric features seriously fragment the overall historic integrity of large-scale properties, smaller properties having integrity should be identified for listing. This applies, for example, to individual farmsteads in an agricultural community that is experiencing rapid and widespread suburbanization.

Buffer zones or acreage not related to historic use are excluded from National Register listings, but may be considered in planning and protection. These include natural features that fall within significant historic vistas but were not actively used, managed, or controlled

by historic land use or ownership. Also excluded are nonhistoric areas of compatible or similar land use adjoining a historic area, for example, land recently cleared and placed into agricultural use.

Natural features may be included if they are centrally located within the landscape, such as a hill or stream, or if they were actively used for purposes related to historic significance, for example, forests historically used for woodlots, and wetlands used for foraging wild berries.

Peripheral land that provides historic setting, such as forested hillsides or rock escarpments, may be included only if the historic record indicates that the land was historically an integral part of the property being nominated. Such an integral relationship can be established through common historic ownership, the role of the peripheral land in significant land uses or community development, or a passive function such as providing a barrier for defense or protection from wind and weather.

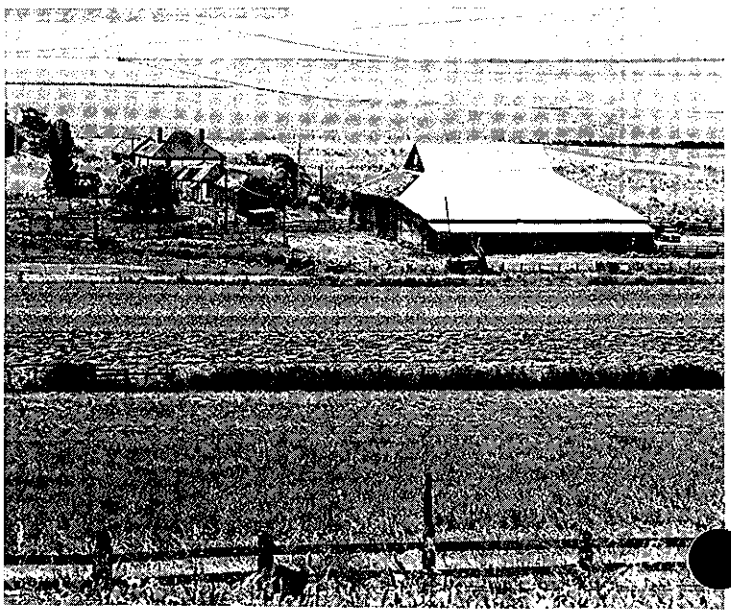
3. Select Appropriate Edges

Edges may be defined in several ways. Legal boundaries, based on historic ownership, land use, or incorporation, should be used where a historic property remains intact and is significant in its entirety. Natural features such as bodies of water, ridgelines, and sharp rises in elevation often form edges that have historically separated areas having different land uses. In areas undergoing widespread change, edges, based on current

DEFINING THE EDGES OF A RURAL LANDSCAPE

The following are commonly used to define the edges of rural historic landscapes:

- **Historic legal boundaries** of a single property, a group of properties, or an entire political jurisdiction when the historic property possesses continuity of historic landscape characteristics throughout, even though the ownership or division of land may have changed.
- **Boundary demarcations** that are relatively permanent, such as stone fences, irrigation or drainage ditches, and mature hedge rows, when such barriers are based on historic land use or ownership and encompass the concentration of related historic landscape characteristics.
- **Rights-of-way,** such as roads, established paths, and highways, when they separate areas of land that are historically significant from those that are either unrelated, insignificant, or not historic.
- **Natural features,** such as rivers, lakeshores, ridges, plateaus, and contour elevations when such features limited the historic development of the land and continue to contain historic landscape characteristics.
- **Changes in nature of development or spatial organization,** such as the departure of a community having vast tracts of communally owned farmland from the typical midwestern grid of 160-acre farms, when differences are related to significance.
- **Edges of new development,** such as modern housing, limited access highways, or industrial parks.
- **Current legal boundaries,** when they coincide with the area retaining historic landscape characteristics today. Acreage may be the same or smaller than that within the historic boundaries.
- **Lines drawn along or between fixed points,** such as stone walls, shorelines, or the intersection of two roads, when they contain the area retaining historic landscape features.
- **Long-standing vegetation** that is visible at all seasons, such as a row of hardwoods, when it marks the edge of the area containing historic landscape characteristics.



Pictorial evidence is valuable for charting the evolution of a rural landscape and verifying its historic integrity. Comparative views of Ebey's Prairie, Washington, photographed about 1900 and in 1983, indicate little change in the division of land, agricultural land uses, and arrangement of the farmyard cluster. (Pacific Northwest Regional Office, National Park Service)

CONSIDERATIONS IN EVALUATING RURAL HISTORIC LANDSCAPES

This section provides additional guidance for evaluating certain types of properties that either meet the definition of a rural historic landscape or possess historic landscape characteristics.

Properties Having Significant Patterns of Folklife

Patterns of folklife, established historically, may be perpetuated by the people living in rural properties today. These include traditional customs, crafts, or land use practices that have historic origins and have been passed from one generation to another.

Tangible characteristics may reflect traditional materials, craftsmanship, or functions, such as a cider-press, a community hall, or communally owned fields. When these date to the historic period, they may contribute to areas of significance such as ethnic heritage, art, architecture, community planning and development, or social history.

Seasonal, short-lived, or recent expressions of folklife are seen in haystacking, using traditional techniques for new construction, and observing traditional customs. While these do not date to the historic period, they do enhance integrity of setting, feeling, and association.

Traditional Cultural Properties

Native Americans and other cultural groups have commonly used natural features or sites for religious, ceremonial, or hunting and gathering activities. Although landscape characteristics may be useful for describing the natural setting of these places, an in-depth study of characteristics is not necessary where traditional uses have not altered the land. For further guidance in evaluating landscapes possessing traditional values, see Bulletin 38: *Guidelines for Evaluating and Documenting Traditional Cultural Properties* .

Trails and Roads

Trails and roads require verification that the land nominated be the actual location of the trail. Eligibility requires integrity of setting and location. Boundaries commonly encompass the length and width of the byway and a margin of land, for example, 40 feet, on both sides. Boundaries may be widened to take in encampment sites, mountain passes, fords across streams, and sites marked by trail ruts, arroyos, and surface disturbances associated with historic activity. Boundaries may also include land that forms a historically important and intact setting, for example, the hillsides and rock formations rising from an important pass on a frontier trail. Where the continuity of a byway has been interrupted by nonhistoric development, segments retaining significance and integrity can be nominated together in a multiple property submission.

Battlefields and Encampments

Battlefields, encampments, and other areas where short-term historic events took place may possess important landscape characteristics. Although the significance of these properties does not directly relate to land use, their historic integrity depends upon landscape characteristics such as natural features, land uses, vegetation, and associated buildings and structures. Furthermore, their location may have been determined by natural features, proximity to railroads, land uses, circulation networks, and cultural traditions. When these properties have been preserved for many years, they may have additional significance for patterns of land use and division that have elsewhere disappeared.

Scenic and Recreational Parks

State, county, and national parks set aside for recreational and scenic purposes are designed landscapes to the extent that roads, trails, buildings, vegetation, and other features were developed according to a master plan. These landscapes, due to their location, extensive acreage, purpose, and management, also have the characteristics of a rural landscape. Park features, such as trails, bridges, campgrounds, native flora, cabins, and scenic overlooks, can be meaningfully examined using the system of landscape classification. Circulation networks, response to natural environment, land uses and activities, vegetation related to land use, clusters, and small-scale features are particularly useful in documenting these properties.

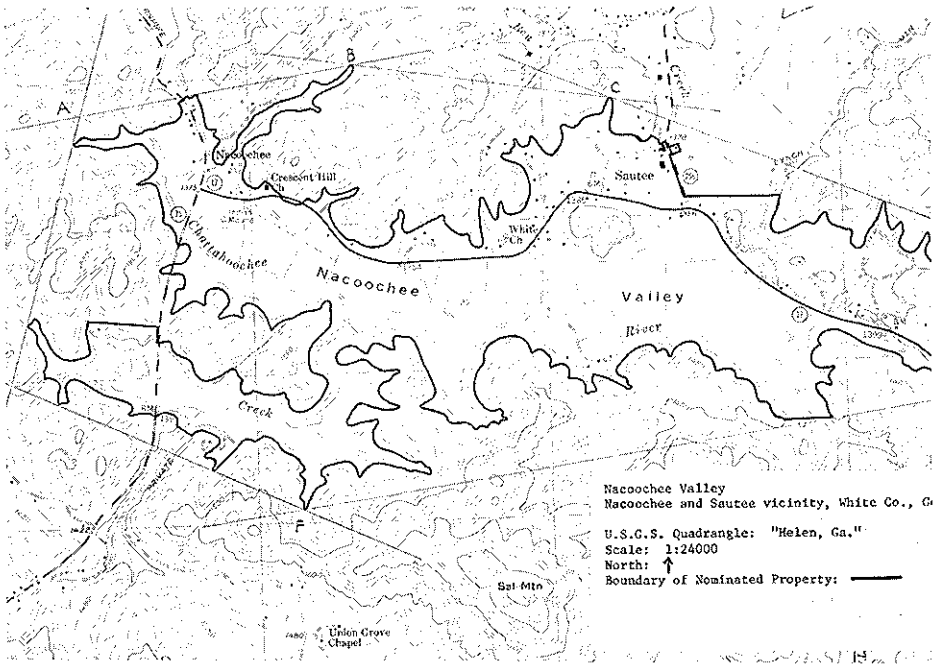
Mining Properties

Mining properties may include not only the most prominent mining structures, but also the communities shaped as a result of the mining activity and the surrounding land covered by related mining claims and containing historic shafts, tunnels, pits, and tailings. Landscape characteristics can be used to describe and evaluate these properties.

Modern methods of extraction may alter integrity. While the historic presence of tailings may be viewed as part of the historic setting, modern tailings and excavation, with or without recent structures, threaten historic integrity. Open pit mining in an area historically mined through tunnels and shafts destroys historic characteristics, altering an area's historic integrity. However, an open pit mine that has operated since the historic period retains its integrity, if recent extraction methods have been similar to those practiced historically and if the character of the pit is similar, although greater in size, to that of the historic period.

Lumbering Communities

Historic lumbering communities may contain scattered remains of logging activities and forests in varying stages of reforestation. Current tree cover often varies in species and age from historic vegetation. Abandoned areas frequently reflect the natural plant succession that follows cutting, making it impossible to define the visual quality of historic setting. For these reasons, significance depends on an understanding of changing patterns of vegetation and the presence of other characteristics, such as roadways, logging equipment and structures, workers' camps, and transportation facilities.



Settlement and agricultural development occurred within the fertile floodplain of the Nacoochee Valley, Georgia. To encompass the land area actively farmed during the historic period, district boundaries included approximately 2,500 acres and were drawn along the 1,400-foot contour line on the USGS topographical map. (photo: James R. Lockhart; map: Georgia Department of Natural Resources)

ownership, may be drawn to exclude new land uses or incompatible development. When none of the approaches listed on page 26 fit a situation, a certain degree of professional judgement will be needed to define an edge, for example, a line drawn between the end of a stone wall and a hedge row, that while somewhat arbitrary can still be justified.

Edges should be appropriate to the location, historic significance, and integrity of the property. A natural stream and field demarcations may work well in the Piedmont region, while quarter sections of a USGS map are more logical in rural Minnesota where land was divided according to the national rectangular survey.

Several approaches may be combined. An agricultural district, for example, might be bounded by a natural river, the political boundaries of a national forest, the limits of a modern development, and, where intact, the legal boundaries of historic parcels. Whatever the approach, boundaries must be fixed in space and capable of accurate description by metes and bounds, legal descriptions, lines appearing on USGS topographical maps, or site plans drawn to scale.

REGISTRATION

Nominations are made on the National Register Registration Form (NPS 10-900) and processed according to the regulations set forth in 36 CFR Part 60. Where the study of a rural area identifies several properties eligible for listing and related by common historic contexts, the National Register Multiple Property Documentation Form (NPS 10-900-b) is used to document the contexts, property types, and methodology; separate registration forms then document each eligible property.

The following guidance **supplements** National Register Bulletin 16, *Guidelines for Completing National Register of Historic Places Forms* and is organized according to the section names on the registration form. The form is intended as a summary of the information gathered during identification and a synthesis of findings concerning significance, integrity, and boundaries.

Classification

A rural property containing a collection of sites, structures, buildings, or objects is classified as a *district*. A rural property containing land with no buildings, objects, or structures, such

as a wildlife preserve or a camp meeting ground, is classified as a *site*.

Contributing and noncontributing resources are counted according to the guidelines in Bulletin 16. Acreage with component land areas, such as forests, orchards, fields, or pasture, counts as a single continuous site. Buildings, structures, objects, and sites within the landscape that are substantial in size and scale or are specifically discussed as significant are counted separately.

Other landscape characteristics, including areas of natural vegetation, fences, walls, plantings, ponds, and drainage ditches, are considered integral parts of the overall site. It is appropriate to count them separately if they form a structure or site that is substantial in size, scale, or importance, such as a network of historic roads, an irrigation system, a designed park, or a significant orchard.

Function

Data categories for *agriculture, landscape, transportation, industry,* and *recreation and culture,* include a number of subcategories that apply to land uses and activities. These should be listed along with those relating to buildings and structures.

Description

The description defines the historic property being registered and describes the evolution and current condition of its landscape characteristics. The processes that have shaped the landscape are discussed and related to specific features within the property. Changes that have occurred in the use and character of the land should be dated as accurately as possible. Threats to integrity should be described and their impact on the historic character of the landscape discussed. The chart on pages 15-18 lists the information to be included for each characteristic.

Information about historic landscape characteristics should be organized to best portray the character of the property. For a large district, it may be logical to discuss the general character of the district, and then separately treat the circulation networks, large-scale irrigation systems, village clusters, and smaller properties contained within it. For other properties, it may make most sense to describe the landscape characteristics by type, and to discuss land use areas, structures, and buildings individually rather than as parts of clusters or small units of property.

Specialized **terminology** may be necessary. Botanical or geological terms not commonly understood should be explained. Common names, such as Corvallis cherry or Longhorn cattle, are sufficient to identify vegetation and livestock. Scientific names should, however, be used when common botanical names are inadequate to describe plant diversity or significant cultivars. Commonly understood terms should be used to describe vernacular patterns of construction, land use, or land division. When terms that are regional or ethnic in derivation are used to describe land use practices, construction methods, or cultural customs, they should be explained.

Significance

The statement of significance explains the ways in which the property, through its land uses and characteristics, directly relates to specific historic contexts, National Register criteria, areas and periods of significance, and, if applicable, criteria considerations. Important activities, events, persons, or physical qualities are discussed in relationship to specific features identified by the landscape characteristics. The statement of historic contexts, revised, as appropriate, based on the findings of survey, research, and evaluation, is included.

The greater the importance of certain landscape characteristics, the more factual and detailed the discussion of their role and evolution should be. For example, if *transportation* is an area of significance, the circulation networks will require greater explanation; if *community development and planning* is an area of significance, patterns of land division and use should be discussed.

Major Bibliographical References

A standard bibliographical style is used to cite sources, including books, magazine articles, maps, atlases, historic photographs, local histories, studies on soils and vegetation, archeological reports, and geological studies. References to oral histories should give the date of the interview, and the name and affiliation of both the person being interviewed and the interviewer. Collections of photographs, oral history tapes or transcripts, personal records, and maps that are not available in published sources should be cited by name and location.

Boundaries

Boundaries are described as accurately as possible using metes and bounds, legal descriptions, tax parcel numbers, lines and sections on USGS maps, or lines on a map drawn to a scale no smaller than 1" = 200 feet. The edges that commonly bound rural properties are listed on page 26.

Maps

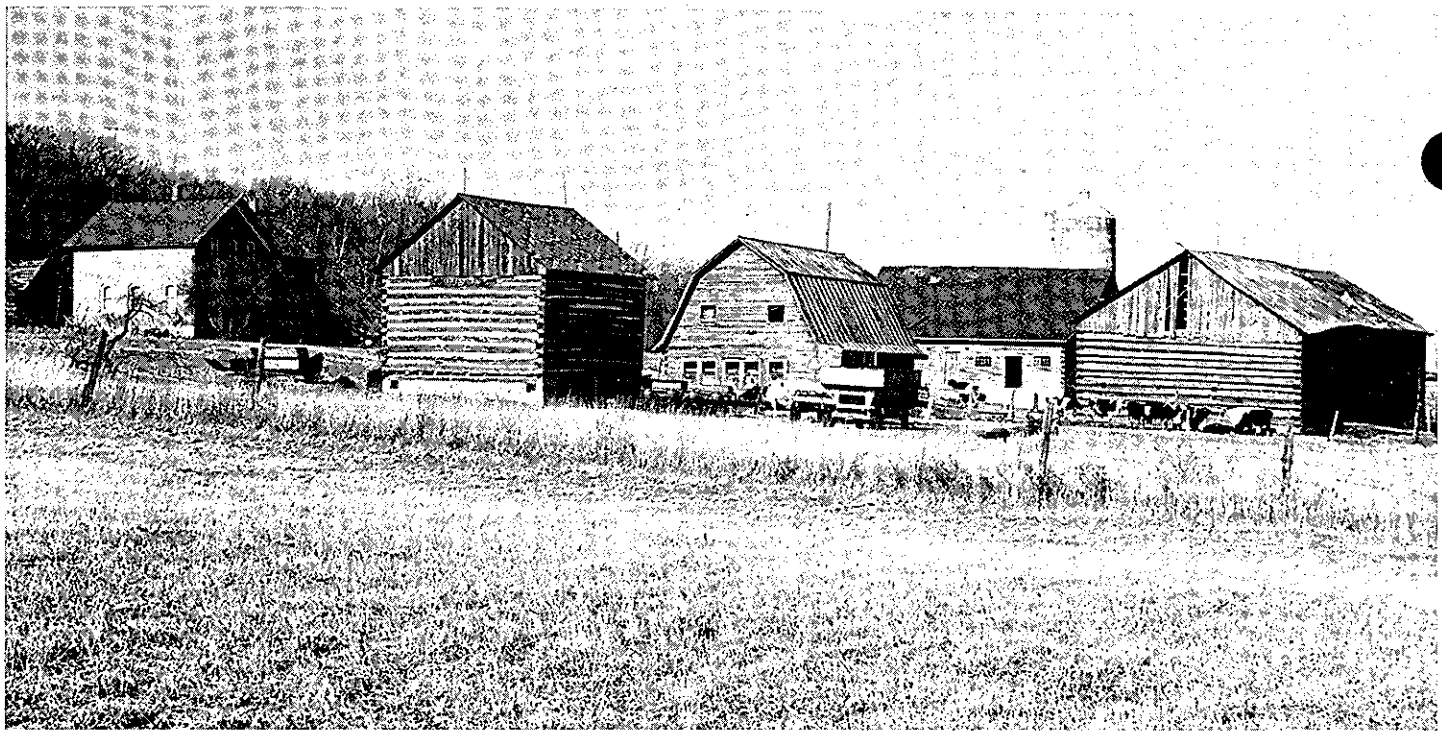
A detailed **sketch map** is required for all properties meeting the definition of historic district. The map indicates the boundaries of the property and locates the principal landscape characteristics. Buildings and structures, circulation networks, major land uses, archeological sites, prominent natural features, and large areas of vegetation should be marked on the map. Each building, structure, object, and site that is substantial in size, scale, or importance should be labeled by name, number, or other symbol, and marked as **contributing** or **noncontributing.** Refer to the chart on pages 15-18 for additional guidance.

For properties with large acreage, several maps drawn to different scales may be used in place of one overall sketch map. A small-scale map, such as a USGS topographic map in the 1:24,000 series, could cover the overall property and indicate boundaries and principal areas of land use, natural features, circulation networks, isolated buildings and structures, and clusters. Maps drawn to a larger scale, for example, 1" equals 200', could then show the location of buildings, structures, and other features within each cluster. Large-scale maps should be cross-referenced as inserts to the area map.

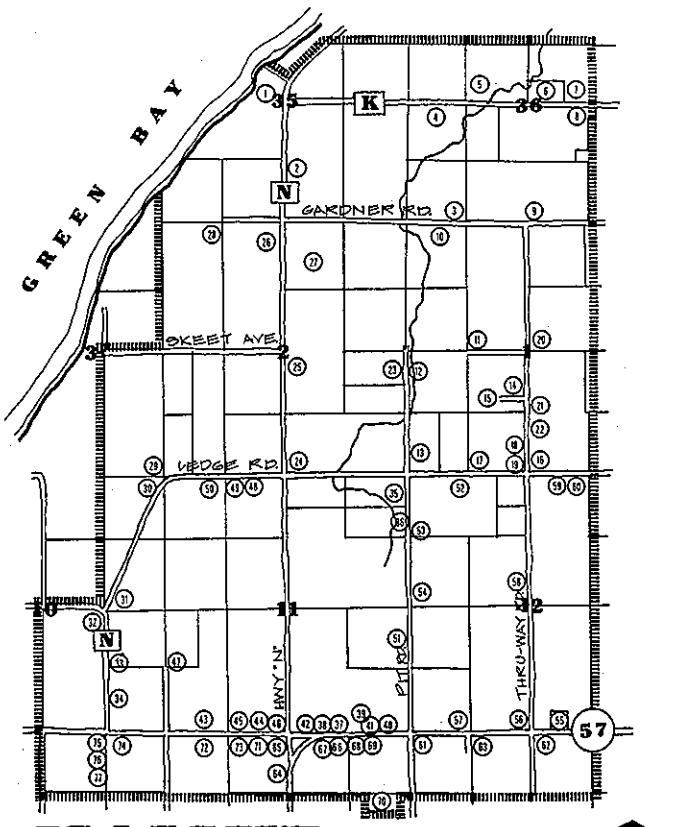
Separate maps may also be used to locate archeological sites, land use areas, road systems or other transportation systems, and buildings and structures. A series of maps may show the evolution of the property at various periods of time.

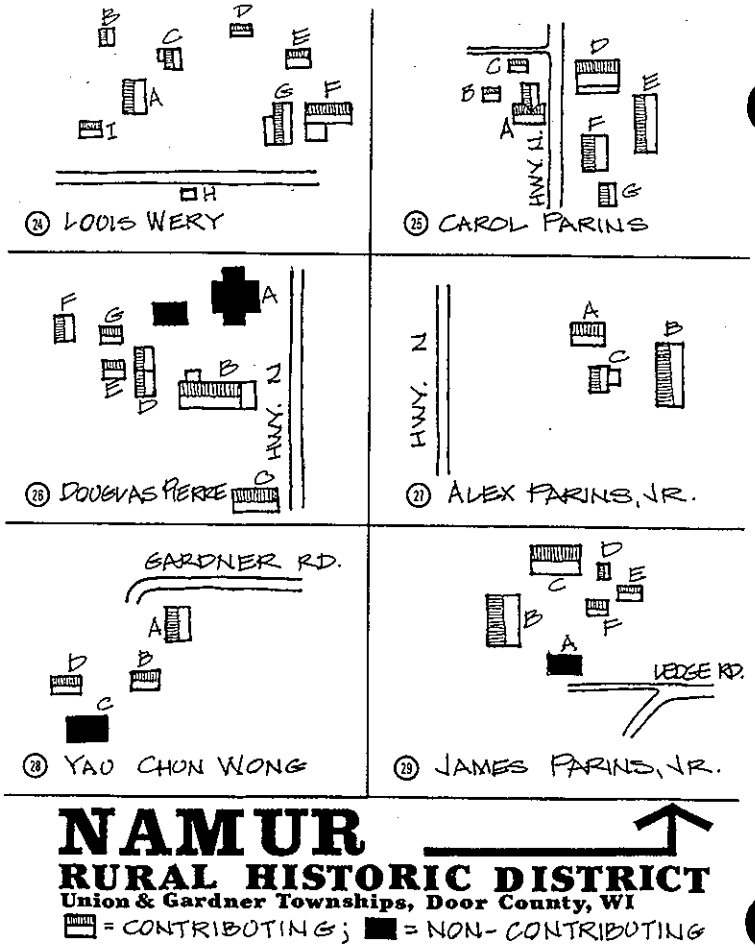
Photographs

Representative views of historic and nonhistoric land areas and landscape characteristics, as well as buildings, structures, and clusters, must be submitted with the registration form. Copies of historical photographs, engravings, and illustrations may also be included. Contemporary photographs taken from the vantage point of historical photographs may supplement the written description of land changes.



The Carol Parins Farmstead (no. 25 below) represents the traditional Belgian-American farm in the U-shaped configuration of the barnyard, numerous log outbuildings, and outlying fields. (Bill Tishlir)





Sketch maps of two scales were used to record the Namur Belgian-American District in Door County, Wisconsin. A large map drawn to a small scale covers the entire district and locates district boundaries, roads, and farm clusters. Small maps drawn to a larger scale and keyed by number to the district map then identify the contributing and noncontributing buildings and structures in each farm cluster.

RECOMMENDED READING AND SOURCES

Related National Register Bulletins

2 *Nomination of Deteriorated Buildings to the National Register*

4 *Contribution of Moved Buildings to Historic Districts*

6 *Nomination of Properties Significant for Association with Living Persons*

12 *Definition of National Register Boundaries for Archeological Properties*

14 *Guidelines for Counting Contributing and Noncontributing Resources for National Register Documentation*

15 *Guidelines for Applying the National Register Criteria for Evaluation*

16 *Guidelines for Completing National Register of Historic Places Forms*

18 *How to Evaluate and Nominate Designed Historic Landscapes*

19 *Policies and Procedures for Processing National Register Nominations*

20 *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places*

21 *How to Establish Boundaries for National Register Properties*

22 *Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last Fifty Years*

23 *How to Improve the Quality of Photos for National Register Nominations*

24 *Guidelines for Local Surveys: A Basis for Preservation Planning*

25 *Directory of Technical Assistance*

28 *Using the UTM Grid System to Record Historic Sites*

29 *Guidelines for Restricting Information About Historic and Prehistoric Resources*

32 *Guidelines for Evaluating and Documenting Properties Associated with Significant Persons*

34 *Guidelines for Evaluating and Nominating Historic Aids to Navigation*

35 *National Register Casebook: Examples of Documentation*

Historical Archeological Sites: Guidelines for Evaluation (pending)

38 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*

The above publications may be obtained by writing to the National Register of Historic Places, National Park Service, U.S. Department of the Interior, P.O. Box 37127, Washington, DC 20013-7127.

Books and Articles

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Sources of Census Data

U.S. Census data are on microfilm. Copies may be viewed in local libraries and historical societies, college and university libraries, and the National Archives in Washington, DC, and its regional branches. Microfilm copies and the following catalogs may be purchased from the National Archives Trust Fund Board, National Archives, Washington, DC 20408.

Federal Population Censuses, 1790–1890: A Catalog of Microfilm Copies of the Schedules. 1978.

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1910 Federal Population Census: A Catalog of Microfilm Copies of the Schedules. 1982.

Sources of Aerial Photographs

Aerial Photography Division (East)
U.S. Department of Agriculture
45 French Broad Avenue
Asheville, NC 28802

Aerial Photography Division (West)
U.S. Department of Agriculture
2505 Parley's Way
Salt Lake City, UT 84102

Aerial Photography Field Office
Agricultural Stabilization and Conservation Service
U.S. Department of Agriculture
2222 West 2300 South
Salt Lake City, UT 84125

Cartographic Archives Division
National Archives
Washington, DC 20408

National Archives contains federal aerial surveys conducted, between 1935 and 1942, by the Agricultural Stabilization and Conservation Service, Soil Conservation Service, Forest Service, Geological Survey, and Bureau of Reclamation. The following guide is available from the National Archives:

Aerial Photographs in the National Archives. Washington, DC: National Archives, 1973. (Special list No. 25)

EROS Data Center
User Services Section
U.S. Geological Survey
U.S. Department of the Interior
Sioux Falls, SD 57198

Eros Data Center makes available transparencies and photographic reproductions of aerial photographs taken by the fourteen Federal agencies (including the Soil Conservation and Agricultural Stabilization and Conservation Services) participating in the National High Altitude Photography (NHAP) program. The center will also provide a free computerized search of all black and white and color infrared imagery in their collection for a location identified on a USGS map or by UTM references or coordinates of longitude and latitude.

Other Sources

For **homesteading records**:

Suitland Reference Branch
National Archives
Washington, DC 20409

For **agricultural research**:

National Agricultural Library
U. S. Department of Agriculture
10301 Baltimore Boulevard
Beltsville, MD 20705

CREDITS AND ACKNOWLEDGEMENTS

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NATIONAL REGISTER BULLETIN

Technical information on the the National Register of Historic Places: survey, evaluation, registration, and preservation of cultural resources

U.S. Department of the Interior
National Park Service
Cultural Resources
National Register, History and Education

Guidelines for Evaluating and Documenting Traditional Cultural Properties

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

This material is partially based upon work conducted under a cooperative agreement with the National Conference of State Historic Preservation Officers and the U.S. Department of the Interior.

Cover photographs:

Many traditional cultural properties are used for practical purposes by those who value them. This sedge preserve in northern California, for example, is tended and harvested by Pomo Indian basketmakers as a vital source of material for making their world famous baskets. The preserve was established at Lake Sonoma by the U.S. Army Corps of Engineers. (Richard Lerner)

This bedrock mortar in central California plays an essential role in processing Black Oak acorns. (Theodoratus Cultural Research)

NATIONAL REGISTER BULLETIN

GUIDELINES FOR EVALUATING AND DOCUMENTING TRADITIONAL CULTURAL PROPERTIES

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U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
NATIONAL REGISTER, HISTORY AND EDUCATION
NATIONAL REGISTER OF HISTORIC PLACES

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I. INTRODUCTION

WHAT ARE TRADITIONAL CULTURAL PROPERTIES?

The National Register of Historic Places contains a wide range of historic property types, reflecting the diversity of the nation's history and culture. Buildings, structures, and sites; groups of buildings, structures or sites forming historic districts; landscapes; and individual objects are all included in the Register if they meet the criteria specified in the National Register's Criteria for Evaluation (36 CFR 60.4). Such properties reflect many kinds of significance in architecture, history, archeology, engineering, and culture.

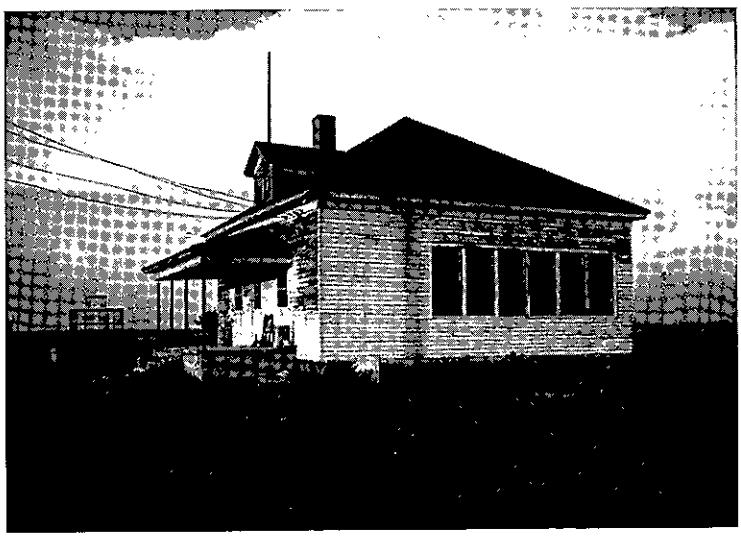
There are many definitions of the word "culture," but in the National Register programs the word is understood to mean the traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, be it an Indian tribe, a local ethnic group, or the people of the nation as a whole.[1]

One kind of cultural significance a property may possess, and that may make it eligible for inclusion in the Register, is *traditional cultural significance.* "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include:

- a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
- a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.

A traditional cultural property, then, can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Various kinds of traditional cultural properties will be discussed, illustrated, and related specifically to the National Register Criteria later in this bulletin.

[1] For a detailed definition, see Appendix I.



Numerous African Americans left the South to migrate to the Midwest. The A.M.E. Church (on left) and District No. 1 School remain in Nicodemus Historic District in Nicodemus, Kansas, which was declared a National Historic Landmark by the Secretary of the Interior in 1976. (Clayton B. Fraser for the Historic American Buildings Survey)

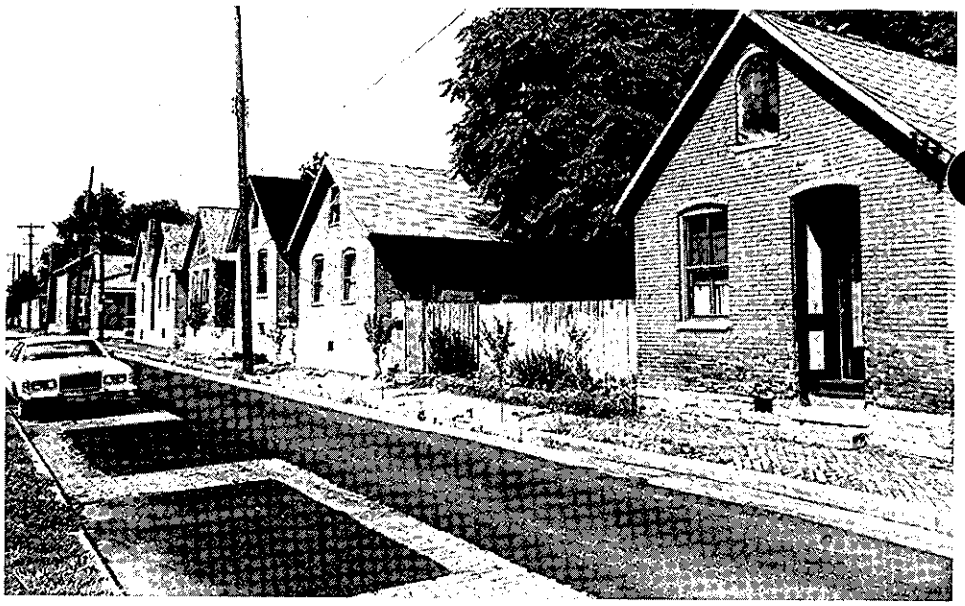
PURPOSE OF THIS BULLETIN

Traditional cultural values are often central to the way a community or group defines itself, and maintaining such values is often vital to maintaining the group's sense of identity and self respect. Properties to which traditional cultural value is ascribed often take on this kind of vital significance, so that any damage to or infringement upon them is perceived to be deeply offensive to, and even destructive of, the group that values them. As a result, it is extremely important that traditional cultural properties be considered carefully in planning; hence it is important that such properties, when they are eligible for inclusion in the National Register, be nominated to the Register or otherwise identified in inventories for planning purposes.

Traditional cultural properties are often hard to recognize. A traditional ceremonial location may look like merely a mountaintop, a lake, or a stretch of river; a culturally important neighborhood may look like any other aggregation of houses, and an area where culturally important economic or artistic activities have been carried out may look like any other building, field of grass, or piece of forest in the area. As a result, such places may not necessarily come to light through the conduct of archeological, historical, or architectural surveys. The existence and significance of such locations often can be ascertained only through interviews with knowledgeable users of the area, or through other forms of ethnographic research. The subtlety with which the significance of such locations may be expressed makes it easy to ignore them; on the other hand it makes it difficult to distinguish between properties having real significance and those whose putative significance is spurious. As a result, clear guidelines for evaluation of such properties are needed.

In the 1980 amendments to the National Historic Preservation Act, the Secretary of the Interior, with the American Folklife Center, was directed to study means of:

> preserving and conserving the intangible elements of our cultural heritage such as arts, skills, folklife, and folkways. . .



The German Village Historic District in Columbus, Ohio, reflects the ethnic heritage of 19th century German immigrants. The neighborhood includes many simple vernacular brick cottages with gable roofs. (Christopher Cline)

and to recommend ways to:

> preserve, conserve, and encourage the continuation of the diverse traditional prehistoric, historic, ethnic, and folk cultural traditions that underlie and are a living expression of our American heritage. (NHPA 502; 16 U.S.C. 470a note)

The report that was prepared in response to 502, entitled *Cultural Conservation*, was submitted to the President and Congress on June 1, 1983, by the Secretary of the Interior. The report recommended in general that traditional cultural resources, both those that are associated with historic properties and those without specific property referents, be more systematically addressed in implementation of the National Historic Preservation Act and other historic preservation authorities. In transmitting the report, the Secretary directed the National Park Service to take several actions to implement its recommendations. Among other actions, the Service was directed to prepare guidelines to assist in the documentation of intangible cultural resources, to coordinate the incorporation of provisions for the consideration of such resources into Departmental planning documents and administrative manuals, and to encourage the identification and documentation of such resources by States and Federal agencies.

This bulletin has been developed as one aspect of the Service's response to the *Cultural Conservation* report and the Secretary's direction. It is intended to be an aid in determining whether properties thought or alleged to have traditional cultural significance are eligible for inclusion in the National Register. It is meant to assist Federal agencies, State Historic Preservation Officers (SHPOs), Certified Local Governments, Indian Tribes, and other historic preservation practitioners who need to evaluate such properties when nominating them for inclusion in the National Register or when considering their eligibility for the Register as part of the review process prescribed by the Advisory Council on Historic Preservation under 106 of the National Historic Preservation Act. It is designed to supplement other National Register guidance, particularly *How to Apply the National Register Criteria for Evaluation* and *Guidelines for Completing National Register of Historic Places Forms.* It should be used in conjunction with these two Bulletins and other applicable guidance available from the National Register, when applying the National Register Criteria and preparing documentation to support nominations or determinations that a given property is or is not eligible for inclusion in the Register.

This Bulletin is also responsive to the American Indian Religious Free-

dom Act (AIRFA) of 1978, which requires the National Park Service, like other Federal agencies, to evaluate its policies and procedures with the aim of protecting the religious freedoms of Native Americans (Pub. L. 95341 2). Examination of the policies and procedures of the National Register suggests that while they are in no way intended to be so interpreted, they can be interpreted by Federal agencies and others in a manner that excludes historic properties of religious significance to Native Americans from eligibility for inclusion in the National Register. This in turn may exclude such properties from the protections afforded by 106, which may result in their destruction, infringing upon the rights of Native Americans to use them in the free exercise of their religions. To minimize the likelihood of such misinterpretation, this Bulletin gives special attention to properties of traditional cultural significance to Native American groups, and to discussing the place of religion in the attribution of such significance.

The fact that this Bulletin gives special emphasis to Native American properties should not be taken to imply that only Native Americans ascribe traditional cultural value to historic properties, or that such ascription is common only to ethnic minority groups in general. Americans of every ethnic origin have properties to which they ascribe traditional cultural value, and if such properties meet the National Register criteria, they can and should be nominated for inclusion in the Register.

This Bulletin does not address cultural resources that are purely "intangible"—i.e. those that have no property referents—except by exclusion. The Service is committed to ensuring that such resources are fully considered in planning and decision making by Federal agencies and others. Historic properties represent only some aspects of culture, and many other aspects, not necessarily reflected in properties as such, may be of vital importance in maintaining the integrity of a social group. However, the National Register is not the appropriate vehicle for recognizing cultural values that are purely intangible, nor is there legal authority to address them under 106 unless they are somehow related to a historic property.

The National Register lists, and 106 requires review of effects on, tangible cultural resources—that is, historic properties. However, the attributes that give such properties significance, such as their association with historical events, often are intangible in nature. Such attributes cannot be ignored in evaluating and managing historic properties; properties and their intangible attributes of significance must be considered together. This Bulletin is meant to encourage its users to address the intangible cultural values that may make a property historic, and to do so in an evenhanded way that reflects solid research and not ethnocentric bias.

Finally, no one should regard this Bulletin as the only appropriate source of guidance on its subject, or interpret it rigidly. Although traditional cultural properties have been listed and recognized as eligible for inclusion in the National Register since the Register's inception, it is only in recent years that organized attention has been given to them. This Bulletin represents the best guidance the Register can provide as of the late 1980s, and the examples listed in the bibliography include the best known at this time.[2] It is to be expected that approaches to such properties will continue to evolve. This Bulletin also is meant to supplement, not substitute for, more specific guidelines, such as those used by the National Park Service with respect to units of the National Park System and those used by some other agencies, States, local governments, or Indian tribes with respect to their own lands and programs.

[2] It is notable that most of these examples are unpublished manuscripts. The literature pertaining to the identification and evaluation of traditional cultural properties, to say nothing of their treatment, remains a thin one.

These sandbars in the Rio Grande River are eligible for inclusion in the National Register because they have been used for generations by the people of Sandia Pueblo for rituals involving immersion in the river's waters. (Thomas F. King)

ETHNOGRAPHY, ETHNOHISTORY, ETHNOCENTRISM

Three words beginning with "ethno" will be used repeatedly in this Bulletin, and may not be familiar to all readers. All three are derived from the Greek ethnos, meaning "nation;" and are widely used in the study of anthropology and related disciplines.

Ethnography is the descriptive and analytic study of the culture of particular groups or communities. An ethnographer seeks to understand a community through interviews with its members and often through living in and observing it (a practice referred to as "participant observation").

Ethnohistory is the study of historical data, including but not necessarily limited to, documentary data pertaining to a group or community, using an ethnographic perspective.

Ethnographic and ethnohistorical research are usually carried out by specialists in cultural anthropology, and by specialists in folklore and folklife, sociology, history, archeology and related disciplines with appropriate technical training.[3]

Ethnocentrism means viewing the world and the people in it only from the point of view of one's own culture and being unable to sympathize with the feelings, attitudes, and beliefs of someone who is a member of a different culture. It is particularly important to understand, and seek to avoid, ethnocentrism in the evaluation of traditional cultural properties. For example, Euroamerican society tends to emphasize "objective" observation of the physical world as the basis for making statements about that world. However, it may not be possible to use such observations as the major basis for evaluating a traditional cultural property. For example, there may be nothing observable to the outsider about a place regarded as sacred by a Native American group. Similarly, such a group's belief that its ancestors emerged from the earth at a specific location at the beginning of time may contradict Euroamerican science's belief that the group's ancestors migrated to North America from Siberia. These facts in no way diminish the significance of the locations in question in the eyes of those who value them; indeed they are irrelevant to their significance. It would be ethnocentric in the extreme to say that "whatever the Native American group says about this place, I can't see anything here so it is not significant" or "since I know these people's ancestors came from Siberia, the place where they think they emerged from the earth is of no significance." It is vital to evaluate properties thought to have traditional cultural significance from the standpoint of those who may ascribe such significance to them, whatever one's own perception of them, based on one's own cultural values, may be. This is not to say that a group's assertions about the significance of a place should not be questioned or subjected to critical analysis, but they should not be rejected based on the premise that the beliefs they reflect are inferior to one's own.

[3] For a detailed discussion of the qualifications that a practitioner of ethnography or ethnohistory should possess, see Appendix II.

EVALUATION, CONSIDERATION, AND PROTECTION

One more point that should be remembered in evaluating traditional cultural properties—as in evaluating any other kind of properties—is that establishing that a property is eligible for inclusion in the National Register does not necessarily mean that the property must be protected from disturbance or damage. Establishing that a property is eligible means that it must be considered in planning Federal, federally assisted, and federally licensed undertakings, but it does not mean that such an undertaking cannot be allowed to damage or destroy it.

Consultation must occur in accordance with the regulations of the Advisory Council (36 CFR Part 800) to identify, and if feasible adopt, measures to protect it, but if in the final analysis the public interest demands that the property be sacrificed to the needs of the project, there is nothing in the National Historic Preservation Act that prohibits this.

This principle is especially important to recognize with respect to traditional cultural properties, because such properties may be valued by a relatively small segment of a community that, on the whole, favors a project that will damage or destroy it. The fact that the community as a whole may be willing to dispense with the property in order to achieve the goals of the project does not mean that the property is not significant, but the fact that it is significant does not mean that it cannot be disturbed, or that the project must be foregone.

II. TRADITIONAL CULTURAL VALUES IN PRESERVATION PLANNING

Traditional cultural properties, and the beliefs and institutions that give them significance, should be systematically addressed in programs of preservation planning and in the historic preservation components of land use plans. One very practical reason for this is to simplify the identification and evaluation of traditional cultural properties that may be threatened by construction and land use projects. Identifying and evaluating such properties can require detailed and extensive consultation, interview programs, and ethnographic fieldwork as discussed below. Having to conduct such activities may add considerably to the time and expense of compliance with 106, the National Environment Policy Act, and other authorities. Such costs can be reduced significantly, however, by early, proactive planning that identifies significant properties or areas likely to contain significant properties before specific projects are planned that may affect them, identifies parties likely to ascribe cultural value to such properties, and establishes routine systems for consultation with such parties.

The *Secretary of the Interior's Standards for Preservation Planning* provide for the establishment of "historic contexts" as a basic step in any preservation planning process be it planning for the comprehensive survey of a community or planning a construction project. A historic context is an organization of available information about, among other things, the cultural history of the area to be investigated, that identifies "the broad patterns of development in an area that may be represented by historic properties" (48 FR 44717). The traditions and traditional lifeways of a planning area may represent such "broad patterns," so information about them should be used as a basis for historic context development.

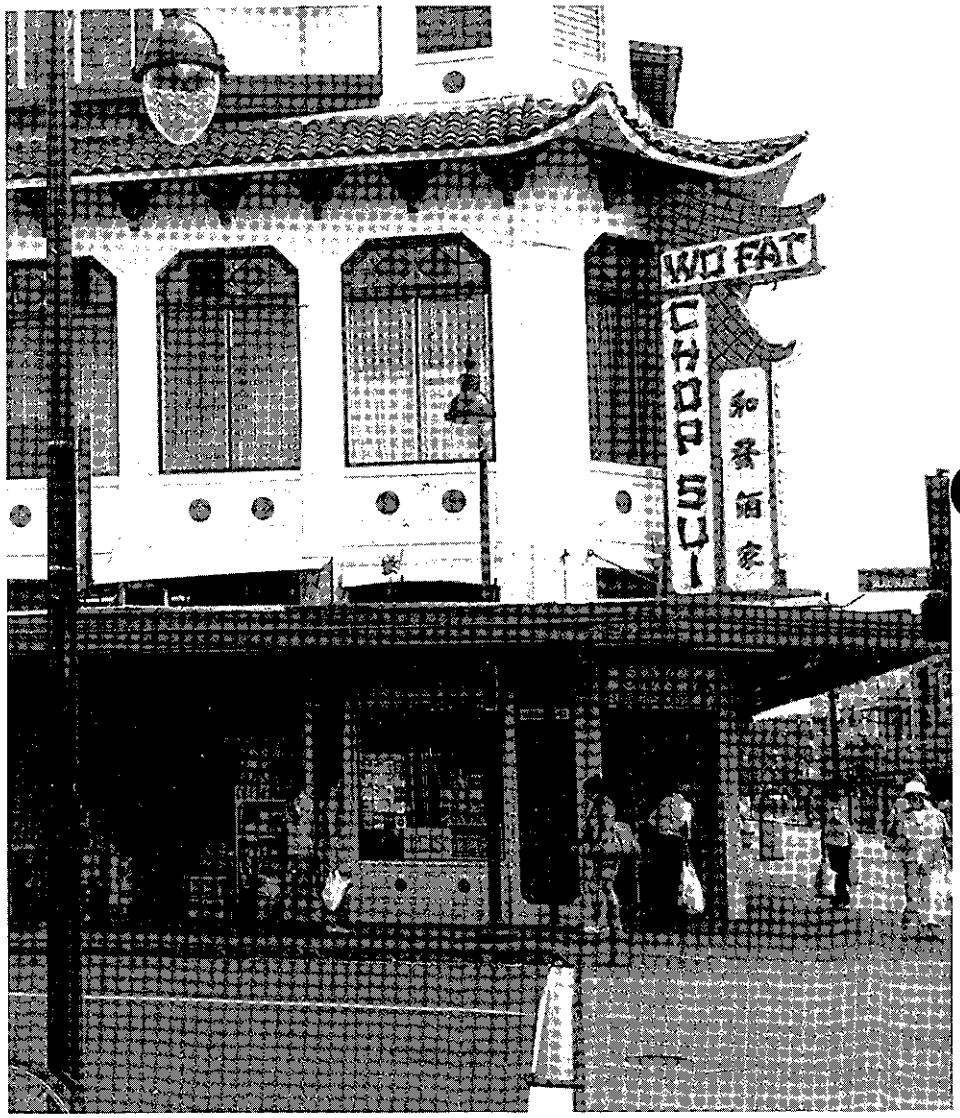
The *Secretary of the Interior's Guidelines for Preservation Planning* emphasize the need for organized public participation in context development (48 FR 44717). The Advisory Council on Historic Preservation's *Guidelines for Public Participation in Historic Preservation Review* (ACHP 1988) provide detailed recommendations regarding such participation. Based on these standards and guidelines, groups that may ascribe traditional cultural values to an area's historic properties should be contacted and asked to assist in organizing information on the area. Historic contexts should be considered that reflect the history and culture of such groups as the groups themselves understand them, as well as their history and culture as defined by Euroamerican scholarship, and processes for consultation with such groups should be integrated into routine planning and project review procedures.

III. IDENTIFYING TRADITIONAL CULTURAL PROPERTIES

Some traditional cultural properties are well known to the residents of an area. The San Francisco Peaks in Arizona, for example, are extensively documented and widely recognized as places of extreme cultural importance to the Hopi, Navajo, and other American Indian people of the Southwest, and it requires little study to recognize that Honolulu's Chinatown is a place of cultural importance to the city's Asian community. Most traditional cultural properties, however, must be identified through systematic study, just as most other kinds of historic properties must be identified. This section of the Bulletin will discuss some factors to consider in identifying traditional cultural properties.[4]

ESTABLISHING THE LEVEL OF EFFORT

Any comprehensive effort to identify historic properties in an area, be the area a community, a rural area, or the area that may be affected by a construction or land-use project, should include a reasonable effort to identify traditional cultural properties. What constitutes a "reasonable" effort depends in part on the likelihood that such properties may be present. The likelihood that such properties may be present can be reliably assessed only on the basis of background knowledge of the area's history, ethnography, and contemporary society developed through preservation planning. As a general although not in-



Honolulu's Chinatown reflects the cultural values and traditions of its inhabitants not only in its architectural details but also in its organization of space and the activities that go on there. (Ramona K. Mullahey)

[4] For general guidelines for identification see the *Secretary of the Interior's Standards and Guidelines for Identification* (48 FR 44720-23), *Guidelines for Local Surveys: A Basis for Preservation Planning* (National Register of Historic Places bulletin) and *Identification in Historic Preservation Review: a Decisionmaking Guide* (ACHP/DOI 1988).

variable rule, however, rural areas are more likely than urban areas to contain properties of traditional cultural importance to American Indian or other native American communities, while urban areas are more likely to contain properties of significance to ethnic and other traditional neighborhoods.

Where identification is conducted as part of planning for a construction or land-use project, the appropriate level of effort depends in part on whether the project under consideration is the type of project that could affect traditional cultural properties. For example, as a rule the rehabilitation of historic buildings may have relatively little potential for effect on such properties. However, if a rehabilitation project may result in displacement of residents,"gentrification" of a neighborhood, or other sociocultural impacts, the possibility that the buildings to be rehabilitated, or the neighborhood in which they exist, may be ascribed traditional cultural value by their residents or others should be considered. Similarly, most day-to-day management activities of a land managing agency may have little potential for effect on traditional cultural properties, but if the management activity involves an area or a kind of resource that has high significance to a traditional group—for example, timber harvesting in an area where an Indian tribe's religious practitioners may continue to carry out traditional ceremonies—the potential for effect will be high.

These general rules of thumb aside, the way to determine what constitutes a reasonable effort to identify traditional cultural properties is to consult those who may ascribe cultural significance to locations within the study area. The need for community participation in planning identification, as in other forms of preservation planning, cannot be over-emphasized.

CONTACTING TRADITIONAL COMMUNITIES AND GROUPS

An early step in any effort to identify historic properties is to consult with groups and individuals who have special knowledge about and interests in the history and culture of the area to be studied. In the case of traditional cultural properties, this means those individuals and groups who may ascribe traditional cultural significance to locations within the study area, and those who may have knowledge of such individuals and groups. Ideally, early planning will have identified these individuals and groups, and established how to consult with them. As a rule, however, the following steps are recommended:

BACKGROUND RESEARCH

An important first step in identifying such individuals and groups is to conduct background research into what is already recorded about the area's history, ethnography, sociology, and folklife. Published and unpublished source material on the historic and contemporary composition of the area's social and cultural groups should be consulted; such source material can often be found in the anthropology, sociology, or folklife libraries of local universities or other academic institutions. Professional and nonprofessional students of the area's social and cultural groups should also be consulted—for example, professional and avocational anthropologists and folklorists who have studied the area. The SHPO and any other official agency or organization that concerns itself with matters of traditional culture—for example, a State Folklorist or a State Native American Commission—should be contacted for recommendations about sources of information and about groups and individuals to consult.

MAKING CONTACT

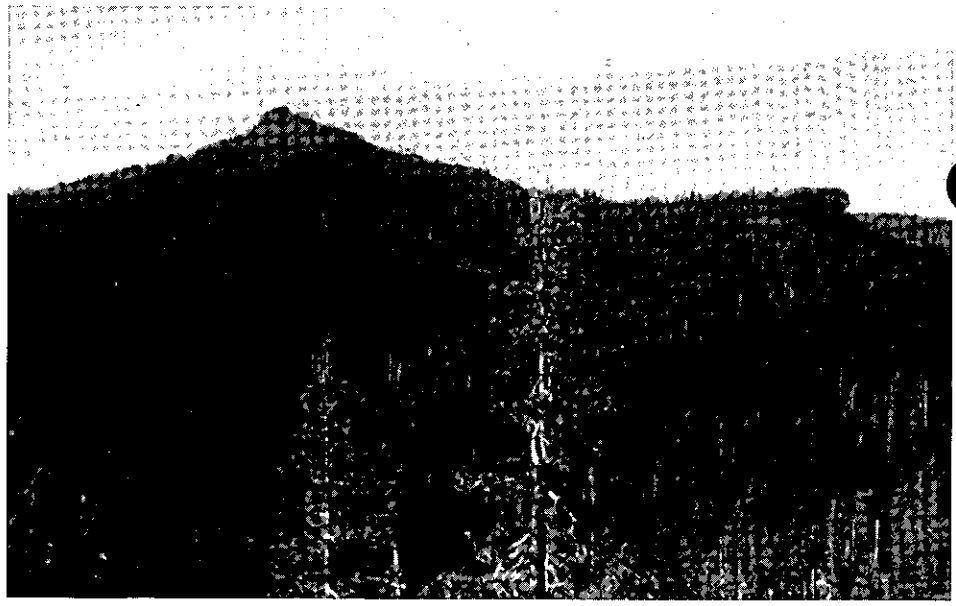
Having reviewed available background data, the next step is to contact knowledgeable groups and individuals directly, particularly those groups that are native to the area or have resided there for a long time. Some such groups have official repre-

Federal agencies and others have found a variety of ways to contact knowledgeable parties in order to identify and evaluate traditional cultural properties. Generally speaking, the detail and complexity of the methods employed depend on the nature and complexity of the properties under consideration and the effects the agency's management or other activities may have on them. For example:

- The Black Hills National Forest designated a culturally sensitive engineer to work with local Indian tribes in establishing procedures by which the tribes could review Forest Service projects that might affect traditional cultural properties;
- The Air Force sponsored a conference of local traditional cultural authorities to review plans for deployment of an intercontinental missile system in Wyoming, resulting in guidelines to ensure that effects on traditional cultural properties would be minimized.
- The New Mexico Power Authority employed a professional cultural anthropologist to consult with Native American groups within the area to be affected by the Four Corners Power Project.
- The Ventura County (California) Flood Control Agency consulted with local Native American groups designated by the State Native American Heritage Commission to determine how to handle human remains to be exhumed from a cemetery that had to be relocated to make way for a flood control project.
- The Utah State Historic Preservation Officer entered into an agreement with the American Folklife Center to develop a comprehensive overview of the tangible and intangible historic resources of Grouse Creek, a traditional Mormon cowboy community.
- The Forest Service contracted for a full-scale ethnographic study to determine the significance of the Helkau Historic District on California's Six Rivers National Forest.

sentatives—the tribal council of an Indian tribe, for example, or an urban neighborhood council. In other cases, leadership may be less officially defined, and establishing contact may be more complicated. The assistance of ethnographers, sociologists, folklorists, and others who may have conducted research in the area or otherwise worked with its social groups may be necessary in such cases, in order to design ways of contacting and consulting such groups in ways that are both effective and consistent with their systems of leadership and communication.

It should be clearly recognized that expertise in traditional cultural values may not be found, or not found solely, among contemporary community leaders. In some cases, in fact, the current political leadership of a community or neighborhood may be hostile to or embarrassed about traditional matters. As a result, it may be necessary to seek out knowledgeable parties outside the community's official political structure. It is of course best to do this with the full knowledge and cooperation of the community's contemporary leaders; in most cases it is appropriate to ask such leaders to identify members of the community who are knowledgeable about traditional cultural matters, and use these parties as an initial network of consultants on the group's traditional values. If there is serious hostility between the group's contemporary leadership and its traditional experts, however, such cooperation may not be extended, and efforts to consult with traditional authorities may be actively opposed. Where this occurs, and it is necessary to proceed with the identification and evaluation of properties—for example, where such identification and evaluation are undertaken in connection with review of an undertaking under 106—careful negotiation and mediation may be necessary to overcome opposition and establish mutually acceptable ground rules for consultation. Again, the assistance of anthropologists or others with training and experience in work with the community, or with similar communities, may be necessary.



The Helkau Historic District, in the Six Rivers National Forest of California, is eligible for inclusion in the National Register because of its association with significant cultural practices of the Tolowa, Yorok, Karuk, and Hoopa Indian tribes of the area, who have used the district for generations to make medicine and communicate with spirits. (Theodoratus Cultural Research)

FIELDWORK

Fieldwork to identify properties of traditional cultural significance involves consultation with knowledgeable parties, coupled with field inspection and recordation of locations identified as significant by such parties. It is often appropriate and efficient to combine such fieldwork with surveys to identify other kinds of historic properties, for example archeological sites and properties of architectural significance. If combined fieldwork is conducted, however, the professional standards appropriate to each kind of fieldwork should be adhered to, and appropriate expertise in each relevant discipline should be represented on the study team. The kinds of expertise typically needed for a detailed ethnographic study of traditional cultural properties are outlined in Appendix II. Applicable research standards can be found in *Systematic Fieldwork, Volume 2: Ethnographic Analysis and Data Management.* (Werner and Schoepfle 1986)

CULTURALLY SENSITIVE CONSULTATION

Since knowledge of traditional cultural values may not be shared readily with outsiders, knowledgeable parties should be consulted in cultural contexts that are familiar and reasonable to them. It is important to understand the role that the information being solicited may play in the culture of those from whom it is being solicited, and the kinds of rules that may surround its transmittal. In some societies traditional information is regarded as powerful, even dangerous. It is often believed that such information should be transmitted only under particular circumstances or to particular kinds of people. In some cases information is regarded as a valued commodity for which payment is in order, in other cases offering payment may be offensive. Sometimes information may be regarded as a gift, whose acceptance obligates the receiver to reciprocate in some way, in some cases by carrying out the activity to which the information pertains.

It may not always, or even often, be possible to arrange for information to be sought in precisely the way those being consulted might prefer, but when it is not, the interviewer should clearly understand that to some extent he or she is asking those interviewed to violate their cultural norms. The interviewer should try to keep such violations to a minimum, and should be patient with the reluctance that those interviewed may feel toward sharing information under conditions that are not fully appropriate from their point of view.

Culturally sensitive consultation may require the use of languages other than English, the conduct of

community meetings in ways consistent with local traditional practice, and the conduct of studies by trained ethnographers, ethnohistorians, sociologists, or folklorists with the kinds of expertise outlined in Appendix II. Particularly where large projects or large land areas are involved, or where it is likely that particularly sensitive resources may be at issue, formal ethnographic studies should be carried out, by or under the supervision of a professionally qualified cultural anthropologist.

FIELD INSPECTION AND RECORDATION

It is usually important to take knowledgeable consultants into the field to inspect properties that they identify as significant. In some cases such properties may not be discernible as such to anyone but a knowledgeable member of the group that ascribes significance to them; in such cases it may be impossible even to find the relevant properties, or locate them accurately, without the aid of such parties. Even where a property is readily discernible as such to the outside observer, visiting the property may help a consultant recall information about it that he or she is unlikely to recall during interviews at a remote location, thus making for a richer and more complete record.

Where the property in question has religious significance or supernatural connotations, it is particularly important to ensure that any visit is carried out in accordance with appropriate modes of behavior. In some cases, ritual purification is necessary before a property can be approached, or spirits must be propitiated along the way. Some groups forbid visits to such locations by menstruating women or by people of inappropriate ages. The taking of photographs or the use of electronic recording equipment may not be appropriate. Appropriate ways to approach the property should be discussed with knowledgeable consultants before undertaking a field visit.

To the extent compatible with the cultural norms of the group involved, traditional cultural properties should be recorded on National Register of Historic Places forms or their equivalent.[5] Where items normally included in a National Register nomination or request for a determination of eligibility cannot be included (for example, if it is culturally inappropriate to photograph the property), the reasons for not including the item should be explained. To the extent possible in the property's cultural context, other aspects of the documentation (for example, verbal descriptions of the property) should be enhanced to make up for the items not included.

If making the location of a property known to the public would be culturally inappropriate, or compromise the integrity of the property or associated cultural values (for example, by encouraging tourists to intrude upon the conduct of traditional practices), the "Not for Publication" box on the National Register form should be checked; this indicates that the reproduction of locational information is prohibited, and that other information contained in the nomination will not be reproduced without the permission of the nominating authority. In the case of a request for a determination of eligibility in which a National Register form is not used, the fact that the information is not for publication should be clearly specified in the documentation, so that the National Register can apply the same controls to this information as it would to restricted information in a nomination.[6]

RECONCILING SOURCES

Sometimes an apparent conflict exists between documentary data on traditional cultural properties and the testimony of contemporary consultants. The most common kind of conflict occurs when ethnographic and ethnohistorical documents do not identify a given place as playing an important role in the tradition and culture of a group, while contemporary members of the group say the property does have such a role. More rarely, documentary sources may indicate that a property does have cultural significance while contemporary sources say it does not. In some cases, too, contemporary sources may disagree about the significance of a property.

Much of the significance of traditional cultural properties can be learned only from testimony of the traditional people who value them, like this old man being interviewed in Truk. (Micronesia Institute)

[5] For general instructions on the completion of National Register documentation, see *How to Complete the National Register of Historic Places Form.*

[6] Section 304 of the National Historic Preservation Act provides the legal authority to withhold National Register information from the public when release might "create a substantial risk of harm, theft, or destruction." For detailed guidelines concerning restricting access to information see the National Register bulletin entitled, *Guidelines for Restricting Information About Historic and Prehistoric Resources.*

Where available documents fail to identify a property as culturally significant, but contemporary sources identify it as such, several points should be considered.

(a) Ethnographic and ethnohistorical research has not been conducted uniformly in all parts of the nation; some areas are better documented than others simply because they have been the focus of more research.

(b) Ethnographic and ethnohistorical documents reflect the research interests of those who prepared them; the fact that one does not identify a property as culturally important may reflect only the fact that the individual who prepared the report had research interests that did not require the identification of such properties.

(c) Some kinds of traditional cultural properties are regarded by those who value them as the loci of supernatural or other power, or as having other attributes that make people reluctant to talk about them. Such properties are not likely to be recorded unless someone makes a very deliberate effort to do so, or unless those who value them have a special reason for revealing the information—for example, a perception that the property is in some kind of danger.

Particularly because properties of traditional cultural significance are often kept secret, it is not uncommon for them to be "discovered" only when something threatens them—for example, when a change in land-use is proposed in their vicinity. The sudden revelation by representatives of a cultural group which may also have other economic or political interests in the proposed change can lead quickly to charges that the cultural significance of a property has been invented only to obstruct or otherwise influence those planning the change. This may be true, and the possibility that traditional cultural significance is attributed to a property only to advance other, unrelated interests should be carefully considered. However, it also may be that until the change was proposed, there simply was no reason for those who value the property to reveal its existence or the significance they ascribe to it.

Where ethnographic, ethnohistorial, historical, or other sources identify a property as having cultural significance, but contemporary sources say that it lacks such significance, the interests of the contemporary sources should be carefully considered. Individuals who have economic interests in the potential development of an area may be strongly motivated to deny its cultural significance. More subtly, individuals who regard traditional practices and beliefs as backward and contrary to the best contemporary interests of the group that once ascribed significance to a property may feel justified in saying that such significance has been lost, or was never ascribed to the property. On the other hand, of course, it may be that the documentary sources are wrong, or that the significance ascribed to the property when the documents were prepared has since been lost.

Similar consideration must be taken into account in attempting to reconcile conflicting contemporary sources. Where one individual or group asserts that a property has traditional cultural significance, and another asserts that it does not or where there is disagreement about the nature or extent of a property's significance, the motives and values of the parties, and the cultural constraints operating on each, must be carefully analyzed.

In general, the only reasonably reliable way to resolve conflict among sources is to review a wide enough range of documentary data, and to interview a wide enough range of authorities to minimize the likelihood either of inadvertent bias or of being deliberately misled.

Authorities consulted in most cases should include both knowledgeable parties within the group that may attribute cultural value to a property and appropriate specialists in ethnography, sociology, history, and other relevant disciplines.[7]

[7] For excellent examples of studies designed in whole or in part to identify and evaluate traditional cultural properties based on both documentary sources and the testimony of consultants, see Bean and Vane 1978; Carroll 1983; Johnston and Budy 1983; Stoffle and Dobyns 1982, 1983; Theodoratus 1979.

IV. DETERMINING ELIGIBILITY: STEP BY STEP

Whether a property is known in advance or found during an identification effort, it must be evaluated with reference to the National Register Criteria for Evaluation (36 CFR Part 60) in order to determine whether it is eligible for inclusion in the Register. This section discusses the process of evaluation as a series of sequential steps. In real life of course, these steps are often collapsed into one another or taken together.

STEP ONE:

ENSURE THAT THE ENTITY UNDER CONSIDERATION IS A PROPERTY

Because the cultural practices or beliefs that give a traditional cultural property its significance are typically still observed in some form at the time the property is evaluated, it is sometimes perceived that the intangible practices or beliefs themselves, not the property, constitute the subject of evaluation. There is naturally a dynamic relationship between tangible and intangible traditional cultural resources, and the beliefs or practices associated with a traditional cultural property are of central importance in defining its significance. However, it should be clearly recognized at the outset that the National Register does not include intangible resources themselves. The entity evaluated must be a tangible property—that is, a district, site, building, structure, or object.[8] The relationship between the property and the beliefs or practices associated with it should be carefully considered, however, since it is the beliefs and practices that may give the property its significance and make it eligible for inclusion in the National Register.

Construction by human beings is a necessary attribute of buildings and structures, but districts, sites, and objects do not have to be the products of, or contain, the work of human beings in order to be classified as properties. For example, the National Register defines a "site" as "the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure."[9] Thus a property may be defined as a "site" as long as it was the location of a significant event or activity, regardless of whether the event or activity left any evidence of its occurrence. A culturally significant natural landscape may be classified as a site, as may the specific location where significant traditional events, activities, or cultural observances have taken place. A natural object such as a tree or a rock outcrop may be an eligible object if it is associated with a significant tradition or use. A concentration, linkage, or continuity of such sites or objects, or of structures comprising a culturally significant entity, may be classified as a district.

In considering the eligibility of a property that contains no observable evidence of human activity, however, the documentary or oral evidence for the association of the property with traditional events, activities or observances should be carefully weighed and assessed. The National Register discourages the nomination of natural features without sound documentation of their historical or cultural significance.

STEP TWO:

CONSIDER THE PROPERTY'S INTEGRITY

In order to be eligible for inclusion in the Register, a property must have "integrity of location, design, setting, materials, workmanship, feeling, and association" (36 CFR Part 60).

In the case of a traditional cultural property, there are two fundamental questions to ask about integrity. First, does the property have an integral relationship to traditional cultural practices or beliefs; and second, is the condition of the property such that the relevant relationships survive?

INTEGRITY OF RELATIONSHIP

Assessing the integrity of the relationship between a property and the beliefs or practices that may give it significance involves developing some understanding about how the group that holds the beliefs or carries out the practices is likely to view the property. If the property is known or likely to be regarded by a traditional cultural group as important in the retention or transmittal of a belief, or to the performance of a practice, the property can be taken to have an integral relationship with the belief or practice, and vice-versa.

For example, imagine two groups living along the shores of a lake. Each group practices a form of baptism to mark an individual's acceptance into the group. Both carry out baptism in the lake. One group, however, holds that baptism is appropriate in any body of water that is available; the lake happens to be available, so it is used, but another lake, a river or creek, or a swimming pool would be just as acceptable. The second group regards baptism in this particular lake as essential to its acceptance of an individual as a member. Clearly the lake is integrally related to the second group's practice, but not to that of the first.

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[8] See *How to Apply the National Register Criteria for Evaluation* for discussion of property types.

[9] See *How to Complete the National Register Form.*

INTEGRITY OF CONDITION

Like any other kind of historic property, a property that once had traditional cultural significance can lose such significance through physical alteration of its location, setting, design, or materials. For example, an urban neighborhood whose structures, objects, and spaces reflect the historically rooted values of a traditional social group may lose its significance if these aspects of the neighborhood are substantially altered.

In some cases a traditional cultural property can also lose its significance through alteration of its setting or environment. For example, a location used by an American Indian group for traditional spirit questing is unlikely to retain its significance for this purpose if it has come to be surrounded by housing tracts or shopping malls.

A property may retain its traditional cultural significance even though it has been substantially modified, however. Cultural values are dynamic, and can sometimes accommodate a good deal of change. For example, the Karuk Indians of northwestern California continue to carry on world renewal rites, ancient ceremonies featuring elaborate dances, songs, and other ritual activities, along a stretch of the Klamath River that is now the site of a highway, a Forest Service Ranger Station, a number of residences, and a timber cutting operation. Specific locations important in aspects of the ceremony remain intact, and accommodation has been reached between the Karuk and other users of the land. The State Department of Transportation has even erected "Ritual Crossing" signs at locations where the Karuk religious practitioners cross the highway, and built shallow depressions into the roadway which are filled with sand in advance of the ceremony, so the feet of the practitioners need not be profaned by contact with man-made macadam. As this example shows, the integrity of a possible traditional cultural property must be considered with reference to the views of traditional practitioners; if its integrity has not been lost in their eyes, it probably has sufficient integrity to justify further evaluation.

Some kinds of traditional cultural significance also may be retained regardless of how the surroundings of a property may be changed. For example, the First African Baptist Church Cemetery in Philadelphia, rediscovered during archeological work in advance of highway construction in 1985, has considerable cultural significance for the congregation that traces descent from those interred in the Cemetery, and for Philadelphia's African American community in general, even though its graves had been buried under fill and modern construction for many decades.

It should also be recalled that even if a property has lost integrity as a possible traditional cultural property, it may retain integrity with reference to some other aspect of significance. For example, a property whose cultural significance has been lost through disturbance may still retain archeological deposits of significance for their information content, and a neighborhood whose traditional residents no longer ascribe significance to it may contain buildings of architectural importance.

Cannonball Island, off Cape Alava on the coast of Washington State, is a traditional cultural property of importance to the Makah Indian people. It was used in the past, and is still used today, as a navigation marker for Makah fisherman, who established locations at sea by triangulation from this and other landmarks. It also was a lookout point for seal and whale hunters and for war parties, a burial site, and a kennel for dogs raised for their fur. (Makah Cultural and Research Center Archives)

STEP THREE:

EVALUATE THE PROPERTY WITH REFERENCE TO THE NATIONAL REGISTER CRITERIA

Assuming the entity to be evaluated is a property, and that it retains integrity, it is next necessary to evaluate it against the four basic National Register Criteria set forth in the National Register regulations (36 CFR Part 60). If the property meets one or more of the criteria, it may be eligible; if it does not, it is not eligible.[10]

CRITERION (A): ASSOCIATION WITH EVENTS THAT HAVE MADE A SIGNIFICANT CONTRIBUTION TO THE BROAD PATTERNS OF OUR HISTORY.

The word "our" in this criterion may be taken to refer to the group to which the property may have traditional cultural significance, and the word "history" may be taken to include traditional oral history as well as recorded history. For example, Mt. Tonaachaw on Moen Island in Truk, Federated States of Micronesia, is in the National Register in part because of association with oral traditions about the establishment of Trukese society.

"Events" can include specific moments in history of a series of events reflecting a broad pattern or theme.

[10] For general guidelines, see *How to Apply the National Register Criteria for Evaluation.*

For example, the ongoing participation of an ethnic or social group in an area's history, reflected in a neighborhood's buildings, streetscapes, or patterns of social activity, constitutes such a series of events.

The association of a property with significant events, and its existence at the time the events took place, must be documented through accepted means of historical research. The means of research normally employed with respect to traditional cultural properties include ethnographic, ethnohistorical, and folklore studies, as well as historical and archeological research. Sometimes, however, the actual time a traditional event took place may be ambiguous; in such cases it may be impossible, and to some extent irrelevant, to demonstrate with certainty that the property in question existed at the time the traditional event occurred. For example, events recounted in the traditions of Native American groups may have occurred in a time before the creation of the world as we know it, or at least before the creation of people. It would be fruitless to try to demonstrate, using the techniques of history and science, that a given location did or did not objectively exist in a time whose own existence cannot be demonstrated scientifically. Such a demonstration is unnecessary for purposes of eligibility determination; as long as the tradition itself is rooted in the history of the group, and associates the property with traditional events, the association can be accepted.

CRITERION (B): ASSOCIATION WITH THE LIVES OF PERSONS SIGNIFICANT IN OUR PAST.

Again, the word "our" can be interpreted with reference to the people who are thought to regard the property as traditionally important. The word "persons" can be taken to refer both to persons whose tangible, human existence in the past can be inferred on the basis of historical, ethnographic, or other research, and to "persons" such as gods and demigods who feature in the traditions of a group. For example, Tahquitz Canyon in southern California is included in the National Register in part because of its association with Tahquitz, a Cahuilla Indian demigod who figures importantly in the tribe's traditions and is said to occupy an obsidian cave high in the canyon.

CRITERION (C)(1):[11] EMBODIMENT OF THE DISTINCTIVE CHARACTERISTICS OF A TYPE, PERIOD, OR METHOD OF CONSTRUCTION.

This subcriterion applies to properties that have been constructed, or contain constructed entities—that is, buildings, structures, or built objects. For example, a neighborhood that has traditionally been occupied by a particular ethnic group may display particular housing styles, gardens, street furniture or ornamentation distinctive of the group. Honolulu's Chinatown, for example, embodies the distinctive cultural values of the City's Asian community in its architecture, landscaping, signage, and ornamentation.

[11] Note: Criterion (C) is not subdivided into subcriteria (1), (2), etc. in 36 CFR Part 60.4. The subdivision given here is only for the convenience of the reader.

CRITERION (C)(2): REPRESENTATIVE OF THE WORK OF A MASTER.

A property identified in tradition or suggested by scholarship to be the work of a traditional master builder or artisan may be regarded as the work of a master, even though the precise identity of the master may not be known.

CRITERION (C)(3): POSSESSION OF HIGH ARTISTIC VALUES.

A property made up of or containing art work valued by a group for traditional cultural reasons, for example a petroglyph or pictograph site venerated by an Indian group, or a building whose decorative elements reflect a local ethnic groups distinctive modes of expression, may be viewed as having high artistic value from the standpoint of the group.

In Trukese tradition, the Tonaachaw Historic District was the location to which Sowukachaw, founder of the Trukese society, came and established his meetinghouse at the beginning of Trukese history. The mountain, in what is now the Federated States of Micronesia, is a powerful landmark in the traditions of the area. (Lawrence E. Aten)

CRITERION (C)(4): REPRESENTATIVE OF A SIGNIFICANT AND DISTINGUISHABLE ENTITY WHOSE COMPONENTS MAY LACK INDIVIDUAL DISTINCTION.

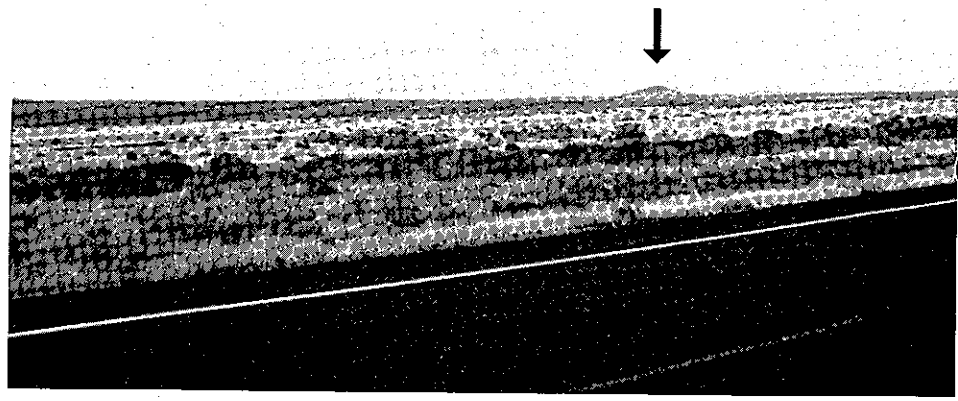
A property may be regarded as representative of a significant and distinguishable entity, even though it lacks individual distinction, if it represents or is an integral part of a larger entity of traditional cultural importance. The larger entity may, and usually does, possess both tangible and intangible components. For example, certain locations along the Russian River in California are highly valued by the Pomo Indians, and have been for centuries, as sources of high quality sedge roots needed in the construction of the Pomo's world famous basketry.

Although the sedge fields themselves are virtually indistinguishable from the surrounding landscape, and certainly indistinguishable by the untrained observer from other sedge fields that produce lower quality roots, they are representative of, and vital to, the larger entity of Pomo basketmaking. Similarly, some deeply venerated landmarks in Micronesia are natural features, such as rock outcrops and groves of trees; these are indistinguishable visually (at least to the outside observer) from other rocks and trees, but they figure importantly in chants embodying traditional sailing directions and lessons about traditional history. As individual objects they lack distinction, but the larger entity of which they are a part—Micronesian navigational and historical tradition—is of prime importance in the area's history.

CRITERION (D): HISTORY OF YIELDING, OR POTENTIAL TO YIELD, INFORMATION IMPORTANT IN PREHISTORY OR HISTORY.

Properties that have traditional cultural significance often have already yielded, or have the potential to yield, important information through ethnographic, archeological, sociological, folkloric, or other studies. For example, ethnographic and ethnohistorical studies of Kaho'olawe Island in Hawai'i, conducted in order to clarify its eligibility for inclusion in the National Register, have provided important insights into Hawai'ian traditions and culture and into the history of twentieth century efforts to revitalize traditional Hawai'ian culture.

Similarly, many traditional American Indian village sites are also archeological sites, whose study can provide important information about the history and prehistory of the group that lived there. Generally speaking, however, a traditional cultural property's history of yielding, or potential to yield, information, if relevant to its significance at all, is secondary to its association with the traditional history and culture of the group that ascribes significance to it.



Many traditional cultural properties look like very little on the ground. The small protuberance in the center of this photo, known to residents of the Hanford Nuclear Reservation in Washington State as Goose Egg Hill, is regarded by the Yakima Indians of the area as the heart of a goddess who was torn apart by jealous compatriots. They scattered her pieces across the landscape, creating a whole complex of culturally significant landforms. (Thomas F. King)

STEP 4:

DETERMINE WHETHER ANY OF THE NATIONAL REGISTER CRITERIA CONSIDERATIONS (36 CFR 60.4) MAKE THE PROPERTY INELIGIBLE

Generally speaking, a property is not eligible for inclusion in the Register if it represents a class of properties to which one or more of the six "criteria considerations" listed in 36 CFR 60.4 applies, and is not part of a district that is eligible.

In applying the criteria considerations, it is important to be sensitive to the cultural values involved, and to avoid ethnocentric bias, as discussed below.

CONSIDERATION A: OWNERSHIP BY A RELIGIOUS INSTITUTION OR USE FOR RELIGIOUS PURPOSES.

A "religious property," according to National Register guidelines, requires additional justification (for nomination) because of the necessity to avoid any appearance of judgement by government about the merit of any religion or belief."[12] Conversely, it is necessary to be careful not to allow a similar judgement to serve as the basis for determining a property to be ineligible for inclusion in the Register. Application of this criteria consideration to traditional cultural properties is fraught with the potential for ethnocentrism and discrimination. In many traditional societies, including most American Indian societies, the clear distinction made by Euroamerican society between religion and the rest of culture does not exist. As a result, properties that have traditional cultural significance are regularly discussed by those who value them in terms that have religious connotations. Inyan Karan Mountain, for example, a National Register property in the Black Hills of South Dakota, is sig-

[12] *How to Complete the National Register Form.*

nificant in part because it is the abode of spirits in the traditions of the Lakota and Cheyenne. Some traditional cultural properties are used for purposes that are definable as religious in Euroamerican terms, and this use is intrinsic to their cultural significance.

Kootenai Falls on the Kootenai River in Idaho, part of the National Register-eligible Kootenai Falls Cultural Resource District, has been used for centuries as a vision questing site by the Kootenai tribe. The Helkau Historic District in northern California is a place where traditional religious practitioners go to make medicine and commune with spirits, and Mt. Tonaachaw in Truk is an object of spiritual veneration. The fact that such properties have religious connotations does not automatically make them ineligible for inclusion in the Register.

Applying the "religious exclusion" without careful and sympathetic consideration to properties of significance to a traditional cultural group can result in discriminating against the group by effectively denying the legitimacy of its history and culture. The history of a Native American group, as conceived by its indigenous cultural authorities, is likely to reflect a kind of belief in supernatural beings and events that Euroamerican culture categorizes as religious, although the group involved, as is often the case with Native American groups, may not even have a word in its language for "religion." To exclude from the National Register a property of cultural and historical importance to such a group, because its significance tends to be expressed in terms that to the Euroamerican observer appear to be "religious" is ethnocentric in the extreme.

In simplest terms, the fact that a property is used for religious purposes by a traditional group, such as seeking supernatural visions, collecting or preparing native medicines, or carrying out ceremonies, or is described by the group in terms that are classified by the outside observer as "religious" should not by itself be taken to make the property ineligible, since these activities may be expressions of traditional cultural beliefs and may be intrinsic to the continuation of traditional cultural practices. Similarly, the fact that the group that owns a property—for example, an American Indian tribe—describes it in religious terms, or constitutes a group of traditional religious practitioners, should not automatically be taken to exclude the property from inclusion in the Register. Criteria Consideration A was included in the Criteria for Evaluation in order to avoid allowing historical significance to be determined on the basis of religious doctrine, not in order to exclude arbitrarily any property having religious associations. National Register guidelines stress the fact that properties can be listed in or determined eligible for the Register for their association with religious history, or with persons significant in religion, if such significance has "scholarly, secular recognition."[13] The integral relationship among traditional Native American culture, history, and religion is widely recognized in secular scholarship.[14] Studies leading to the nomination of traditional cultural properties to the Register should have among their purposes the application of secular scholarship to the association of particular properties with broad patterns of traditional history and culture. The fact that traditional history and culture may be discussed in religious terms does not make it less historical or less significant to culture, nor does it make properties associated with traditional history and culture ineligible for inclusion in the National Register.

CONSIDERATION B: RELOCATED PROPERTIES.

Properties that have been moved from their historically important locations are not usually eligible for inclusion in the Register, because "the significance of (historic properties) is embodied in their locations and settings as well as in the (properties) themselves" and because "one basic purpose of the National Register is to encourage the preservation of historic properties as living parts of their communities."[15] This consideration is relevant but rarely applied formally to traditional cultural properties; in most cases the property in question is a site or district which cannot be relocated in any event. Even where the property can be relocated, maintaining it on its original site is often crucial to maintaining its importance in traditional culture, and if it has been moved, most traditional authorities would regard its significance as lost.

Where a property is intrinsically portable, however, moving it does not

[13] *How to Complete the National Register Form.*

[14] For example see U.S. Commission on Civil Rights 1983; Michaelson 1986.

[15] *How to Complete the National Register Form.*

The fact that a property has religious connotations does not automatically disqualify it for inclusion in the National Register. This Shaker community in Massachusetts, for example, while religious in orientation, is included in the Register because it expresses the cultural values of the Shakers as a society. (Historic American Buildings Survey)

Some traditional cultural properties may be moveable, like this traditional war canoe still in use in the Republic if Palua. (Papua Historic Preservation Officer)

destroy its significance, provided it remains "located in a historically appropriate setting."[16] For example, a traditionally important canoe or other watercraft would continue to be eligible as long as it remained in the water or in an appropriate dry land context (e.g., a boathouse). A property may also retain its significance if it has been moved historically.[17] For example, totem poles moved from one Northwest Coast village to another in early times by those who made or used them would not have lost their significance by virtue of the move. In some cases, actual or putative relocation even contributes to the significance of a property. The topmost peak of Mt. Tonaachaw in Truk, for example, is traditionally thought to have been brought from another island; the stories surrounding this magical relocation are parts of the mountains cultural significance.

In some cases it may be possible to relocate a traditionally significant property and still retain its significance, provided the property's "historic and present orientation, immediate setting, and general environment" are carefully considered in planning and executing the move.[18] At Lake Sonoma in California, for example, the U.S. Army Corps of Engineers relocated a number of boulders containing petroglyphs having artistic, archeological, and traditional cultural significance to protect them from inundation. The work was done in consultation with members of the local Pomo Indian tribe, and apparently did not destroy the significance of the boulders in the eyes of the tribe.[19]

CONSIDERATION C: BIRTHPLACES AND GRAVES.

Birthplaces and graves of famous persons are not usually eligible for inclusion in the Register as such. If the birthplace or gravesite of a historical person is significant for reasons other than its association with that person, however, the property can of course be eligible.[20] Thus in the case of a traditional cultural property, if someone's birth or burial within the property's boundaries was incidental to the larger traditional significance of the property, the fact that it occurred does not make the property ineligible. For example, in South Texas, the burial site of Don Pedrito Jaramillo, a well documented folk healer who practiced at the turn of the century, has for more than seventy years been a culturally significant site for the performance of traditional healing rituals by Mexican American folk healers. Here the cultural significance of the site as a center for healing is related to the intangible belief that Don Pedrito's spirit is stronger there than in other places, rather than to the fact of his burial there.

On the other hand, it is possible for the birth or burial itself to have been ascribed such cultural importance that its association with the property contributes to its significance.

Tahquitz Canyon in southern California, for example, is in a sense the traditional "birthplace" of the entire Cahuilla Indian people. Its status as such does not make it ineligible; on the contrary, it is intrinsic to its eligibility. Mt. Tonaachaw in Truk is according to some traditions the birth-

[16] *How to Complete the National Register Form.*

[17] *How to Complete the National Register Form.*

[18] *How to Complete the National Register Form.*

[19] The location to which a property is relocated, and the extent to which it retains its integrity after relocation, must be carefully considered in judging its continued eligibility for inclusion in the National Register. See *How to Complete the National Register Form* for general guidelines.

[20] *How to Complete the National Register Form.*

place of the culture hero Souwooniras, whose efforts to organize society among the islands of Truk Lagoon are the stuff of Trukese legend. The association of his birth with the mountain does not make the mountain ineligible; rather, it contributes to its eligibility.

CONSIDERATION D: CEMETERIES.

Cemeteries are not ordinarily eligible for inclusion in the Register unless they "derive (their) primary significance from graves of persons of transcendent importance, from age, from distinctive design values, or from association with historic events."[21] Many traditional cultural properties contain cemeteries, however, whose presence contributes to their significance.

Tahquitz Canyon, for example, whose major significance lies in its association with Cahuilla traditional history, contains a number of cemeteries that are the subjects of great concern to the Cahuilla people. The fact that they are present does not render the Canyon ineligible; on the contrary, as reflections of the long historical association between the Cahuilla and the Canyon, the cemeteries reflect and contribute to the Canyon's significance. Thus the fact that a traditional cultural property is or contains a cemetery should not automatically be taken to render it ineligible.

CONSIDERATION E: RECONSTRUCTION.

A reconstructed property—that is, a new construction that ostensibly reproduces the exact form and detail of a property or portion of a property that has vanished, as it appeared at a specific period in time—is not normally eligible for inclusion in the Register unless it meets strict criteria.[22] The fact that some reconstruction has occurred within the boundaries of a traditional cultural property, however, does not justify regarding the property as ineligible for inclusion in the Register. For example, individuals involved in the revitalization of traditional Hawai'ian culture and religion have reconstructed certain religious structures on the island of Kaho'olawe; while the structures themselves might not be eligible for inclusion in the Register, their construction in no way diminishes the island's eligibility.

CONSIDERATION F: COMMEMORATION.

Like other properties, those constructed to commemorate a traditional event or person cannot be found eligible for inclusion in the Register based on association with that event or person alone.[23] The mere fact that commemoration is involved in the use or design of a property should not be taken to make the property ineligible, however. For example, traditional meetinghouses in the Republic of Palau, included in the National Register, are typically ornamented with "story boards" commemorating traditional events; these derive their design from traditional Palauan aesthetic values, and thus contribute to the cultural significance of the structures. They connect the structures with the traditional history of the islands, and in no way diminish their cultural, ethnographic, and architectural significance.

CONSIDERATION G: SIGNIFICANCE ACHIEVED WITHIN THE PAST 50 YEARS.

Properties that have achieved significance only within the 50 years preceding their evaluation are not eligible for inclusion in the Register unless "sufficient historical perspective exists to determine that the property is exceptionally important and will continue to retain that distinction in the future."[24] This is an extremely important criteria consideration with respect to traditional cultural values. A significance ascribed to a property only in the past 50 years cannot be considered traditional.

As an example, consider a mountain peak used by an Indian tribe for communication with the supernatural. If the peak has been used by members of the tribe for many years, or if it was used by members of the tribe in prehistory or early history, it may be eligible, but if its use has begun only within the past 50 years, it is probably not eligible.

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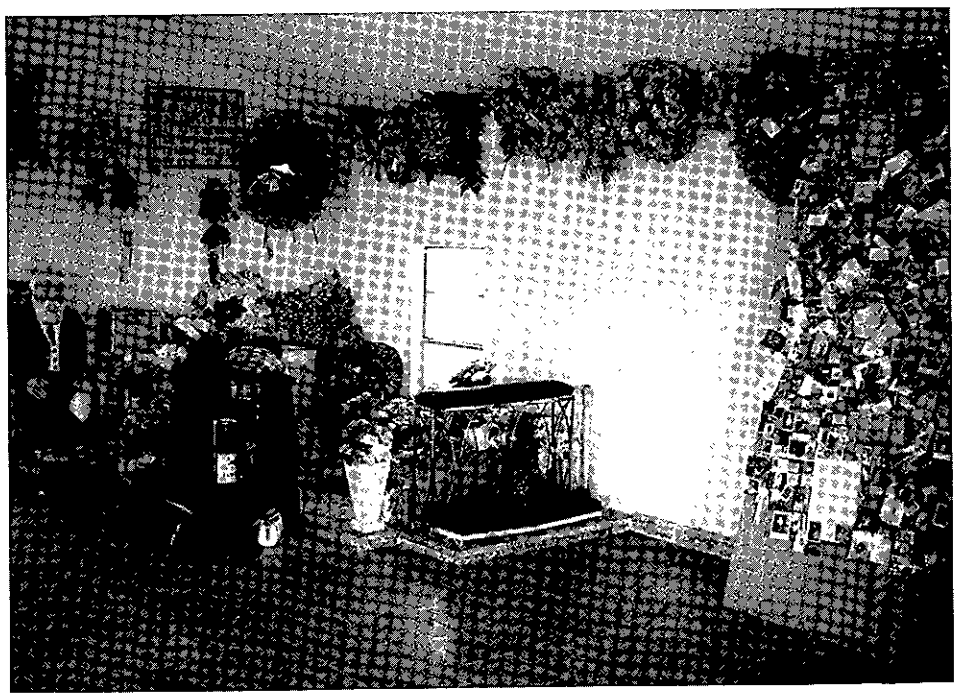
[21] *How to Complete the National Register Form.*

[22] *How to Complete the National Register Form.*

[23] *How to Complete the National Register Form.*

[24] *How to Complete the National Register Form.*



Several hundred persons visit this shrine to Don Pedrito Jaramillo, curandero (faith healer), yearly to seek his healing spirit. (Curtis Tunnell, Texas Historical Commission)

Tahquitz Canyon, in southern California, is included in the National Register because of its association with the traditions of the Cahuilla Indians. The ancestors of the Cahuilla came into this world from a lower one at the beginning of time, and an evil spirit, named Tahquitz, is believed to live in the upper reaches of the canyon. (Thomas F. King)

The fact that a property may have gone unused for a lengthy period of time, with use beginning again only recently, does not make the property ineligible for the Register. For example, assume that the Indian tribe referred to above used the mountain peak in prehistory for communication with the supernatural, but was forced to abandon such use when it was confined to a distant reservation, or when its members were converted to Christianity. Assume further that a revitalization of traditional religion has begun in the last decade, and as a result the peak is again being used for vision quests similar to those carried out there in prehistory. The fact that the contemporary use of the peak has little continuous time depth does not make the peak ineligible; the peak's association with the traditional activity reflected in its contemporary use is what must be considered in determining eligibility.

The length of time a property has been used for some kinds of traditional purposes may be difficult to establish objectively. Many cultural uses may have left little or no physical evidence, and may not have been noted by ethnographers or early visitors to the area. Some such uses are explicitly kept from outsiders by members of the group ascribing significance to the property. Indirect evidence and inference must be weighed carefully, by or in consultation with trained ethnographers, ethnohistorians, and other specialists, and professional judgements made that represent one's best, good-faith interpretation of the available data.

V. DOCUMENTING TRADITIONAL CULTURAL PROPERTIES

GENERAL CONSIDERATIONS

Generally speaking, documentation of a traditional cultural property, on a National Register nomination form or in eligibility documentation, should include a presentation of the results of interviews and observations that systematically describe the behavior, beliefs, and knowledge that are germane to understanding the property's cultural significance, and an organized analysis of these results. The data base from which the formal nomination or eligibility determination documents are derived should normally include appropriate tape recordings, photographs, field notes, and primary written records.

Obtaining and presenting such documentation can present special challenges, however. First, those who ascribe significance to the property may be reluctant to allow its description to be committed to paper, or to be filed with a public agency that might release information about it to inappropriate people. Second, documentation necessarily involves addressing not only the physical characteristics of the property as perceived by an outside observer, but culturally significant aspects of the property that may be visible or knowable only to those in whose traditions it is significant. Third, boundaries are often difficult to define. Fourth, in part because of the difficulty involved in defining boundaries, it is important to address the setting of the property.

THE PROBLEM OF CONFIDENTIALITY

Particularly where a property has supernatural connotations in the minds of those who ascribe significance to it, or where it is used in ongoing cultural activities that are not readily shared with outsiders, it may be strongly desired that both the nature and the precise location of the property be kept secret. Such a desire on the part of those who value a property should of course be respected, but it presents considerable problems for the use of National Register data in planning. In simplest terms, one cannot protect a property if one does not know that it is there.

The need to reveal information about something that one's cultural system demands be kept secret can present agonizing problems for traditional groups and individuals. It is one reason that information on traditional cultural properties is not readily shared with Federal agencies and others during the planning and environmental review of construction and land use projects. However concerned one may be about the impacts of such a project on a traditional cultural property, it may be extremely difficult to express these concerns to an outsider if one's cultural system provides no acceptable mechanism for doing so. These difficulties are sometimes hard for outsiders to understand, but they should not be underrated. In some cultures it is sincerely believed that sharing information inappropriately with outsiders will lead to death or severe injury to one's family or group.

As noted above, information on historic properties, including traditional cultural properties, may be kept confidential under the authority of 304 of the National Historic Preservation Act.[25] This may not always be enough to satisfy the concerns of those who value, but fear the results of releasing information on, traditional cultural properties. In some cases these concerns may make it necessary not to nominate such properties formally at all, or not to seek formal determinations of eligibility, but simply to maintain some kind of minimal data in planning files. For example, in planning deployment of the MX missile system in Wyoming, the Air Force became aware that the Lakota Indian tribe in the area had concerns about the project's impacts on traditional cultural properties, but was unwilling to identify and document the precise locations and significance of such properties. To resolve this problem, Air Force representatives met with the tribe's traditional cultural authorities and indicated where they wanted to construct the various facilities required by the deployment; the tribe's authorities indicated which of these locations were likely to present problems, without saying what the nature of the problems might be. The Air Force then designed the project to minimize use of such areas. In a narrow sense, obviously, the Air Force did not go through the process of evaluation recommended by this Bulletin; no specific properties were identified or evaluated to determine their eligibility for inclusion in the National Register. In a broader sense, however, the Air Force's approach represents excellent practice in the identification and treatment of traditional cultural prop-

[25] For details regarding maintaining confidentiality, see *Guidelines for Restricting Information About Historic and Prehistoric Resources.*

erties. The Air Force consulted carefully and respectfully with those who ascribed traditional cultural significance to properties in the area, and sought to accommodate their concerns. The tribe responded favorably to this approach, and did not take undue advantage of it. Presumably, had the tribe expressed concern about such expansive or strategically located areas as to suggest that it was more interested in impeding the deployment than in protecting its valued properties the Air Force would have had to use a different approach.

In summary: the need that often exists to keep the location and nature of a traditional cultural property secret can present intractable problems. These must be recognized and dealt with flexibly, with an understanding of the fact that the management problems they may present to Federal agencies or State Historic Preservation Officers may pale into insignificance when compared with the wrenching cultural conflicts they may present to those who value the properties.

DOCUMENTING VISIBLE AND NON-VISIBLE CHARACTERISTICS

Documentation of a traditional cultural property should present not only its contemporary physical appearance and, if known, its historical appearance, but also the way it is described in the relevant traditional belief or practice. For example, one of the important cultural locations on Mt. Tonaachaw in Truk is an area called "Neepisaram," which physically looks like nothing but a grassy slope near the top of the mountain. In tradition, however, it is seen as the ear of "kuus," a metaphorical octopus identified with the mountain, and as the home of "Saraw," a warrior spirit/barracuda. Obviously a nomination of "Neepisaram" would be incomplete and largely irrelevant to its significance if it identified it only as a grassy slope near the top of the mountain.

PERIOD OF SIGNIFICANCE

Describing the period of significance for a traditional cultural property can be an intellectual challenge, particularly where the traditions of a Native American or Micronesian group are involved. In such cases there are often two different kinds of "periods." One of these is the period in which, in tradition, the property gained its significance—the period during which the Cahuilla people emerged from the lower world through Tahquitz Canyon, or the period when civilization came to Truk through the magical arrival of the culture-bearer Sowukachaw on Mt. Tonaachaw. Such periods often have no fixed referent in time as it is ordinarily construed by Euroamerican scholarship.[26] To the Cahuilla, their ancestors simply emerged from the lower world at the beginning of human life on earth, whenever that may have been. A Trukese traditional authority will typically say simply that Sowukachaw came to Truk *"nóómw nóómw nóómw"* (long, long ago). It is usually fruitless, and of little or no relevance to the eligibility of the property involved for inclusion in the National Register, to try to relate this sort of traditional time to time as measured by Euroamerican history. Traditional "periods" should be defined in their own terms. If a traditional group says a property was created at the dawn of time, this should be reported in the nomination or eligibility documentation; for purposes of National Register eligibility there is no need to try to establish whether, according to Euroamerican scholarship or radiocarbon age determination, it really was created at the dawn of time.

The second period that is often relevant to a traditional property is its period of use for traditional purposes. Although direct, physical evidence for such use at particular periods in the past may be rare in the case of properties used by native American groups, it is usually possible to fix a period of use, at least in part, in ordinary chronological time. Establishing the period of use often involves the weighing of indirect evidence and inference. Interviews with traditional cultural authorities are usually the main sources of data, sometimes, supplemented by the study of historical accounts or by archeological investigations. Based on such sources of data it should be possible at least to reach supportable inferences about whether generations before the present one have used a property for traditional purposes, suggesting that it was used for such purposes more than fifty years ago. It is seldom possible to determined when the traditional use of property began, however—this tends to be lost, as it were, in the mists of antiquity.

BOUNDARIES

Defining the boundaries of a traditional cultural property can present considerable problems. In the case of the Helkau Historic District in northern California, for example, much of the significance of the property in the eyes of its traditional users is related to the fact that it is quiet, and that is presents extensive views of natural landscape without modern intrusions.

These factors are crucial to the medicine making done by traditional religious practitioners in the district. If the boundaries of the district were defined on the basis of these factors, however, the district would take in a substantial portion of California's North coast Range. Practically speaking, the boundaries of a property like the Helkau District must be defined more narrowly, even though this may involve making some rather arbitrary decisions. In the case of the Helkau District, the boundary was finally drawn along topographic lines that included all the locations at which traditional practitioners carry out medicine-making and similar activities, the travel routes between such locations, and the immediate viewshed surround this complex of locations and routes.

In defining boundaries, the traditional uses to which the property is put must be carefully considered. For example, where a property is used as the Helkau District is used, for contemplative purposes, viewsheds are important and must be considered in boundary definition. In an urban district significant for its association with a given social group, boundaries might be established where residence or use by the group ends, or where such residence or use is no longer reflected in the architecture or spatial organization of the neighborhood. Changes in boundaries through time should also be taken into consideration.

For example, archeological evidence may indicate that a particular cultural practice occurred within particular boundaries in the past, but the practice today may occur within dif-

[26] Except, perhaps, by some of the more esoteric subfields of cosmology and quantum mechanics.

ferent boundaries perhaps larger, perhaps smaller, perhaps covering different areas. The fact that such changes have taken place, and the reasons they have taken place, if these can be ascertained, should be documented and considered in developing a rationale for the boundaries identified in the nomination or eligibility documentation.

DESCRIBING THE SETTING

The fact that the boundaries of a traditional cultural property may be drawn more narrowly than they would be if they included all significant viewsheds or lands on which noise might be intrusive on the practices that make the property significant does not mean that visual or auditory intrusions occurring outside the boundaries can be ignored. In the context of eligibility determination or nomination, such intrusions if severe enough may compromise the property's integrity. In planning subsequent to nomination or eligibility determination, the Advisory Council's regulations define "isolation of the property from or alteration of the character of the property's setting" as an adverse effect "when that character contributes to the property's qualification for the National Register" (36 CFR 800.9(b)(2)). Similarly, the Council's regulations define as adverse effects "introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting" (36 CFR 800.9 (b)(3)).

To assist in determining whether a given activity outside the boundaries of a traditional cultural property may constitute an adverse effect, it is vital that the nomination form or eligibility documentation discuss those qualities of a property's visual, auditory, and atmospheric setting that contribute to its significance, including those qualities whose expression extends beyond the boundaries of the property as such into the surrounding environment.

Individual structures can have traditional cultural significance, like this Yapese men's house, used by Yapese today in the conduct of deliberations on matters of cultural importance. (Yap State Historic Preservation Office)

COMPLETING REGISTRATION FORMS

The following discussion is organized with reference to the National Register of Historic Places Registration Form (NPS 10-900), which must be used in nominating properties to the National Register. To the extent feasible, documentation supporting a request for a determination of eligibility should be organized with reference to, and if possible using, the Registration Form as well. Where the instructions given in the National Register bulletin entitled *How to Complete the National Register Registration Form,* are sufficient without further discussion, this is indicated.

1. Name of Property
The name given a traditional cultural property by its traditional users should be entered as its **historic name.** Names, inventory reference numbers, and other designations ascribed to the property by others should be entered under **other names/ site number.**

2. Location
Follow *How to Complete the National Register Registration Form,* but note discussion of the problem of confidentiality above.

3. Classification
Follow *How to Complete the National Register Registration Form.*

4. State/Federal Agency Certification
Follow *How to Complete the National Register Registration Form.*

5. National Park Service Certification
To be completed by National Register.

6. Function or Use
Follow *How to Complete the National Register Registration Form.*

7. Description
Follow *How to Complete the National Register Registration Form* as applicable. It may be appropriate to address both visible and non-visible aspects of the property here, as discussed under General Considerations above; alternatively, non-visible aspects of the property may be discussed in the statement of significance.

8. Statement of Significance
Follow *How to Complete the National Register Registration Form,* being careful to address significance with sensitivity for the viewpoints of those who ascribe traditional cultural significance to the property.

9. Major Bibliographical References
Follow *How to Complete the National Register Registration Form.* Where oral sources have been employed, append a list of those consulted and identify the locations where field notes, audio or video tapes, or other records of interviews are housed, unless consultants have required that this information be kept confidential; if this is the case, it should be so indicated in the documentation.

10. Geographical Data
Follow *How to Complete the National Register Registration Form* as applicable, but note the discussion of boundaries and setting under **General Considerations** above. If it is necessary to discuss the setting of the property in detail, this discussion should be appended as accompanying documentation and referenced in this section.

11. Form Prepared By
Follow *How to Complete the National Register Registration Form.*

Accompanying Documentation
Follow *How to Complete the National Register Registration Form,* except that if the group that ascribes cultural significance to the property objects to the inclusion of photographs, photographs need not be included. If photographs are not included, provide a statement explaining the reason for their exclusion.

VI. CONCLUSION

The National Historic Preservation Act, in its introductory section, establishes that "the historical and cultural foundations of the Nation should be preserved as a living part of our community life in order to give a sense of orientation to the American people"[27] (16 U.S.C. 470(b)(2)). The cultural foundations of America's ethnic and social groups, be they Native American or historical immigrant, merit recognition and preservation, particularly where the properties that represent them can continue to function as living parts of the communities that ascribe cultural value to them. Many such properties have been included in the National Register, and many others have been formally determined eligible for inclusion, or regarded as such for purposes of review under 106 of the Act. Federal agencies, State Historic Preservation Officers, and others who are involved in the inclusion of such properties in the Register, or in their recognition as eligible for inclusion, have raised a number of important questions about how to distinguish between traditional cultural properties that are eligible for inclusion in the Register and those that are not. It is our hope that this Bulletin will help answer such questions.

[27] 16 U.S.C. 470(b)(2).

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VIII. APPENDIX I

A DEFINITION OF "CULTURE"

Early in this Bulletin a shorthand definition of the word "culture" is used. A longer and somewhat more complex definition is used in the National Park Service's internal cultural resource management guidelines (NPS-28). This definition is consistent with that used in this Bulletin, and may be helpful to those who require further elucidation of the term. The definition reads as follows:

"Culture (is) a system of behaviors, values, ideologies, and social arrangements. These features, in addition to tools and expressive elements such as graphic arts, help humans interpret their universe as well as deal with features of their environments, natural and social.

Culture is learned, transmitted in a social context, and modifiable. Synonyms for culture include "lifeways," "customs," "traditions," "social practices," and "folkways." The terms "folk culture" and "folklife" might be used to describe aspects of the system that are unwritten, learned without formal instruction, and deal with expressive elements such as dance, song, music and graphic arts as well as storytelling."

IX. APPENDIX II PROFESSIONAL QUALIFICATIONS: ETHNOGRAPHY

When seeking assistance in the identification, evaluation, and management of traditional cultural properties, agencies should normally seek out specialists with ethnographic research training, typically including, but not necessarily limited to:

I. Language skills: it is usually extremely important to talk in their own language with those who may ascribe value to traditional cultural properties. While ethnographic fieldwork can be done through interpreters, ability in the local language is always preferable.

II. Interview skills, for example:

- The ability to approach a potential informant in his or her own cultural environment, explain and if necessary defend one's research, conduct an interview and minimize disruption, elicit required information, and disengage from the interview in an appropriate manner so that further interviews are welcome; and
- The ability to create and conduct those types of interviews that are appropriate to the study being carried out, ensuring that the questions asked are meaningful to those being interviewed, and that answers are correctly understood through the use of such techniques as translating and back-translating. Types of interviews normally carried out by ethnographers, one or more of which may be appropriate during evaluation and documentation of a traditional cultural property, include:
- semi-structured interview on a broad topic;
- semi-structured interview on a narrow topic;
- structured interview on a well defined specific topic; open ended life history/life cycle interview; and
- genealogical interview.

III. Skill in making and accurately recording direct observations of human behavior, typically including:

- The ability to observe and record individual and group behavior in such a way as to discern meaningful patterns; and
- The ability to observe and record the physical environment in which behavior takes place, via photography, mapmaking, and written description.

IV. Skill in recording, coding, and retrieving pertinent data derived from analysis of textural materials, archives, direct observation, and interviews.

Proficiency in such skills is usually obtained through graduate and post-graduate training and supervised experience in cultural anthropology and related disciplines, such as folklore/folklife.

X. APPENDIX III LIST OF NATIONAL REGISTER BULLETINS

The Basics

How to Apply National Register Criteria for Evaluation *

Guidelines for Completing National Register of Historic Places Form
Part A: How to Complete the National Register Form *
Part B: How to Complete the National Register Multiple Property Documentation Form

Researching a Historic Property *

Property Types

Guidelines for Evaluating and Documenting Historic Aids to Navigation *

Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields

Guidelines for Evaluating and Registering Historical Archeological Sites

Guidelines for Evaluating and Registering Cemeteries and Burial Places

How to Evaluate and Nominate Designed Historic Landscapes *

Guidelines for Identifying, Evaluating and Registering Historic Mining Sites

How to Apply National Register Criteria to Post Offices *

Guidelines for Evaluating and Documenting Properties Associated with Significant Persons

Guidelines for Evaluating and Documenting Properties That Have Achieved Significance Within the Last Fifty Years

Guidelines for Evaluating and Documenting Rural Historic Landscapes *

Guidelines for Evaluating and Documenting Traditional Cultural Properties *

Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places

Technical Assistance

Contribution of Moved Buildings to Historic Districts; Tax Treatments for Moved Buildings; and Use of Nomination Documentation in the Part I Certification Process

Defining Boundaries for National Register Properties*

Guidelines for Local Surveys: A Basis for Preservation Planning *

How to Improve the Quality of Photographs for National Register Nominations

National Register Casebook: Examples of Documentation *

Using the UTM Grid System to Record Historic Sites

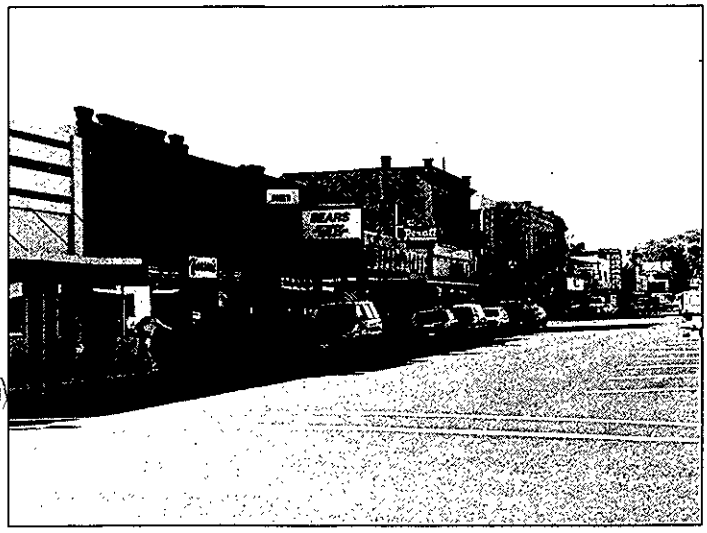
The above publications may be obtained by writing to the National Register of Historic Places, National Park Service, 1849 C Street, NW, Washington, D.C. 20240. Publications marked with an asterisk (*) are also available in electronic form on the World Wide Web at www.cr.nps.gov/nr, or send your request by e-mail to nr_reference@nps.gov.

NATIONAL REGISTER BULLETIN

Technical information on the the National Register of Historic Places: survey, evaluation, registration, and preservation of cultural resources

U.S. Department of the Interior
National Park Service
Cultural Resources
National Register, History and Education

Researching a Historic Property



The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.

This material is partially based upon work conducted under a cooperative agreement with the National Conference of State Historic Preservation Officers and the U.S. Department of the Interior.

Date of publication: 1991; revised 1998.

Cover photos, clockwise from top left:

House at 2437 Fifteenth Street, N.W.

The house at 2437 Fifteenth Street, N.W. in Washington, DC is significant for its architectural design of 1927, a product of the prominent Washington architect of the early 20th century, George Oakley Totten, Jr. In addition, the house is significant for its role in the development of the thoroughfare along and parallel to 16th Street north of the White House with large, elegant embassies and private homes. Documentary sources for this property include building permits, deeds, and interviews. (Gary Griffin, Washington, DC)

Garden Homes Historic District

This historical view of the Garden Homes development in Milwaukee, Wisconsin shows the early years of what is considered to be the nation's first municipally-sponsored, community-owned housing project. Constructed between 1921 and 1923, it was based on the "garden city" model of Letchworth, England. The collection of simple, two-story cottages was documented through daily newspapers, periodicals, building permits, and city directories. (Milwaukee Public Library)

Dr. Samuel D. Risley House

Located in Media, Delaware County, Pennsylvania, the 1877 Dr. Samuel D. Risley House combines elements of the Gothic Revival and the Norman styles. The house is significant for its architecture, described as "a strikingly impressive eclectic house, combining themes from several popular 19th century picturesque styles." The house was documented through local histories, local daily newspapers, family genealogies and Philadelphia city directories. (Leslie B. Potter, Glen Mills, PA)

Ritzville Historic District

This commercial street in Ritzville, Adams County, Washington represents the period in the community's history when it was the world's greatest wheat entrepot. Developed during the late 19th/early 20th century, Ritzville was a booming agricultural trade center in the heart of a fertile wheat growing belt. The surviving commercial thoroughfare, a coherent group of buildings from that specific era in history, forms the National Register-listed Ritzville Historic District. The documentary sources for this nomination include county histories, local magazines and local daily newspapers, and insurance maps. (Leonard Garfield, Office of Archaeology and Historic Preservation, State of Washington)

NATIONAL REGISTER BULLETIN

RESEARCHING A HISTORIC PROPERTY

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NATIONAL REGISTER, HISTORY AND EDUCATION
NATIONAL REGISTER OF HISTORIC PLACES

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I. INTRODUCTION

The purpose of this bulletin is to introduce the beginner to some basic sources and techniques for the collection of data for nominating a historic property to the National Register of Historic Places. This guide is to be used with the bulletin entitled *How to Complete the National Register Registration Form*, which explains terminology, and how the information gathered through research is incorporated in a National Register nomination. While the National Register lists buildings, sites, districts, structures, and objects, this bulletin focuses on individual buildings. It may be applicable to other resource types—especially structures—and districts composed mainly of buildings.

Before you begin your research, contact the State Historic Preservation Officer (SHPO) of the State in which the property is located. The State will provide you with the appropriate forms, instructions, and guidance about the State's procedures for nominating properties to the National Register. The SHPO will also provide a copy of the State's inventory documentation if the property has already been surveyed. The SHPO is an important source of information about significant historic contexts and documentation that may be useful to you for researching your historic property. Finally, that office will be able to tell you if your community has a preservation official or office that you should contact. A complete list of State Historic Preservation Officers is located in Appendix IX of *How to Complete the National Register Registration Form.*

Additional information may be available from local landmarks and historic district commissions, particularly if the community in which your property is located is a Certified Local Government (CLG). Local governments frequently collect information about landmark properties, historic districts, and archeological sites. If the property being researched is owned by the U.S. Government, the Federal Preservation Officer (FPO) should be contacted for information as well. The SHPO can refer you to the relevant FPO for the agency involved.

Hyde Park Historic District

This view of the Hyde Park Historic District illustrates a street scene from one of the earliest suburban subdivisions in Austin, Travis County, Texas. Established in 1891, the subdivision developed well into the first decades of the 20th century with bungalow houses. The bungalow reflected the progressive aspirations of the middle class and the availablity of pattern books and mail-order house plans. This National Register historic district was documented through Sanborn Maps, real estate records, and estate records. (Daniel Hardy, Austin, Texas)

II. RESEARCH AND THE NATIONAL REGISTER FORM

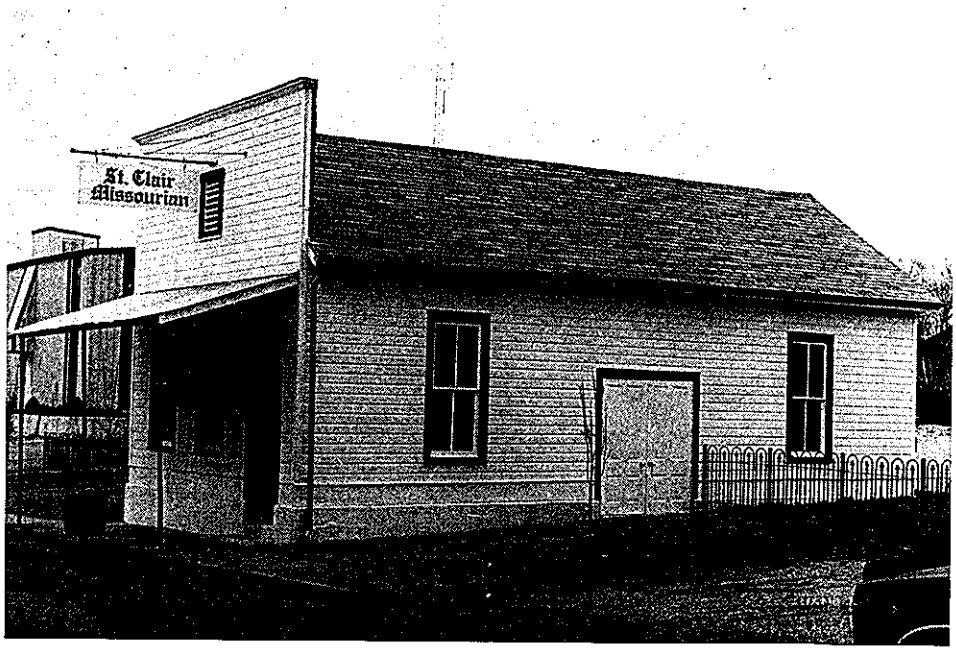
Researching a historic property for National Register nomination differs from researching a property for other purposes. Information collected must be directed at determining the property's historical significance. When evaluating a property against National Register criteria, significance is defined as the importance of a property to the history, architecture, archeology, engineering, or culture of a community, a State, or the nation. Significance may be based on association with historical events (Criterion A); association with a significant person (Criterion B); distinctive physical characteristics of design, construction, or form (Criterion C); and potential to yield important information (Criterion D).

Every National Register nomination must place a property in its **historic context** to support that property's significance. Historic context means information about the period, the place, and the events that created, influenced, or formed the backdrop to the historic resources. The discussion of historic context should describe the history of the community where the property is located as it relates to the history of the property.

Two other considerations affect evaluation of significance: **association** and **period of significance**. **Association** refers to the direct connection between the property and the area of significance for which it is nominated. For a property to be significant under historic events (Criterion A), the physical structure must have been there to "witness" the event or series of events; they must have actually occurred on the nominated property. For a property to be significant for an association with an individual (Criterion B), the individual should have lived, worked, or been on the premises during the period in which the person accomplished the activities for which the individual is considered significant. Period of significance refers to the span of time during which significant events and activities occurred. Events and associations with historic properties are finite; most properties have a clearly definable period of significance.

Lastly, a property is evaluated for its **integrity**: the authenticity of physical characteristics from which properties obtain their significance. When properties retain historic material and form, they are able to convey their association with events, people, and designs from the past. All buildings change over time. Changes do not necessarily mean that a building is not eligible; but, if it has radical changes, it may no longer retain enough historic fabric, and may not be eligible for the National Register. Historic integrity is the composite of seven qualities: location, design, setting, materials, workmanship, feeling and association.

The National Register nomination form records the property at the time



Panhorst Feed Store

The Panhorst Feed Store in St. Clair, Franklin County, Missouri was constructed in 1917-18. It is significant as "emblematic of a type of construction common among small towns in the 19th and early 20th century." This vernacular commercial building developed in the community, whose economy was based on mining, lumber, and agriculture. It was documented through local newspapers and personal interviews. (James Evans, Department of Natural Resources, State of Missouri)

of its listing and justifies how the property qualifies for National Register listing. In addition, the form contains other data elements that should be reviewed before research is initiated. They include the location, size, and boundaries of the property; category and numbers of contributing resources; historic and current functions; architectural classification and materials; area and period of significance; and bibliography.

One of the most challenging tasks of research is knowing when you have gathered enough material. You are ready to complete the National Register nomination form when the following questions can be answered:

- What was the property called at the time it was associated with the important events or persons, or took on its important physical character that gave it importance?
- How many buildings, structures, and other resources make up the property?
- When was the property constructed and when did it attain its current form?
- What are the property's historic characteristics?
- What changes have been made over time and when? How have these affected its historic integrity?
- What is the current condition of the property, including the exterior, grounds, setting, and interior?
- How was the property used during its period of significance and how is it used today?
- Who occupied or used the property historically? Did they individually make any important contributions to history? Who is its current owner?
- Was it associated with important events, activities, or persons?
- Which National Register criteria apply to the property? In what areas of history is the property significant?
- How does the property relate to the history of the community where it is located?
- How does the property illustrate any themes or trends important to the history of its community, State, or nation?
- How large is the property, where is it located, or what are its boundaries?
- Would this property more appropriately be nominated as part of a historic district?

III. RESEARCH HINTS

Organize research tasks in an efficient and logical fashion. Decide what you need to know and where you can find it. Make a list of the questions you must answer. Make a list of specific tasks, noting where you need to go, to whom you need to speak, and what you expect to find, and the order in which you intend to proceed. Determine your possibilities and limitations. You can save yourself time and effort by defining the parameters of your project in advance. You can alter, discard, or add questions to tasks as you proceed. Once you know exactly what you need to find, and have a good idea where to find it, you are well on your way to accomplishing your goal.

Remember that the property itself is a primary source of information. Walk through the property and gather information that describes it, noting distinctive features and obvious alterations and changes. Examine all buildings and structures, inside as well as out. Examine the grounds, noting any signs of previous buildings or activities (foundations, wells, etc.), and roadways, paths, vegetation, fences, and other features.

Identify what historic information is readily available, perhaps in the collections of the owners, a neighbor, or the community. As early as possible, establish the construction date for the property. This date may help establish an earliest beginning date for your period of significance. In addition, try to discover the names of the persons who owned or lived in the property, or for a business or institution, the names by which the property has been known through its history. With this information, you are less likely to overlook information under an unfamiliar name. Examine your property in relation to the historic events and development of the community of which it is a part to determine the context in which it is significant. Gather and record this general information as you gather the specific facts about your property.

Contact all organizations and institutions holding source materials well in advance of the time of your visit. Organize and write down the questions you want to ask before you make your initial contact. Keep notes of all conversations. Explain exactly what you wish to accomplish. Determine the hours and procedures for using special collections, archives, and other records. Make arrangements with the person most knowledgeable about the collection you wish to use, so that you do not arrive at the facility to discover the person you need to see is unavailable.

Explain to the research facility personnel exactly when you wish to arrive, how long you will be able to stay, and exactly what you wish to see. In this way, the material will be ready for you. In addition, you may be pleasantly surprised to discover the material you need can be sent on interlibrary loan to your local library. Talk to the staff, especially reference people, archivists, and librarians. They may have fresh ideas or leads to suggest, and may be able to resolve confusion. Bear in mind that they will guide your efforts but will not do your research for you.

Identify and follow any special rules and requirements for using a collection beforehand, e.g., no photographs, no photocopying, no tape recording, note-taking with a soft pencil only, photocopy costs, what you may or may not be allowed to bring, hours for special staff, etc.

Examine information thoroughly before reading it. Review table of contents, indices, and any accompanying research guides or "finding aids" prepared by staff. Do you need to go through every piece of paper? Can you skip some sections of the book? Is this publication really what you thought it was when you requested it? Did you get everything you requested? Learn how to use the directories, guides, indices, files, catalogs, and publications lists for various collections. Explore general guides to archival materials, manuscript collections, dissertations, and photographic collections for additional sources that may help you in your research.

Record consistently the documentation and sources of information from your research. Use a standard bibliographical style such as that found in *A Manual of Style or A Manual for Writers* by Kate L. Turabian, both published by the University of Chicago Press.

Kehlbeck Farmstead

The Kehlbeck Farmstead in rural Cass County, Nebraska represents a rare surviving cluster of domestic agricultural buildings and structures associated with the farming history of southeast Nebraska of the late 19th/early 20th century. Its domestic character is enhanced by a rare allée of pruned cedar trees that form part of the decorative and functional landscaping of the homestead. This property was documented largely through college and university research papers. (Joni Gilkerson, Nebraska State Historical Society)

IV. GENERAL GUIDE TO SOURCES

When researching a property, both primary (original and archival) and secondary sources should be used. The following list includes both primary and secondary sources.

Material	Sources	Potential Information Yielded	Possible Application to National Register Nomination
ABSTRACT OF TITLE	• Owner • Office of attorney who did title search • Title company files	• Summary of relevant deeds, mortgages, wills, litigation, tax sales • Names of owners • Dates when property changed hands • Descriptions of legal boundaries	• Possible establishment of "association" with significant individuals • Establishment of built dates and alterations • Boundary descriptions • Historic names of properties
ARCHITECTURAL/ CONSTRUCTION DRAWINGS	• Owner • Architectural/ engineering firm or successor firm • Headquarters of organization or firm that built the structure • Recent tax assessor's records • Newspaper references	• Architect/builder • Plans • Materials • Built dates and alterations • General construction information	• Appearance of original building and any major additions • Integrity of property • Period of significance and significant dates if nominated under Criterion C
ARCHITECTURAL JOURNALS	• Specialized fine arts libraries • Original architectural publications	• Architectural articles from historic period • Architectural biographies • Architectural drawings and photographs	• Architectural description • Statement of significance
BUILDING PERMITS	• Municipal building inspector • City/county records office • City/county/State archives	• Architect • Existence of architectural drawings • Client • Contractor • Cost and date of work • Alterations	• Information for Criterion C: significant style or type of design • Identification of the architect or builder • Material for description • Establishment of integrity • Built dates
CEMETERY RECORDS	• Cemetery administrators • Cemetery offices • Churches, rectories, and diocesan offices • City hall and courthouse	• Family relationships • Birth and death dates	• Biographical details of individuals associated with property

Material	Sources	Potential Information Yielded	Possible Application to National Register Nomination
CENSUS RECORDS[1] • Population • Agricultural • Manufacturing	• State archives • Federal Records Center, Suitland, MD	• Residents of property for years census taken • Property ownership • Acreage, crops, and livestock • Types and locations of manufacturers • Ethnic backgrounds of residents, ages, and education levels	• Names of family members • Proven association of individual with property • Occupations • Under agricultural and manufacturing data, potential documentation and justification for Criteria A and D • Historic context
CHURCH RECORDS	• Parish churches • Diocesan offices	• Birth • Death • Baptism • Marriages	• Biographical details of individuals associated with property
CITY COUNCIL OR COUNTY MINUTES, ORDINANCES, ETC.	• City clerk • Clerk of superior court or county courthouse	• Ordinances of resolution affecting a property, subdivision, etc. • Dates • Description	• Information pertaining to area of significance, e.g., community planning and development
COMMERCIAL HISTORIES	• Head offices of companies • Local or regional libraries • Historical societies • Corporate records	• Histories of local industries and businesses	• Information pertaining to area of significance, e.g., commerce, economics, and industry • Justification for significance of industrial and commercial properties and downtown historic districts
COMMUNITY/ COUNTY HISTORIES	• Local/regional libraries • Historical societies • Fraternal organizations	• Information about structures, people, and events: pertinent dates, locations, activities, biographical sketches, etc.	• Information about events, activities, and individuals for Criteria A, B, and C • Association: information that may tie events and activities directly to the property • Leads to other sources of information • Historic context

[1] *Federal census records generally are released to the public seventy-five years after the census is taken.*
- *The earliest Federal census available is 1790.*
- *Most Federal census records prior to 1880 do not contain house addresses.*
- *The regular 1890 census was destroyed by fire. However, some special census schedules are available, including information on surviving Union veterans of the Civil War for certain states.*
- *Check the availability of State censuses. More recent and detailed data are available for some states.*

Material	Sources	Potential Information Yielded	Possible Application to National Register Nomination
CORPORATE/ BUSINESS RECORDS • Ledger Books • Client Files • Advertisements	• Corporate/business archives • Specialized libraries • Present corporation/ business	• Nature and source of items sold • Economic base of community	• Information pertaining to area of significance, e.g., commerce, economics, and industry
COURT DOCUMENTS	• Courthouses • State archives	• Civil and criminal indices: civil and criminal court actions, divorces, property suits, etc. • Voting rolls (may be more easily obtained in smaller communities) • Probate records	• Biographical details of individuals associated with property
DEEDS[2]	• Clerk of superior court, county courthouse • State archives	• Ownership or title • Property value (noticeable change in value could indicate construction, additions, change in makeup of neighborhood, and change in fortunes of the community)	• Proven association of individual with property • Dates of original construction and any additions
DIRECTORIES[3] AND GAZETTEERS	• Local/regional libraries • Historical societies	• City directories: occupants of dwelling by alphabetical listing, addresses, and businesses • Business directories: lists of merchants, addresses, and advertisements • Social directories: names of community's social elite listed alphabetically and by streets; hotel occupants • Gazetteers: information on rural areas, businesses, and towns	• Criteria A and B • Association of property with individual

[2] *One caution about deed information: when the deed goes back to the 1700s or early 1800s, you cannot automatically assume that the structure you are investigating is the same one referred to in the earliest deed. The original structure may have been destroyed, and you may be investigating a replacement built at a later date.*

[3] *City Directories: During the later 1800s and the early 1900s, many cities had directories that listed people at their home addresses, and often included occupational information. These directories—if compiled for your community—should be available in your public library or historical society. Having obtained a list of owners from the deed records, you can try find the people in these city directories. In cases where occupations and titles are given, you can see the rise (or fall) in the fortunes of the past owners by noting the changes in their occupational descriptions from year to year.*

Material	Sources	Potential Information Yielded	Possible Application to National Register Nomination
ESTATE RECORDS • Wills • Inventories and appraisals • Administration of estates • Annual returns and sales	• Office of the judge of probate/ county courthouse/ town hall • State archives (prior to 1900) • Private records • Historical societies	• Value and apparent wealth and size of dwelling • Property changes • Ownership changes • Rental information • Sales of land that may never have been recorded by deeds • Family relationships	• Significant events • Clues to other sources • Information about building
FAMILY/ PERSONAL PAPERS • Letters • Diaries • Ledger books, etc. • Bibles • Published family histories	• Present owners • Past owners • State archives • Descendants • Genealogical libraries and bibliographies • Local/regional libraries • Historical societies • State/Federal archives	• Ownership • Descriptions • Photographs • Architectural Plans • History/events	• Family relationships • Record of significant events • Information on significant persons • Appearance of original building
GENEALOGICAL RECORDS	• Historical societies • State and national archives • Local/regional libraries • Biographical publications • Genealogical publications and libraries • "Vanity press" county histories and family histories • Church of Jesus Christ of the Latter-Day Saints, Genealogical Society	• Biographies of individuals • Family histories • Photographs and drawings of home and family members	• Information about family homes • Criteria A, B, C, and D • Association of individuals with property and events
HOMESTEAD RECORDS (for some Western States)	• Federal Records Center, Suitland, MD • Bureau of Land Management, State offices (for patent numbers)	• Application indices: When and where buildings and structures were located on homestead, marital status, children, ages, and national origin	• Proven association of individual with property • Information pertaining to area of significance, e.g., agriculture
INSURANCE RECORDS	• Owners (past and present) • Insurance company offices (sometimes only main or regional offices)	• Floor plans • Dates of construction • Increases in premiums that may indicate when a change was made to the structure	• Appearance of original building and any additions

Material	Sources	Potential Information Yielded	Possible Application to National Register Nomination
INTERVIEWS AND ORAL HISTORIES	• Current or former owners, occupants, and observers	• Personal recollections about property: its original appearance, evolution, and uses.	• Leads about verification of appearance of original building and any additions • Significance of owner and property
LAND RECORDS	• Bureau of Land Management, Washington, DC 20240 (contact for general material and addresses of State offices)	• Information concerning properties and people, dates, locations, events, activities, and biographies associated with them • Former General Land Office (GLO) holdings, including: - Homestead patents - Mining district and patented claim records - GLO maps and plats	• Proven association of individuals or Federal agency with property • Information pertaining to area of significance, e.g., agriculture, conservation, and exploration/settlement
MAPS AND PLATS[4] • Town maps • Property plats • Private and family maps • Land ownership maps • "Bird's Eye View" maps • Developer's town layouts • Tourist maps • Landscaping firm layouts • Sanborn or Baist Insurance maps	• County courthouse • City hall • Printed books • Local/regional libraries • University/college collections • Surveyor general • Library of Congress • Architect's/landscape architect's firm records	• Location • Boundaries • Uses • Outbuildings	• Boundary information • Criterion C • Integrity of property
MILITARY RECORDS	• National Archives: Prior to World War I • Federal Resources Center, St. Louis, MO: From World War I	• Pension records, addresses, and status • Various materials, including personal letters, family bibles, and marriage certificates	• Biographical details of individuals associated with property

[4] *Old maps are important sources of information about the location of a structure and its immediate surroundings at a given date. They are useful for dating buildings and additions. Some city atlases (e.g. Sanborn or Baist) are at a scale to indicate approximate dimensions. They often show the position of utilities, grade levels, types of construction, and the height of buildings. The accuracy of maps varies, and sometimes they depict proposed improvements that were never built, or that were built in a different manner. Even recent maps may contain significant facts about historic properties.*

Material	Sources	Potential Information Yielded	Possible Application to National Register Nomination
NEWSPAPERS/ SUNDAY SUPPLEMENTS	• Local/regional libraries • State/Federal archives • Historical societies • Newspaper morgues	• Advertisements: names of occupant/owner, address of property, and use of structure • Society pages: gossip columns; articles pertaining to local social events, ceremonies, weddings, births, and meetings • Obituaries: information about owners and architects • Articles about local building efforts, architecture, etc. • Birth, death, and wedding announcements	• Criteria A, B, and C • Function • Description of property • Building dates • Significance of property and owner
PHOTOGRAPHS AND POSTCARDS	• Owners • Historical societies • Local antique shops and flea markets • Local/regional libraries • State archives	• Architectural and landscape features • Alterations • Associated structures • Associated with persons and events	• Appearance of original building and any additions • Integrity of property
TAX RECORDS	• Judge of probate: city/ county courts • Tax assessor • State archives • City/county clerk	• Description of structures • Dates • Evolution of property in relation to city limits or county development • Drawings and plans • Increases in valuation may suggest new improvements or construction	• Relative value of property • Proven association of individual with property • Integrity of property

V. ADDITIONAL SOURCES

Local, regional, and State libraries with collections pertaining to local and regional history, city directories, genealogical collections, photograph collections, and newspapers on microfilm. Inquire about interlibrary loans from distant libraries.

Local and regional branches of the National Archives: census data, Federal survey maps, and guides to collections.

Museums; local, regional, county, and State historical societies and museum associations, for valuable publications, files, tours, photograph collections, architectural history collections, local histories, and ephemera.

State Archives and Records Management Offices sometimes contain county assessor's property tax records, as well as other information.

Statewide or nationwide historical and genealogical societies.

Statewide historic preservation organizations.

Universities and colleges: photograph collections, architectural history collections, map and periodical collections, and manuscripts and archives collections. Some universities and colleges have preservation or architecture programs. Frequently, their students will have done surveys of local resources and local history as class projects. They may also be a good source of suggestions about further research possibilities for your specific property.

Osgood Family House

Constructed circa 1810, the Osgood Family House is an excellent example of a Federal style house in Fryeburg, Oxford County, Maine. The house was documented through a county historic resource survey. (Kirk F. Mahney, Maine Historic Preservation Commission)

It should be stressed that much of what is known is still in private ownership. Interviewing past or present property owners, long-time residents, or former staff or employees is often one of the best means of locating information. Very often historical societies, museums, genealogical societies, and pioneer associations can be helpful in locating previous owners or their descendants. Manuscripts, papers, scrapbooks, diaries, and private photograph albums are often the most valuable sources you can investigate.

VI. ARCHITECTURAL RECORDS

Cooperative Preservation of Architectural Records (COPAR)
Prints and Photographs Division
Library of Congress
Washington, DC 20540

A national center for information on architectural records throughout the United States. COPAR directs researchers to repositories in all states.

Historic American Buildings Survey/ Historic American Engineering Record (HABS/HAER)
U.S. Department of the Interior
National Park Service
1849 "C" Street, NW
Washington, DC 20240

Records for more than 25,000 historic buildings and structures. The HABS/HAER collection is reproducible and copyright free. Records are accessible at, and may be ordered from, the Library of Congress, Prints and Photographs Division, Washington, DC, 20540.

VII. ARCHITECTURAL STYLE GUIDES AND DICTIONARIES

These standard architectural guides may indicate if the property you are researching is an example of a recognizable architectural style.

Blumenson, John J.G. *Identifying American Architecture: A Pictorial Guide for Styles and Terms, 1600-1945.* Nashville: American Association for State and Local History, 1981.

Fleming, John, et al. *The Penguin Dictionary of Architecture.* Great Britain: Penguin Books, Ltd., 1966.

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McAlester, Virginia and Lee. *A Field Guide to American Houses.* New York: Alfred A. Knopf, 1984.

Pevsner, Nicholas et al. *A Dictionary of Architecture.* New York: Overlook Press, 1976.

Phillips, Steven J. *Old House Dictionary.* Lakewood, CO: American Source Books, 1989.

Poppeliers, John C.S., et al. *What Style Is It? A Guide to American Architecture.* Washington, D.C.: The Preservation Press, 1983.

Saylor, H.H. *Dictionary of Architecture.* New York: John Wiley & Sons, Inc., 1952.

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Rath, Frederick L., Jr. and Merrilyn Rogers O'Connell, ed. *Historic Preservation: A Bibliography on Historical Organization Practices.* Nashville: American Association for State and Local History, 1975.

VIII. INFORMATION CLEARINGHOUSES

American Antiquarian Society,
185 Salisbury Street,
Worcester, MA 01609
The largest collection of printed materials on the history and culture of the first 250 years of the country.

American Association for State and Local History,
530 Church Street, Suite 600,
Nashville, TN 37219
A leading source of aid for local history research. AASLH helps individuals, museums, and historical societies through books, a Technical Leaflet series, a magazine, videotapes, seminars, and related programs.

Catalogue of Landscape Records in the United States, Wave Hill,
675 West 252nd Street,
Bronx, NY 10471
Provides information on the location of historical landscape documentation, and collections helpful in researching the work of landscape architects.

Church of Jesus Christ of Latter-Day Saints, Genealogical Society,
50 East North Temple Street,
Salt Lake City, UT 84105
Maintains the largest genealogical repository in the country. Of interest and use for non-Mormons through 200 branch libraries.

Directory of Archives and Manuscript Repositories. Washington, DC: National Historical Publications and Records Commission, 1978. 905 pp. index. Information about 3,250 institutions, arranged alphabetically by State and town. Information about documents, photographs, architectural drawings, oral history, collections, and other source materials, with lists of institutions by type (corporate archives, religious archives, etc.) and descriptions of local public records programs in each State.

Directory of Historical Societies and Agencies in the United States and Canada. Mary Bray Wheeler, ed. 1990. 14th ed. Nashville: American Association for State and Local History. Describes about 6,000 historical societies' library and research capacity and special emphases. Includes Federal records centers.

National Archives, Correspondence Branch,
Washington, DC 20408
Genealogical and other records. Issues a free kit describing what is available at the National Archives. Regional depositories are in Boston; New York; Philadelphia; Atlanta; Chicago; Fort Worth; Denver; San Francisco; Laguna Niguel, CA; and Kansas City, MO.

National Union Catalogue of Manuscript Collections. Washington, DC: Library of Congress, Cataloguing Distribution Service Building 159, Navy Yard Annex, Washington, DC 20541. 1959-93. 29 vols. The complete series describes more than 40,000 collections in 1,000 repositories, arranged by name of collection within each volume. The listings are indexed by topical subjects and personal, family, corporate, and geographical names.

IX. MAPS

Fire Insurance Maps in the Library of Congress: Plans of North American Cities and Towns Produced by the Sanborn Map Company. Geography and Map Division. Introduced by Walter W. Ristow. Washington, DC: Library of Congress, 1981. GPO Stock no. 030-004-00018-3.

Historic Urban Plans,
Box 276, Ithaca, NY 14851
Sells reproductions of old maps and urban views useful in research. A catalogue is available.

Library of Congress, Geography and Map Division,
Washington, DC 20541
In addition to its Sanborn Map Collection, and its comprehensive selection of historical and current maps, the Library maintains some 3,000 19th and early-20th century commercially produced atlases of U.S. counties and cities, illustrated with views of buildings.

National Cartographic Information Center,
Geological Survey,
U.S. Department of the Interior,
Reston, VA 22091
The primary public source for cartographic information. NCIC collects data from Federal, State, and local governments and private companies; sells maps; provides related information; and conducts searches. Aerial views, topographic maps, and out-of-print editions are available.

X. GENERAL SOURCES

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XI. LIST OF NATIONAL REGISTER BULLETINS

The Basics

How to Apply National Register Criteria for Evaluation *

Guidelines for Completing National Register of Historic Places Form
Part A: How to Complete the National Register Form *
Part B: How to Complete the National Register Multiple Property Documentation Form

Researching a Historic Property *

Property Types

Guidelines for Evaluating and Documenting Historic Aids to Navigation *

Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields

Guidelines for Evaluating and Registering Historical Archeological Sites

Guidelines for Evaluating and Registering Cemeteries and Burial Places

How to Evaluate and Nominate Designed Historic Landscapes *

Guidelines for Identifying, Evaluating and Registering Historic Mining Sites

How to Apply National Register Criteria to Post Offices *

Guidelines for Evaluating and Documenting Properties Associated with Significant Persons

Guidelines for Evaluating and Documenting Properties That Have Achieved Significance Within the Last Fifty Years

Guidelines for Evaluating and Documenting Rural Historic Landscapes *

Guidelines for Evaluating and Documenting Traditional Cultural Properties *

Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places

Technical Assistance

Contribution of Moved Buildings to Historic Districts; Tax Treatments for Moved Buildings; and Use of Nomination Documentation in the Part I Certification Process

Defining Boundaries for National Register Properties*

Guidelines for Local Surveys: A Basis for Preservation Planning *

How to Improve the Quality of Photographs for National Register Nominations

National Register Casebook: Examples of Documentation *

Using the UTM Grid System to Record Historic Sites

The above publications may be obtained by writing to the National Register of Historic Places, National Park Service, 1849 C Street, NW, Washington, D.C. 20240. Publications marked with an asterisk (*) are also available in electronic form on the World Wide Web at www.cr.nps.gov/nr, or send your request by e-mail to nr_reference@nps.gov.

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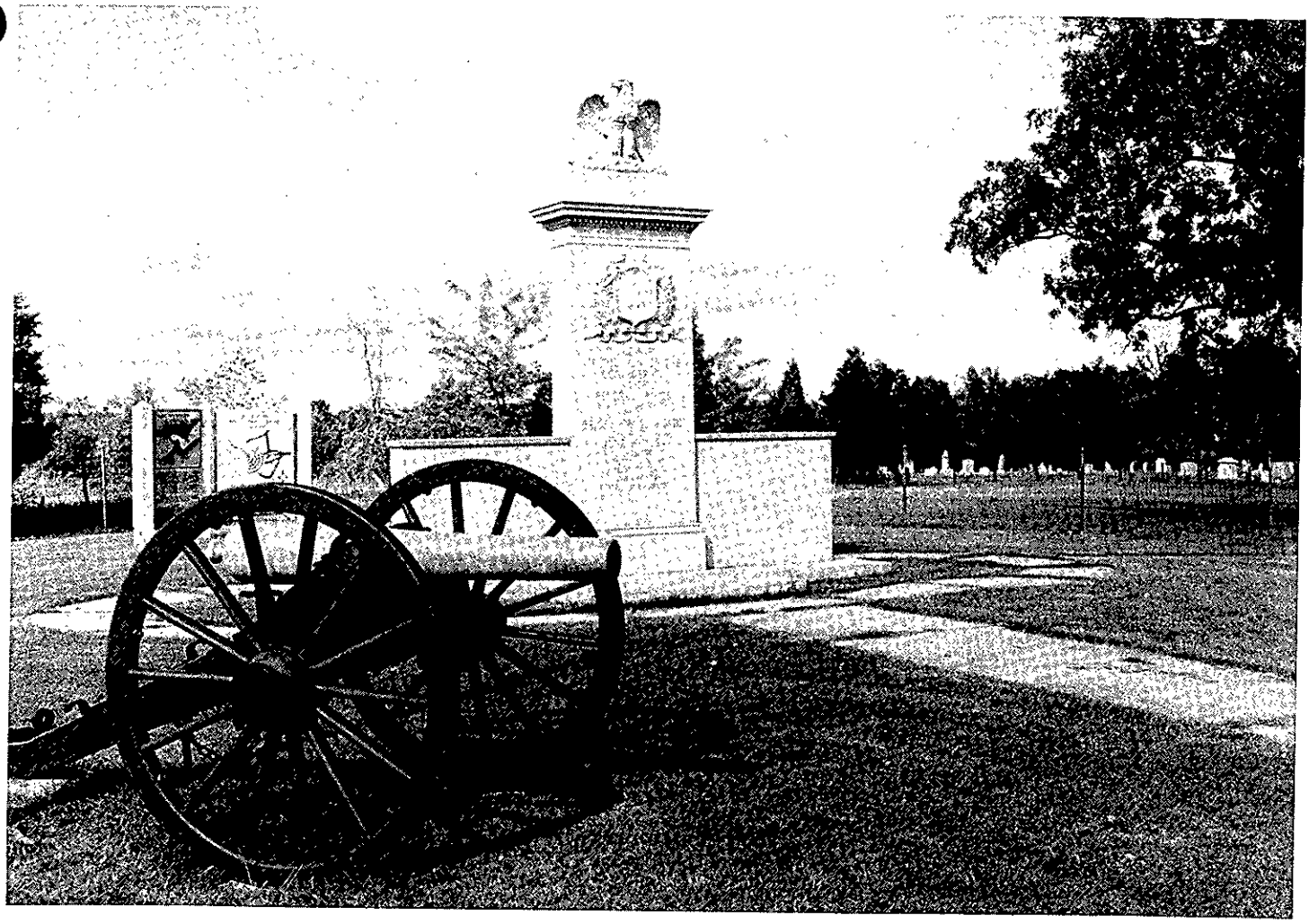
NATIONAL REGISTER BULLETIN

Technical information on comprehensive planning, survey of cultural resources, and registration in the National Register of Historic Places

U.S. Department of the Interior
National Park Service
Cultural Resources
Interagency Resources Division

GUIDELINES FOR IDENTIFYING, EVALUATING, AND REGISTERING AMERICA'S HISTORIC BATTLEFIELDS



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 also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting 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.

(Cover Photo). This monument commemorates the memory of the Confederate and Union soldiers who fought at Brices Cross Roads, Lee County, Mississippi, on June 10, 1864. Brices Cross Roads is the site where Confederate Gen. Nathan Bedford Forrest defeated the larger Union force of Gen. S.D. Sturgis, thereby continuing to threaten the Union lines of communication during Gen. Sherman's Atlanta Campaign. (Photo by National Park Service).

NATIONAL REGISTER BULLETIN 40

GUIDELINES FOR IDENTIFYING, EVALUATING, AND REGISTERING AMERICA'S HISTORIC BATTLEFIELDS

by
Patrick W. Andrus

U.S. Department of the Interior
National Park Service
Interagency Resources Division

1992

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PREFACE

Battlefields represent some of our nation's most significant historic properties. Our nation achieved independence through the trial of battle, and military action often determined the very boundaries of this country. The momentous decision of whether we would remain one country or two was settled by war. The great clash of cultures between the first Americans and the later European settlers was determined in military engagements.

Battlefields are an important type of cultural landscape. They are places that have been profoundly marked by human endeavor. While the significance of many battlefields derives from a brief and extraordinarily violent moment in time, the basic principles for identifying, evaluating, documenting, registering, and protecting these historic properties can be applied more broadly, particularly to significant historic rural landscapes. The characteristics that define a broad range of rural landscapes — natural features, land uses, vegetation, historic building types — also define many battlefields. The threats to rural landscapes — changing land uses, loss of vegetation, alteration to natural features, loss and replacement of historic buildings — also are occurring on many battlefields.

The battlefields of American history reflect important aspects of our culture and heritage. These lands today face unprecedented threats to their survival. Their loss would destroy an important part of our shared historic experience. This publication is designed to assist in the recognition of these important properties worthy of preservation. We should never forget the sacrifices made on these fields.

Lawrence E. Aten
Chief
Interagency Resources Division
National Park Service
Department of the Interior

"Johnny, if a boy dies for his country the glory is his forever, isn't it?"

Confederate soldier Will Pope's dying words to his friend Johnny Green, Shiloh battlefield, Tennessee, April 7, 1862. [1]

"Through those motels and fried-chicken stands, Pickett's men charged. The first line faltered in the Burger King parking lot and regrouped next to the Tastee Freeze."

Tour guide standing on Cemetery Ridge, pointing to the west of Gettysburg National Military Park, 1991. [2]

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[1] Quoted in Emory M. Thomas, *Travels to Hallowed Ground. A Historian's Journey to the American Civil War* (Columbia, S.C.: University of South Carolina Press, 1987), p. 52.

[2] Quoted in Edward T. McMahon, "Saving Our Sense of Place," *The Environmental Forum*, (May/June, 1991), p. 16.

I. BATTLEFIELDS ON THE LANDSCAPE

Throughout our history, warfare was virtually endemic in this country. From the earliest days of settlement through World War II, generations of Americans have witnessed or participated in the clash of arms on American soil.

The great issues of liberty, democracy, expansion, and the defense of homeland and culture were settled on numerous American battlefields. Warfare between the American Indians and the European ethnic groups that settled the country spanned centuries. The colonial wars between France, Spain, and Great Britain, culminating in the French and Indian War (1754-1763), ended the titanic struggle for world domination between the forces of absolute monarchy and constitutional monarchical rule. Thirteen years later the American colonists battled in the defense of liberty against what they perceived to be the despotism of the British empire. The independence of America was then secured in the War of 1812, and with the War for Texas Independence in 1836. The War with Mexico (1846-48) extended American institutions across the continent. All of these efforts paled in comparison with the American Civil War (1861-1865), when the very idea of America as a unified nation and the font of liberty was challenged and sustained in an epic struggle. The Spanish-American War (1898) was fought, among other reasons, to deliver the Cuban people from despotic Spanish rule. The American struggle for democracy during World War II (1941-1945) was fought in part on American territory in the islands of the Pacific and Alaska.

Battlefields associated with these wars are found across the land. They all share common qualities — they are a significant part of our national heritage and they face unprecedented threats to their continued existence. This bulletin is designed to provide guidance in the identification, evaluation, and registration in the National Register of Historic Places of these important components of our national patrimony.

Battlefields meet National Register Criterion A if they are associated with important military events. On January 17, 1781, in these fields, stretched across the Green River Road, Brig. Gen. Daniel Morgan led his army of tough Continentals and backwoods militia to a brilliant victory over Lt. Col. Banastre Tarleton's larger force of British regulars. This victory at the Battle of Cowpens played an important part in the chain of British disasters in the South which led to their ultimate defeat at Yorktown. (Photo by Cowpens National Battlefield).

II. A HISTORICAL PERSPECTIVE ON BATTLEFIELD PRESERVATION

In 1925 the Army War College reported to Congress that it could identify the location of more than 3,400 encounters, skirmishes, and battles in the United States.[3] While these numbers might indicate that battlefields were ubiquitous, in the 19th century there was a concern that while the memory of the valor displayed on these battlefields would remain, knowledge of their actual location was rapidly fading. Many of these sites were located in rural areas, unmarked, and undifferentiated from surrounding fields, orchards, and woodlands. Less than forty years after the Civil War an observer noted that:

> one could easily drive through the whole [Shenandoah] Valley with hardly a reminder anywhere that on these famous fields on either side of the turnpike were glorious deeds of daring, superb achievements of generalship, and battles far reaching in their consequences. The battlefields all over Virginia are still unmarked.[4]

Commemoration of battlefields through the construction of monuments is an ancient practice and began in the United States late in the 18th century. But the idea of preserving an **entire** battlefield was a new concept and virtually a singular American practice, which began when Congress established the Chickamauga-Chattanooga National Military Park in 1890.[5] The events of the Civil War led to the creation of both a system of national military cemeteries and national military parks. In several instances the cemeteries became the nuclei for the later establishment of the military park, such as at Gettysburg.[6]

The Federal government's involvement in battlefield preservation had important impacts on the development of national historic preservation policies.[7] In the 1890s, acting to protect the battlefields at Chickamauga and Chattanooga, Congress, for the first time, approved the acquisition of nationally significant historic property from private owners, through purchase or by condemnation through the power of eminent domain. As importantly, in January 1896 the power of Congress to enact these significant historic preservation laws was unanimously upheld by the U.S. Supreme Court (*United States v. Gettysburg Electric Ry., Co.*, 160 U.S. 668 (1896)). Important also was the establishment of the policy of preserving the battlefields as nearly as possible in their condition at the time of the battle.

In addition, there have been numerous efforts by State and local governments and private individuals to preserve or commemorate battlefields. In a number of instances the efforts of private citizens or veterans of the battle to preserve the battlefield preceded that of government agencies.

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[3] Ronald F. Lee, *The Origins and Evolution of the Military Park Idea* (Washington, D.C.: National Park Service, U.S. Department of the Interior, 1973), p. 5.

[4] "The Preservation of the Past," An Address Delivered Before the Association for the Preservation of Virginia Antiquities, by Charles W. Kent, M.A., Ph.D., in the House of Delegates, Richmond, Virginia, on March 14, 1901. (Richmond: Wm. Ellis Jones, 1901), p. 13.

[5] Reuben M. Rainey, "The Memory of War: Reflections on Battlefield Preservation." *The Yearbook of Landscape Architecture: Historic Preservation* (New York: Van Nostrand Reinhold Company Inc., 1983), p.70.

[6] Lee, *The Origin and Evolution of the National Military Park Idea*, p. 19.

[7] The following discussion is taken from Lee, *The Origin and Evolution of the National Military Park Idea*, pp. 36-37.

III. WHY BATTLEFIELDS HAVE BEEN PRESERVED

The original motivation in commemorating battlefields was to memorialize the bravery and self-sacrifice of the men fallen in battle. President Lincoln noted that these places had been consecrated by the brave men who struggled there, and that the ground was hallowed by the presence of those who gave their lives that the nation might live. The movement to construct monuments dedicated to individual units in the 1880s gave many battlefields their current park-like appearance. These post-battle memorialization efforts have acquired their own historical significance.

A second use of battlefields in the late 19th century was as the scene of national reconciliation as these places of carnage became meeting places for former foes during the Civil War. As the passions of war cooled, large numbers of Union and Confederate veterans met at annual commemorations on battlefields. As Oliver Wendell Holmes stated in 1884, there was kept alive the memory that "in our youths our hearts were touched with fire. It was given to us to learn at the outset that life is a profound and passionate thing."

In the 19th century, railroads were interested in promoting visits to battlefields. They lobbied Congress to establish the first five Civil War parks and erected monuments adjacent to their rights of way.

Battlefields were also saved for their unique role as schools for military study. The preservation of large areas as national military parks offers an unparalleled opportunity to study large and small-scale maneuvers of actual combat on grounds that remain essentially unchanged from the time of battle. The U.S. Army Center for Military History still facilitates "staff rides" on Civil War battlefields for officers attending professional military education centers.

A final reason for the early preservation of battlefields was to protect places that held profound historical significance for the nation as a whole. In the 1896 Gettysburg case the U.S. Supreme Court held that not only was the preservation of these places a public use, but that it was closely connected with the welfare of the republic itself. It has been observed that battlefields merit preservation because, like all historic properties, they "help maintain a consciousness of the past that is essential for the development of a coherent cultural identity."[8] Rather than glorifying war or the worst elements of passion that war can ignite, American battlefields serve as places of quiet contemplation on the courage and dedication of the participants and of the dreadful toll of warfare.

There are further reasons to preserve battlefields. In many instances battles occurred on open agricultural lands and these areas are still in agricultural use. In promoting economic diversity, many States encourage the continued use of agricultural lands, which frequently contributes to the preservation of the battlefield site. In areas experiencing rapid development the preservation of these open spaces can add to the quality of life for these communities by preserving the beauty of the rural landscape and natural habitats for wildlife. The preservation of battlefields can also provide economic benefits to public and private owners stemming from tourism.

Beginning in the late 19th century, battlefields became the focus of national reconciliation between the former foes of the American Civil War. Shown here on July 3, 1913, are members of the Philadelphia Brigade Association, and Pickett's Division Association, reuniting at the stone wall of the Angle on the Gettysburg battlefield, during the 50th anniversary reunion of the veterans of the Battle of Gettysburg. (Photo by Gettysburg National Military Park).

[8] Rainey, "The Memory of War: Reflections on Battlefield Preservation," p. 78.

IV. THE STATUS OF BATTLEFIELD PRESERVATION

Estimating the number of American battlefields is a subjective exercise whose result is determined by how battlefields are defined. As noted earlier, the Army War College identified the location of more than 3,400 encounters, skirmishes, and battles associated with the military history of our country. Other calculations have produced widely different counts. One exhaustive chronicler of Civil War military action, Frederick H. Dyer, in his 1909 book *A Compendium of the War of the Rebellion,* counted 10,455 military actions in the four-year war. Using another definition, the U.S. Army counted 8,700 such actions in the *Index to Battles* of its late 19th century 128-volume *War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies.* Regardless of the definition, there are hundreds if not thousands of American battlefields, both small and large.

Since the creation of the first national military park in 1890 some twenty-nine battlefields, numerous forts and national cemeteries have been preserved by the Federal government. In addition, State park systems include more than forty battlefields and a number of forts. While these numbers may seem impressive, many battlefields remain unrecognized and unprotected, and particular periods of our country's military history are under-represented in State or Federal holdings and in listings in the National Register of Historic Places.

A recent review of National Register listings for battlefields reveals that of a total 236 battlefields listed in the National Register there are 62 battlefields from the entire colonial period. This number, encompassing military action between 1564 and 1783, comprises 27 percent of the total number of battlefields listed in the National Register. Civil War battlefields, representing four years of fighting, comprise some 35 percent of all National Register battlefields. Seriously under-represented in National Register listings are battlefields associated with the period 1866 to 1900, which covers the major period of the Indian Wars in the trans-Mississippi West. There are 21 battlefields from this period listed in the National Register (9 percent of all battlefields listed). One study of the Indian Wars noted that the sites of almost 50 major engagements between soldiers and American Indians, mostly in the Plains States, can be identified.[9] In the National Park System, there are currently only five battlefields associated with the colonial wars, three from the War of 1812, and seven battlefields associated with the Indian Wars. A survey of 58 battlefields associated with the Civil War noted that more than half of them lack adequate protection by public or private agencies.[10] Development pressures immediately outside of the parks pose a threat to even those battlefields preserved in Federal ownership.

An important step in the preservation of battlefields is that they be recognized by listing in the National Register of Historic Places. Listing properties in the National Register often changes the way communities perceive their historic resources and gives credibility to State and local efforts to preserve these resources as living parts of our communities. The information contained in the surveys of these historic places and in the National Register nomination forms can be used for a variety of purposes, including public heritage education, planning by local, State, or Federal agencies, and in publications.

[9] Robert G. Ferris, ed., *Soldier and Brave: Historic Places Associated with Indian Affairs and the Indian Wars in the Trans-Mississippi West,* The National Survey of Historic Sites and Buildings, Volume XII (Washington, D.C.: United States Department of the Interior, 1971), p. 46.

[10] Frances H. Kennedy, ed., *The Civil War Battlefield Guide,* (Boston: Houghton Mifflin Company, 1990), p. xi.

V. GUIDELINES FOR IDENTIFYING, EVALUATING, AND REGISTERING BATTLEFIELDS

The following sections offer guidance to State historic preservation offices, Federal agencies, local governments, preservation professionals, and interested individuals in preparing nominations to the National Register of Historic Places for historic battlefields. The National Register process involves the **identification, evaluation,** and **registration** of historic properties, and is most efficiently undertaken in the following sequence:

IDENTIFICATION

- Defining the historic context
- Conducting historic research
- Surveying the battlefield

EVALUATION

- Defining significance
- Apply the National Register criteria
- Select Areas of Significance
- Define Period of Significance
- Assessing integrity
- Apply qualities of integrity
- Classify contributing and noncontributing resources
- Evaluate overall integrity
- Selecting defensible boundaries
- Where to draw the boundary
- Discontiguous boundary

REGISTRATION

- Completing National Register form
- Following registration procedures in 36 CFR Part 60.

Battlefields can remind us of the sometimes painful choices that divided our country. The Battle of Moores Creek, in Pender County, North Carolina, was an important action in the opening phases of the American Revolution. Here on February 27, 1776, Patriot forces clashed with and defeated a larger force of Scottish Loyalists. This battlefield commemorates the deeply divided loyalties in the American colonies between those who supported independence and those who remained loyal to their King. (Photo by North Carolina Division of Archives and History).

VI. IDENTIFYING BATTLEFIELDS

DEFINING THE HISTORIC CONTEXT

The significance of a battlefield can only be understood when the battle is considered within its historic context. The historic context of a battlefield is the chronological period, the geographic area, and the series of events which account for its occurrence and help explain its significance. Many individual battles were part of a larger military campaign that may need to be described to place a battle in context. To qualify for listing in the National Register, battlefields can be significant at the local, the State, or the national level. To be significant at the local level, a battle must have been associated with military events important in the history of a town, city, county, cultural area, or region. Battlefields are significant in a statewide context when they are associated with an aspect of military history important to the State as a whole. Battlefields significant in a national context are those associated with a facet of military history that had an important impact on the entire nation.

The significance of battles cannot be understood in a vacuum. For example, the importance of the Union victory at the Battle of Antietam in 1862 is best understood by knowing that in the late summer of that year the Confederacy had launched a coordinated invasion in the West and the East, that at the time President Abraham Lincoln was desperately waiting for a Northern victory to issue his Emancipation Proclamation, and that the European powers were closely watching the military situation while considering whether to offer to mediate the conflict (which implied recognizing the Confederacy as an independent nation). An awareness of the crucial nature of the outcome of the Battle of Antietam puts into perspective, or context, the staggering losses of 23,000 casualties during the bloodiest day in American history. The geographic component of the context for this battle is the campaign in Northern Virginia/Western Maryland, and the time frame for understanding the battle is the early fall of 1862.

Sometimes the significance of a battle is readily apparent, such as the victory of the American and allied forces over the British at Yorktown, Virginia, during the American Revolution, which led to peace talks and the recognition by Great Britain of America's independence. Other battles are important not so much for the events that occurred on the day of the battle, but rather for what they set in motion. For example, Balls Bluff Battlefield in Loudoun County, Virginia, was the scene of a Civil War battle which accounted for a small number of casualties. Yet this event had a profound impact on the later course of the war. The bungling of the Union commanders during that 1861 battle led radical Republicans in Congress to create a Joint Committee on the Conduct of the War. This committee undertook the first exercise of congressional authority to oversee and investigate operations of the Executive Branch of the Federal government. Had there not been this political response to the Battle of Balls Bluff, the battlefield today would only be remembered as the site of a minor engagement, rather than being recognized as a National Historic Landmark.

The National Register does not require a lengthy explanation of a battle's context. The context statement can be direct and to the point, as long as it provides a perspective from which to evaluate the relative importance of the battle. For battles that are significant for what they set in motion, the later important events should be briefly and generally described.

CONDUCTING HISTORICAL RESEARCH

In order to develop the historic context to evaluate a battlefield, the history of the military action must be thoroughly understood. Information should be gathered on the factors — military, social, economic, diplomatic — that account for the battle. The last section of this bulletin contains an extensive bibliography on American military history. It lists bibliographies on military history, general surveys of military history and organizations, specific studies of military action grouped chronologically, battlefield guides, military atlases, and special studies. The bibliography is a general list and is designed to lead the researcher to additional sources of information.

In addition to the general sources included in the bibliography, primary and secondary source materials on American military affairs are voluminous. General histories of American wars, official records of campaigns, studies of specific campaigns, biographies of leading participants, regimental histories, military books and manuals, historical military atlases, guide books to battlefields, journals of military history, and diaries and reminiscences of individual soldiers are generally available at libraries. A wide variety of sources should be consulted in conducting historical research on a battlefield.

A variety of manuscript primary sources can be found in numerous repositories throughout the country. The National Archives and Records Service in Washington, D.C., has custody of the official records of the United States Government. These records include military and other agency documents, such as reports, correspondence, maps and photographs, relating to battles. Many States and local governments maintain archives that also include pertinent

Hundreds of additional repositories, both public and private, include personal papers and other manuscript collections that may contain useful documents. Two guides to these archives and manuscript repositories are cited in the bibliography section of this bulletin.

Other valuable sources of information on specific battlefields might include books and periodicals on State, county, and local history, historic maps, period photographs, contemporary newspaper accounts, and local family records. Historic maps may include the location of farms, property lines, road networks, mills, bridges, churches, cemeteries, and inns. These features may have played an important role in the battle such as a headquarters, hospital, or defensive position.

It is important to consult the State historic preservation office for information related to the site or to the events with which it is associated.

Once the general historic context of the battle is understood, the battlefield itself should be surveyed.

SURVEYING THE BATTLEFIELD

Prior to preparing a National Register nomination, it is essential to make an on-site inspection of the battlefield in order to evaluate its integrity and to determine boundaries. Many battlefields are in private ownership and the surveyor should be sensitive to private property rights and receive the owner's permission prior to inspecting the land. While buried soldiers on many battlefields were later disinterred for reburial elsewhere, the surveyor should still be particularly alert to evidence of human graves on the battlefield and should be aware that a variety of Federal, and State laws relate to the discovery of human remains. Documentary evidence locating field hospitals on battlefields might indicate the possibility of burial sites existing on the battlefield. If a suspected burial site is observed it should be **noted, but not disturbed.** Any potential burial site should be reported to the State historic preservation office and examined by an archeologist.

With the knowledge gained through historic research, the surveyor should have an understanding of what features were present during the battle and how the topography or historic land use patterns affected the flow or outcome of the military action. The features present on the battlefield should be recorded through inventory forms and photographs and located on a battlefield site map. Changes in the historic pattern of land use should be noted. For detailed information on undertaking a survey see *National Register Bulletin 24: Guidelines for Local Surveys: A Basis for Preservation Planning.*

In surveying a battlefield, a basic issue is where do battlefields start and end? Some battles were confined to relatively small geographic areas while others were fluid affairs with military activity extending over large regions. In many instances military groups traveled long distances before meeting in battle. Some battlefield sites today appear simply as an undifferentiated series of woodlots and fields. Before attempting to draw a boundary for the battlefield it is vital to understand the nature of the opposing forces, the importance of the terrain to the direction and outcome of the battle, and the series of military actions before, during, and after the battle. Understanding the component parts of the battle will assist in explaining the significance of the battlefield, in defining a boundary, and in determining the relative importance of features found on the battlefield. These are features and locations where opposing forces, either before, during, or after the battle, took actions based on their assumption of being in the presence of the enemy. Refer to section 7 for guidance on where to draw the boundary for a battlefield.

The following is a partial list of battlefield components:

Battlefields may derive additional significance for their association with later efforts to memorialize the bravery and sacrifice of the participants. The movement to construct monuments dedicated to individual units in the 1880s gave many battlefields their current park like appearance. Illustrated here is the monument commemorating the Michigan Thirteenth Infantry Regiment's participation in the Battle of Chickamauga (September 19-20, 1863). (Photo by National Park Service).

MOVEMENTS

- The immediate approaches to the battlefield
- Flanking movements during the battle
- Retrogrades or withdrawals from the battle
- Attack movements during the battle

POSITIONS

- Picket lines
- Battlelines
- Skirmish lines
- Artillery positions

AREAS

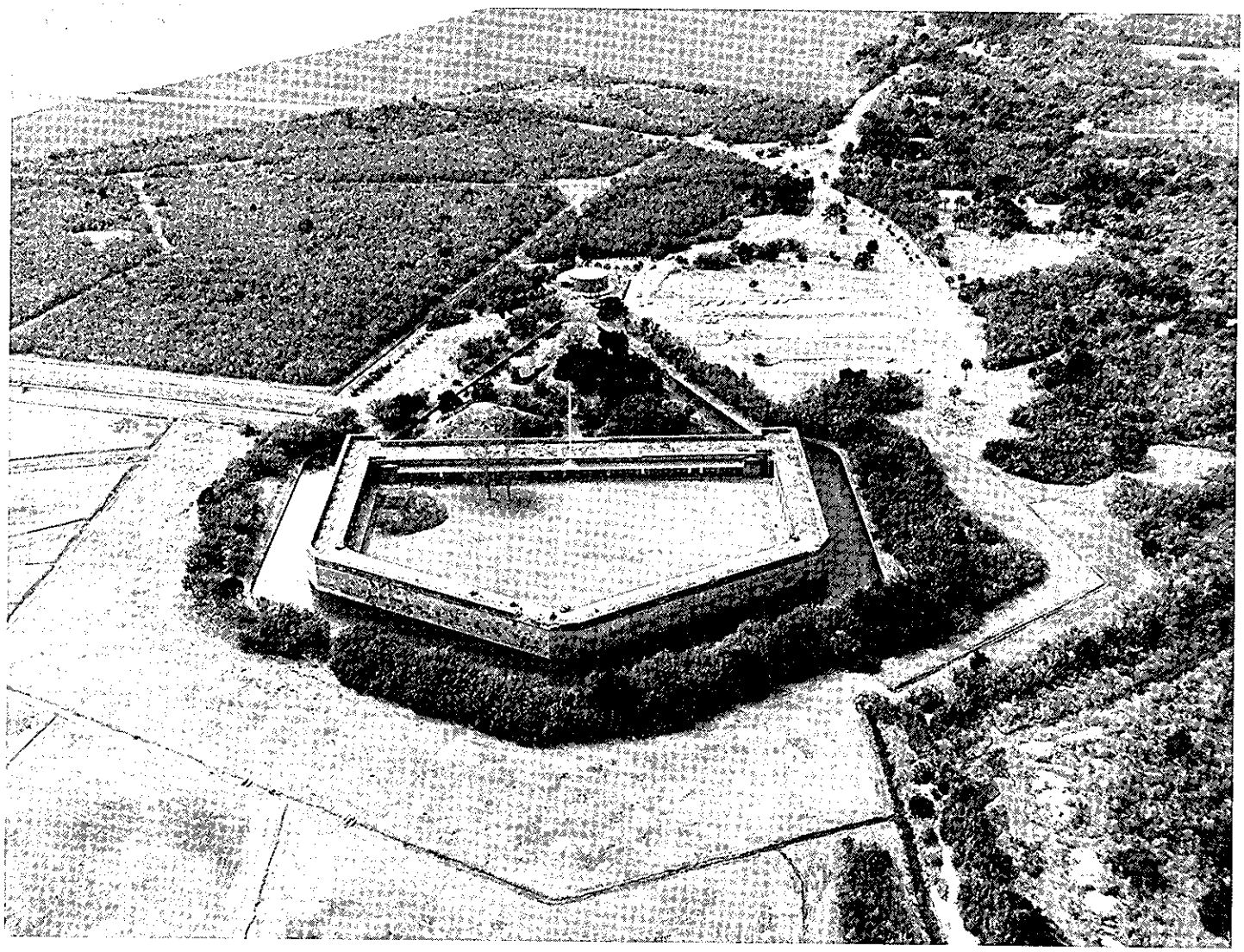
- Engagement areas
- Areas of troop concentrations
- Areas where reserve troops were positioned
- Staging areas
- Bivouac areas
- Areas where rearguard actions took place

OTHER LOCATIONS

- Commander's observation points and their viewsheds
- Signal stations and their viewsheds
- Battle hospital sites
- Burial sites
- Command posts (also called headquarters)
- Aspects of the historic landscape such as:
  - farmhouses and outbuildings
  - fencelines and hedgerows
  - stone walls
  - roads
  - fords
  - fields
  - orchards
  - woodlots
  - watercourses
  - railroad lines
  - bridges
  - sources of water

Not all of these components are important in every battle, and there may be others not included in the list that are particularly important to a given battle. Once these aspects of the battlefield have been located and documented, the battlefield can be evaluated.

Battlefields can be important under National Register Criterion A if they are associated with significant advances in weaponry or tactics. Fort Pulaski, a Confederate stronghold in Chatham County, Georgia, was bombarded into submission by Federal artillery on April 10-11, 1862. The massive damage inflicted on Fort Pulaski conclusively demonstrated the ineffectiveness of old-style masonry fortifications against the newly-developed rifled artillery. (Photo by National Park Service).



VII. EVALUATING BATTLEFIELDS

Evaluating a battlefield involves considering its historic significance, determining the physical integrity of the battlefield, and defining appropriate boundaries. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*, and *National Register Bulletin 16: Guidelines for Completing National Register of Historic Places Forms* should be consulted for detailed guidance on defining significance and evaluating integrity.

DEFINING SIGNIFICANCE

APPLYING THE NATIONAL REGISTER CRITERIA FOR EVALUATION

To qualify for the National Register, a property must meet one or more of the National Register Criteria for Evaluation. Battlefields may qualify for the National Register by meeting any of the National Register Criteria for Evaluation. They may be associated with events, (for example, military, diplomatic, or economic), that have made a significant contribution to the broad patterns of our history (Criterion A), or they may be associated with the lives of individuals significant in our past (Criterion B), or they may contain significant works of architecture or engineering (Criterion C), or they may have yielded, or may be likely to yield, information important in our history (Criterion D). In considering the importance of battlefields, they should be evaluated against all of the National Register Criteria. A battlefield will be listed in the National Register if it is demonstrated to meet at least one of the National Register Criteria.

Criterion A applies to battlefields that are associated with events that have made a significant contribution to the broad patterns of our history. These could be important military events, such as the August 20, 1794, Battle of Fallen Timbers, in northwest Ohio, which ended Indian resistance in the area and secured the Northwest frontier for the new American republic. Battles may also be associated with events important in social history, such as the Civil War battle at Port Hudson, Louisiana where African-American soldiers fighting for the Union made important contributions, or the 1771 battle in Alamance, North Carolina between the State milita and the Regulators, which reflected the deep social divisions between the settled coastal areas and the Piedmont frontier. Battles can also be associated with events far removed from the scene of military action. The American victory over British Lt. Gen. John Burgoyne at the Battle of Saratoga in 1777, for example, led the King of France to recognize the independence of the American colonies.

Criterion B applies to battlefields that are associated with the lives of persons important in our past. Criterion B will apply to a battlefield when the battle was an important aspect of the person's life or career. For instance, the 1880 fight at Tinaja De Las Palmas, Texas, between the U.S. Army and the Mescalaro Apaches, one of the last major event in the Indian Wars in Texas, is associated with the noted Apache leader Victoria, and the 1811 Battle of Tippecanoe was a milestone in the life of Gen. (and future President) William Henry Harrison. For military leaders, the battle should be considered in light of the person's entire military career to determine if Criterion B applies to the particular battlefield. For detailed guidance on applying Criterion B see *National Register Bulletin 32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons.*

Criterion C applies to significant works of architecture or engineering. On battlefields may be found buildings that are important examples of architectural styles, methods of construction, or significant works of engineering such as the trench systems found in battles involving siege situations. In these instances Criterion C applies to the battlefield.

Criterion D applies to properties that have yielded or are likely to yield, information important to prehistory or history. Historic battlefields may contain historic archeological properties associated with the battle. Battlefield archeology should have a specific purpose and be based on scholarship and justifiable research needs. The archeological study of human remains and historic artifacts on the battlefield may provide information that is not available elsewhere. An archeological study may help confirm or disprove the accuracy of earlier accounts of the battle. For example, the study of distribution patterns of military hardware, especially bullets and shrapnel on the battlefield, will add to our understanding of how the battle was fought. An archeological examination at Little Bighorn Battlefield National Monument in Montana revealed that the Indians possessed a far greater amount of firepower than was previously known. The distribution pattern of bullets found on the battlefield greatly added to our knowledge of the progress of the fight at the Little Big Horn. For many battlefields the likelihood exists of buried human remains at certain locations on the battlefield.

Some military engagements had naval operations conducted in association with the land battle. The river systems played a particularly important role in the Civil War. Battlefields may have associated archeological remains related to these naval operations which it may be appropriate to include within the boundary. In these instances, *National Register Bulletin 20: Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places* should be consulted.

SELECTING AREAS OF SIGNIFICANCE

For each National Register Criterion that applies to a battlefield, an appropriate Area of Significance should be selected. While **military** is the most common Area of Significance, others may apply. For battlefields associated

with an important aspect of minority history **ethnic heritage** may apply. For battlefields important for their association with later memorialization efforts **art** or **social history** may be appropriate. If Criterion C applies to a battlefield, then **architecture** or **engineering** should be selected as an Area of Significance. For battlefields significant under Criterion D for important information that can be derived from an archeological study, **archeology** is appropriate. See *National Register Bulletin 16* for a complete list of Areas of Significance.

DEFINING PERIODS OF SIGNIFICANCE

Some battlefields are significant solely for the military event that occurred on the site. In these instances the Period of Significance should be defined to include the time of the battle and any time period immediately before or after the battle that is considered significant to the area's military history. The significance of other battlefields may encompass a longer time span, particularly for those battlefields where there were important later events to memorialize the battle and its participants. In such cases the Period of Significance for the site should be extended to include these important later developments if the memorialization effort followed soon after the battle (or two distinct Periods of Significance should be defined if there was a longer intervening span between the battle and the memorialization effort) and the features at the site that contribute to this later significance should be identified. These might include statues, monuments, tablets marking troop positions or movements, or roads established for touring the battlefield. As with all National Register properties, if the Period of Significance is defined as extending to within the past fifty years, the property must be demonstrated to have exceptional importance.

ASSESSING INTEGRITY

APPLYING THE QUALITIES OF INTEGRITY

Integrity is the ability of a property to convey its significance. Within the concept of integrity, the National Register criteria recognize seven qualities, or aspects, that in various combinations, define integrity. Determining **which** of these aspects are most important for a particular property to convey its significance requires knowing why, where, and when the property is significant. The seven aspects of integrity are: **location, design, setting, materials, workmanship, feeling,** and **association.** The basic guidance on evaluating integrity is found in *National Register Bulletin 15*, pp. 44-49 and should be consulted before attempting to evaluate the integrity of a battlefield.

A property, such as a battlefield, important for its association with a historic event or persons ideally might retain some features of all seven aspects of integrity. Integrity of design and workmanship, however, might not be as important to the significance and would not be relevant to the battlefield. A **basic test of integrity** for a battlefield important for its association with a historic event or person is whether a participant in the battle would recognize the property as it exists today. Generally, the most important aspects of integrity for battlefields are **location, setting, feeling,** and **association.**

For a battlefield, **location** is the place where the historic military event occurred. This aspect of integrity is present if the area defined as the battlefield is **the** place where the battle occurred. The location should be documented using primary and secondary sources and onsite inspection. The location of a property, complemented by its setting, is particularly important in recapturing the sense of historic events.

Setting is the physical environment of a historic property. Whereas location refers to the specific place where the battle occurred, setting refers to the

In addition to being significant as the site of important military events, battlefields may be important under National Register Criterion B for their association with the lives of noted military leaders. The battle should be considered in the context of the person's entire military career to determine if Criterion B applies to the battlefield. The Battle at Horseshoe Bend in Tallapoosa County, Alabama, fought in 1814, not only ended the Creek War and opened much of Alabama and Georgia to settlement by whites, but also established the national reputation of the victor, Gen. Andrew Jackson, as a military leader and Indian fighter. (Photo by Horseshoe Bend National Military Park).

character of the place in which the property played its historic role. It involves **how**, not just where, the property is situated and its relationship to surrounding features and open space.

The physical features of a battlefield that make up its setting can be natural and manmade. They include topographic features (the physical geography of the battlefield), vegetation (the pattern of fields and woodlands), manmade features (stonewalls, or fences), and the relationship between buildings and open space.

Feeling is a battlefields's expression of the historic sense of a particular period of time. It results from the presence of physical features that, taken together, convey the property's historic character. If a battle occurred in a rural district, then the presence of farm roads, agricultural buildings, and field systems combine to convey the feeling of the area at the time of the battle.

Association is the direct link between the important historic event or person and a historic property. A property retains association if it *is* the place where the event occurred.

Design, materials, and **workmanship** refer to qualities associated with manmade properties. If a historic battlefield contains architecturally significant properties, then these qualities of integrity may apply. See *National Register Bulletin 15* for more information.

IDENTIFYING CONTRIBUTING AND NONCONTRIBUTING RESOURCES

If a battlefield contains a variety of contributing resources (buildings, structures, objects, or sites) and includes extensive acreage, it should be classified as a **district**. Otherwise, the battlefield should be classified as a **site**. The battlefield will usually include within its boundary numerous features that should be classified as either contributing or noncontributing to the significance of the battlefield. To contribute to the significance of the battlefield, a property (either a building, structure, site, or object) must date from the battlefield's Period of Significance, which usually means that the property must have been present at the time of the battle. Properties post-dating the battle may have significance in their own right (for example, an architecturally important house built after the war), but they cannot be considered as contributing to the event that occurred before they were constructed. If later events are considered historically significant (such as a post-battle memorialization of the battlefield) then the Period of Significance can be extended to include this period and its important resources, or two distinct Periods of Significance can be selected (one for the battle, and a second period for the era of the memorialization).

Contributing resources may include all buildings extant at the time of the battle (including buildings that served as headquarters, hospitals, or defensive positions); structures such as the original road network on the battlefield; stone walls or earthworks used as defensive positions, or bridges over important waterways, sites such as burial sites, or objects such as statues and markers.

ASSESSING OVERALL INTEGRITY

Battlefields cannot be frozen in time. The cataclysmic event that gave the sites their significance created a highly unstable landscape of destruction. Even where efforts to preserve the battlefield were initiated almost immediately, as at Gettysburg, it proved impossible to perpetuate the scene in the exact form and condition it presented during the battle. Instead, Gettysburg presents several layers of history, including its post-battle memorialization.

The best-preserved battlefields appear much as they would have at the time of battle, making it easy to understand how strategy and results were shaped by the terrain. All properties, however, change over time and nearly all battlefields will contain noncontributing properties. The impact of noncontributing properties on a battlefield as a whole depends not only on their number, but also on their nature and location and the size and topography of the battlefield. While this is a subjective judgement there are some general principles for assessing integrity. If the type of noncontributing property reflects a continuing later development of traditional landuse, then the impact of these properties may not be as great as that of modern properties that do not

Battlefields may be significant under National Register Criterion C for the presence of important examples of military fortifications. Shown here are the ruins of the British Star Fort and Patriot siege lines laid out by the brilliant Polish military engineer, Thaddeus Kosciuszko, at Ninety Six in Greenwood County, South Carolina. These are rare surviving examples of 18th century military constructions. (Photo by Ninety Six National Historic Site).

The best-preserved battlefields appear much as they did at the time of the battle, making it easy to understand how strategy and results were shaped by terrain. Participants in the Battle of Shiloh (April 6-7, 1862) would undoubtedly recognize the Sunken Road and the Hornet's Nest depicted here. This was the site of ferocious fighting as Gen. Ulysses S. Grant's men desperately held this position for six hours against eleven Confederate attacks. (Photo by National Park Service).

reflect the historic use of the land. For example, in battlefields located in rural or agricultural areas, the presence of farm related buildings dating from outside the Period of Significance generally will not destroy the battlefield's integrity. It is important that the land retain its rural or agricultural identity in order for it to convey its Period of Significance. (See following paragraphs on the impact of reforestation). The impact of modern properties on the historic battlefield is also lessened if these properties are located in a dispersed pattern. If a battlefield is characterized by rolling topography, the impact of later noncontributing properties may also be lessened. Frequently, one of the greatest changes to the historic landscape is the development of modern roadways. The changes in the roadway circulation pattern on battlefields should be evaluated for the impact on the battlefield's integrity.

The issue of changing forestation on a battlefield is complicated by the fact that forest cover during the historic period may have changed dramatically in areas of intense extended fighting. In wooded areas, armies could use extensive amounts of wood for cooking, creating shelter, and in constructing defensive works. In areas where battles took place in cultivated fields, the abandonment of farms could be followed quickly by forestation.

As noted earlier, location, setting, feeling, and association are usually the most important aspects of integrity for battlefields. While forestation of a battlefield that was open land at the time of fighting may have an impact on its setting, it will not necessarily destroy the battlefield's overall integrity. The covering of former open fields with trees is a natural and reversible alteration to the landscape. In some instances the abandonment of fields and the coverage of the battlefield with trees preserves manmade features associated with the battle, such as trenches, rifle-pits, or artillery positions. The presence of natural and manmade features associated with the battle is an important factor in the battlefield retaining its integrity of feeling and association. If it can be demonstrated that, despite the forestation of an area, the battle took place in that particular spot, then the battlefield retains integrity of location. The impact of forestation on the battlefield's historic setting must be weighed against its retention of the other aspects of overall integrity. Other battles were fought in areas with heavy tree coverage which has since been lost. While the loss of historic forest covering does have an impact on the battlefield's historic setting, it will not necessarily destroy the battlefield's overall integrity.

In assessing the integrity of battlefields significant under Criterion D, if significant archeological features are present, integrity of setting and feeling may not be required. Intact archeological deposits, and/or human remains might lie beneath more recent fill or modern construction and integrity of setting and feeling may not be necessary for the property to retain its ability to convey important information.

SELECTING DEFENSIBLE BOUNDARIES

WHERE TO DRAW THE BOUNDARY

While the decision of where to draw the boundary will differ for each battlefield, there are some general guidelines. The boundary should encompass, but not exceed, the full extent of the battlefield. Included within the boundary should be the location of the battle and an appropriate setting to convey its significance. The inclusion of the setting around where the events occurred is justified as important to understanding what the participants experienced and in explaining how the geographic setting may have determined or influenced the action. It is not necessary to demonstrate that soldiers fought on every square foot of the battlefield. For example, where a battle was fought in a valley formed by two ridgelines, it may be appropriate to draw the boundary at the ridgelines because the topography determined the course of the action.

A **basic principle** is to include within the boundary all of the locations where opposing forces, either before, during, or after the battle, took actions based on their assumption of being in the presence of the enemy. Boundaries should include the areas where there was hostile action between opposing forces or areas where there was an action or reaction generated by an opposing force while in immediate proximity to the enemy. For instance, boundaries should be drawn to include areas where a march of one enemy force encounters an opposing picket line, or where a bivouac is attacked by the enemy, or a bivouac is established opposite an enemy picket line as prelude to fighting, or a retreating force establishes a holding line along its retreat route and is attacked.

Generally, boundaries should not be drawn to include the portion of the route taken to the battlefield where there were no encounters. Although the route may be important in understanding the tactics of the overall campaign, it is not necessary to defining the particular battlefield. Boundaries should not be drawn to include retreat routes where there was no pursuit. The boundary also should not include features, such as a bivouac area, located away from the fighting and not established because of the enemy's position.

In some situations, archeological study may help determine the boundaries of a battlefield, particularly for battlefields of lesser known or documented conflicts.

DISCONTIGUOUS BOUNDARIES

In some instances it is appropriate to draw boundaries that define the battlefield into two or more discrete or discontiguous parcels. A discontiguous boundary is appropriate when significant action in a battle occurred in separated areas, and the land between the areas is not important in defining the battlefield. For example, two military forces meet in battle and the main action is concentrated in one area. One of the forces sends a smaller group to try to flank the enemy. This smaller group removes itself from the battlefield, takes a circuitous route around the enemy, and while crossing at a river ford to attack the enemy from the rear, meets an enemy force holding the ford. This encounter leads to a brisk fight that halts the invading force and prevents it from attacking the main enemy concentration — an important factor in the outcome of the battle. In this instance it may be appropriate to define the battlefield by drawing the boundary into two parcels — a large area encompassing the scene of major fighting and a smaller parcel defining the fight at the river ford.

Another instance where it may be appropriate to draw a discontiguous boundary is where there are important sites associated with the battle, but geographically not connected to the battlefield. In some cases, headquarters sites or the sites of military hospitals were located apart from the battlefield. When this occurs it is acceptable to draw a separate boundary for these important sites.

Battlefield boundaries should encompass, but not exceed, the full extent of area in which fighting took place. In some instances this will include large land areas; in instances where the fighting was restricted to a small area, the battlefield may be no more than several acres. The latter situation occurs at Connor Battlefield (Tongue River Battlefield) in Sublette County, Wyoming, which in 1865 was the site of the most important engagement of the Powder River Indian Expedition, a punitive military campaign to stop Sioux, Cheyenne, and Arapaho attacks on immigrant trails. The battlefield encompasses the site, along a bend of the Tongue River, of Arapaho Chief Black Bear's village, which was destroyed in the battle. (Photo by Wyoming Recreation Commission).

VIII. REGISTERING BATTLEFIELDS

REGISTRATION

A battlefield may be: (1) nominated and listed individually using National Register of Historic Places Registration Form (NPS 10-900), or (2) as part of a group of properties nominated in a multiple property format using National Register of Historic Places Multiple Property Documentation Form (NPS-10-900-b). The Multiple Property Documentation Form is a cover document and not a nomination in its own right; it serves as a basis for evaluating the National Register eligibility of related properties. On it, the themes, trends, and patterns of history shared by the properties are organized into **historic contexts** and **property types** representing those contexts. The nomination of each building, site, district, structure, or object included within the thematic group is made on National Register Registration Forms. Refer to *National Register Bulletin 16: Guidelines for Preparing National Register of Historic Places Forms* for guidance on preparing a Multiple Property Documentation Form. A Multiple Property Documentation Form can be used to submit nominations for a number of sites associated with a single battle, or it can be used to nominate all eligible sites associated with a military campaign in a defined geographic area.

Nominations are processed according to the regulations set forth in 36 CFR Part 60, and are submitted to the National Park Service by the appropriate State or Federal Historic Preservation Officer.

The following guidance **supplements** *National Register Bulletin 16* and is organized according to the section name of the registration form.

NAME OF PROPERTY

The historic name of the battlefield will be used to identify it in the National Register files, the comprehensive National Register Information System (NRIS), and any publications. Battles were frequently called different names by the opposing forces, but usually an accepted historic name emerges over time. For a battlefield, list the generally accepted historic name of the battle (example, Perryville Battlefield). If there is more than one historic name, enter the name that most closely connotes the significance of the property; enter other historic names under "other names."

CLASSIFICATION

The battlefield should be classified as either a district or a site. If the battlefield contains a variety of contributing resources (buildings, structures, objects, or sites) and extensive acreage, it should be classified as a district. Otherwise, the battlefield should be classified as a site.

In completing National Register forms, the term "resource" refers to the elements comprising a documented property. Use the definition of "Category of Property" found in *National Register Bulletin 16* to determine whether the resources comprising the property are buildings, structures, objects, or sites. Then use the following definitions to classify component resources as "contributing" or "noncontributing."

- A **contributing** building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because (a) it was present during the Period of Significance and possesses historic integrity reflecting its character at that time, or is capable of yielding important information about the period, or (b) it independently meets the National Register criteria.

- A **noncontributing** building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because (a) it was not present during the Period of Significance, (b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or (c) it does not independently meet the National Register criteria.

In cases where a resource contributes on the basis of significance unrelated to the battlefield, Section 8 of the nomination form should explain how the resource independently meets the National Register criteria. For example, a battlefield might contain a prehistoric archeological site that is significant in its own right, or an architecturally significant building constructed after the battlefield's defined Period of Significance. The form should explain how this site qualifies on its own under the criteria. Other resources which date from this earlier Period of Significance, but which are not associated with a defined Area of Significance (for example, the memorialization effort) should be counted as noncontributing.

GUIDELINES FOR COUNTING RESOURCES ON A BATTLEFIELD

Contributing and noncontributing resources are counted according to the guidance found in *National Register Bulletin 16A*. The acreage composing the battlefield, including the forests, fields, orchards, etc., counts as one contributing site. Buildings, structures, objects, and sites substantial in size and scale or that are specifically discussed in the text are counted separately.

The following example of counting resources is for a battlefield that is classified as a district because it contains a number of contributing buildings, structures, and objects: a battlefield consisting of the battle site, a trench system, eight farm buildings present during the battle, 12 monuments constructed by veterans of the battle, fourteen modern residences, and a modern visitors' center, counts as one

contributing site, one contributing structure (the trench system), eight contributing buildings, twelve contributing objects (if the Period of Significance extends to the battlefield's commemoration period), and fifteen noncontributing buildings.

A battlefield containing no buildings, objects, or structures counts as one site.

FUNCTION

National Register Bulletin 16 includes a list of historic and current functions that should be consulted to define both the past and present uses of the battlefield. Only the most predominant functions of the property should be listed. Functions that may apply to battlefields could include: **domestic; commerce/trade; social; agricultural; industry/processing/extraction; defense; monument/marker;** and/or **landscape.**

DESCRIPTION

In this section provide a narrative describing the current and historic physical appearance and condition of the battlefield including the setting, major buildings, structures, objects, or sites, and features of the landscape. The narrative should begin with a **summary paragraph** that briefly describes the battlefield, noting its major physical characteristics and assessing its overall integrity. Additional paragraphs describing the battlefield should support the summary paragraph.

GUIDELINES FOR DESCRIBING A BATTLEFIELD

- Describe the appearance of the battlefield at the time of the conflict.
- Describe the present condition of the site and its environment.
- Describe the natural features (if any) that contributed to the selection of the site as a place of battle, such as a series of hills used as a defensive system.
- Describe other natural features that characterized the site at the time of the battle, such as vegetation (fields, woodlots, orchards, etc.), topography, bodies of water, etc.
- Describe any manmade features associated with the battle, for example campsites, or trenches. See list on pages 6 and 7 for features typically found on battlefields.
- Describe the type and degree of alterations to the above features since the battle, and their impact on the historic integrity of the site.
- Provide an explanation of how the current physical environment and remains of the battlefield reflect the Period of Significance and associations for which the site is significant.

STATEMENT OF SIGNIFICANCE

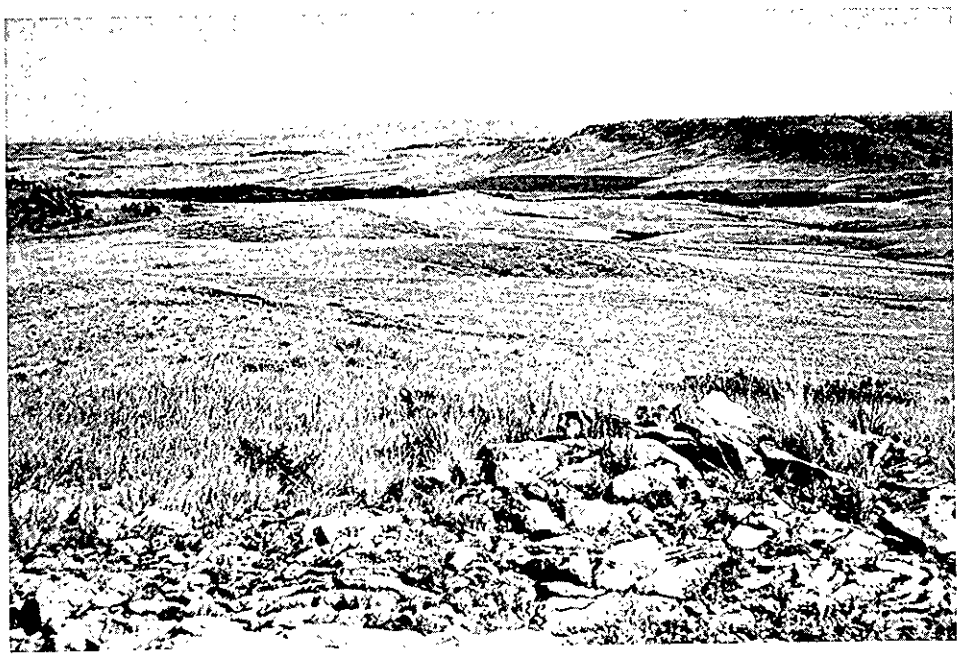
The Statement of Significance is a narrative that describes why the battle was important by explaining how the battlefield directly relates to its historic context, National Register criteria, and areas and periods of significance. The important events and persons associated with the battle are discussed in relationship to the specific features identified on the battlefield. The Statement of Significance should begin with a **summary paragraph** describing the overall importance of the battlefield and should be followed with additional paragraphs supporting the significance of the battlefield, the event, and important persons associated with that event.

GUIDELINES FOR DESCRIBING THE SIGNIFICANCE OF BATTLEFIELDS

- How does the battlefield meet any or all of the National Register criteria?
- How does the event that occurred there reflect the broad patterns of American history and why is it significant?
- How does the battlefield meet any of the National Register criteria considerations?
- Describe the Areas of Significance with which the battlefield is associated.
- Define and justify the Period of Significance.
- Describe the major participants and their role in the battle.

BOUNDARIES

The boundary of the battlefield should be delineated as accurately as



For some battlefields, an appropriate boundary is not readily apparent. In defining boundaries for battles fought in large open areas where no geographic features contained the battle and define the boundary, careful consideration should be given to original accounts of participants and secondary sources, and these descriptions should be evaluated during onsite visits. This view of the Battle of Rosebud Site in Big Horn County, Montana, illustrates the necessity of carefully researching boundaries. The battle was a major engagement in the 1876-1877 Sioux War, and took place over an extensive area of rolling, dry hills and breaks, interspersed with gullies and dry creeks. (Photo by John Popovich).

possible using a measured description, legal descriptions, tax parcel numbers, lines and sections on USGS maps, or a sketch map drawn to a scale preferably no smaller than 1" equals 200 feet.

MAPS

A **sketch map** should be provided for the battlefield indicating its boundaries and the relationship of all important features. Buildings, objects, structures, and sites should be marked on the map, as well as road networks, major land uses, and troop positions and movements. Each resource that is substantial in size and scale should be labeled by name or number.

For properties with large acreage, several maps drawn to different scales may be used in place of one sketch map. A small-scale map, such as a USGS topographic map in the 1:24,000 series, can be used to delineate the overall property and may be used to show boundaries, circulation networks, important natural features, isolated resources, and clusters of resources. Maps drawn to a larger scale, for example, 1" equals 200 feet, can then be used to show the individual resources located within each cluster. A series of maps can be provided to show the flow of action during the course of the battle.

Copies of **historic maps** showing the land at the time of the battle, or maps drawn for histories of the campaign are significant records of battlefields, and should be included with the nomination if available. Historic maps should be reviewed carefully for accuracy of scale, and location of features and troop movements. Refer to the Bibliography section of this bulletin under "Historical Atlases" for sources of maps. Guidebooks to battlefields frequently contain maps that are useful in understanding the relationship between the natural and manmade features found on the battlefield and the flow of military action.

MAPPING THE BATTLEFIELD

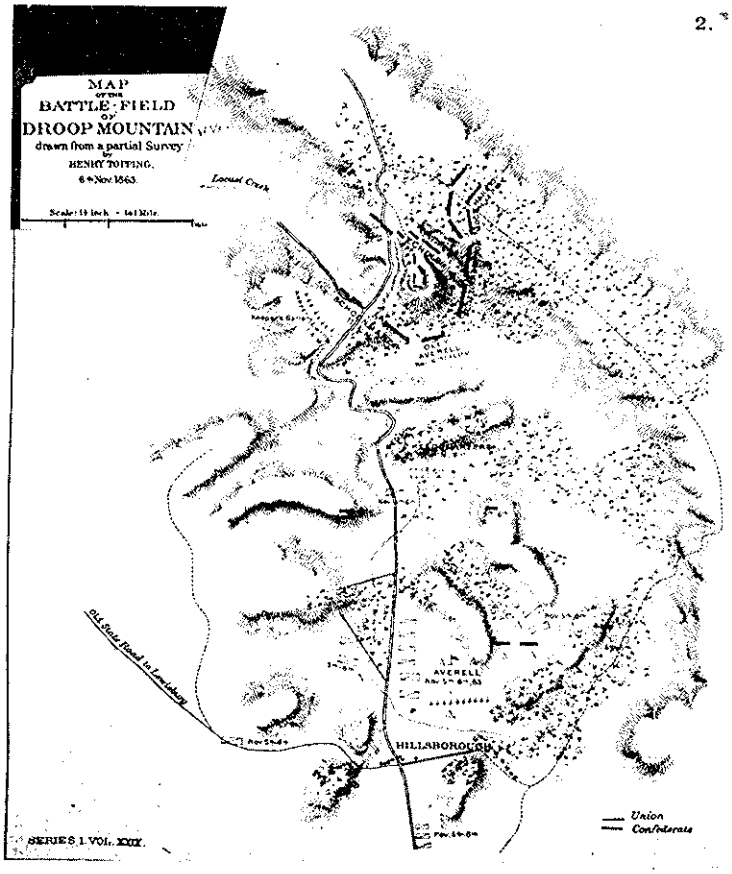
There are many different approaches to mapping battlefields, but to assist in understanding the action that occurred at these sites battlefield mapping should include the **movements, positions, areas,** and **other locations** important in explaining the battlefield.

Movements identify the maneuvers of troops throughout the battle. They may include the following:

- Approaches to the battlefield
- Retreats or withdrawals from the battlefield
- Flanking movements during the battle
- Attack movements during the battle
- Pursuit movements during or after the battle

Positions identify where battle lines were drawn. They are stationary points from which the various types of movements occurred. They may include:

- Picket lines
- Skirmish lines
- Battle lines
- Regrouping positions
- Artillery positions
- Entrenched positions
- Unentrenched troop positions



Historic maps can be a valuable source of information in identifying features and locations of events on battlefields. Historic maps may contain information on roads, railroads, waterways, troop positions, locations of headquarters, artillery positions, entrenchments, and hospitals. They may indicate troop movements during the battle, the location of home sites (with the owner's name), and local landmarks (mills, etc.). To ensure accuracy, historic maps should be checked and verified against written accounts. Shown here is a map of the Battlefield at Droop Mountain, West Virginia (November 6, 1863), prepared by Henry Topping, an assistant to the engineers accompanying the Union army. (Photo by West Virginia Antiquities Commission).

Areas define the places within the battlefield where military activity occurred. They may include:

- Staging areas
- Engagement areas
- Skirmish areas
- Holding action areas
- Bivouac areas
- Troop reserve areas

Other locations are sites that played a role before, during, or after the battle, but are too small to be defined as an area. They may include:

- Command posts (also called headquarters)
- Signal stations
- Hospitals
- Observation posts

GEOGRAPHIC INFORMATION SYSTEMS MAPPING

One important way to study battlefields is to make extensive use of maps. Maps can show relationships between battlefields and land use change. They can provide a regional picture or context for individual battlefields. Maps convey important information in easy to understand graphic images.

There is a vast amount of map information about battlefields and modern land use change. For example, there are more than 2,300 cartographic items pertaining to the Civil War housed in the Library of Congress. The National Archives has approximately 8,000 Civil War maps in its collection. Doubtless, a significant number of historic maps exist in State and local repositories. Even more map information exists today with respect to land use change. Census data on population and other demographic characteristics, data on roads, rivers, streams, elevation, landuse and landcover, zoning, public land boundaries, conservation easements, sensitive habitats, and boundaries of National Register properties are but a few of the items that appear on maps.

The challenge in protecting battlefields is to bring all this data together in a coherent and orderly manner. Often historic maps are not at the same size or scale. Maps frequently vary in the detail and accuracy of features. These pose problems in overlaying or comparing maps to each other.

Fortunately, computer mapping programs known collectively as Geographic Information Systems (GIS) can help. GIS programs can accept maps of different sizes or scales, store them for future use, retrieve them for analyses, create new maps from the analyses, and print maps on paper, slides, transparencies, and computer tapes. The analytical power of GIS, however, is its real value with respect to documenting battlefields. GIS can rescale historic maps to be compatible with other historic maps as well as with modern maps. GIS can assist in assessing the coincidence between current land use and the area encompassed by the battlefield, noting those uses that have reduced or preserved the integrity of the site. GIS can calculate statistics such as acreage of land parcels within battlefields, as well as identify the owners of these parcels. GIS can map what can be seen from within a battlefield, which in turn helps identify areas outside the battlefield that could have a visual impact on the battlefield setting. GIS can assist in defining the boundaries of battlefields by creating a composite map of battlefield movements, troop positions, engagement areas, and sites.

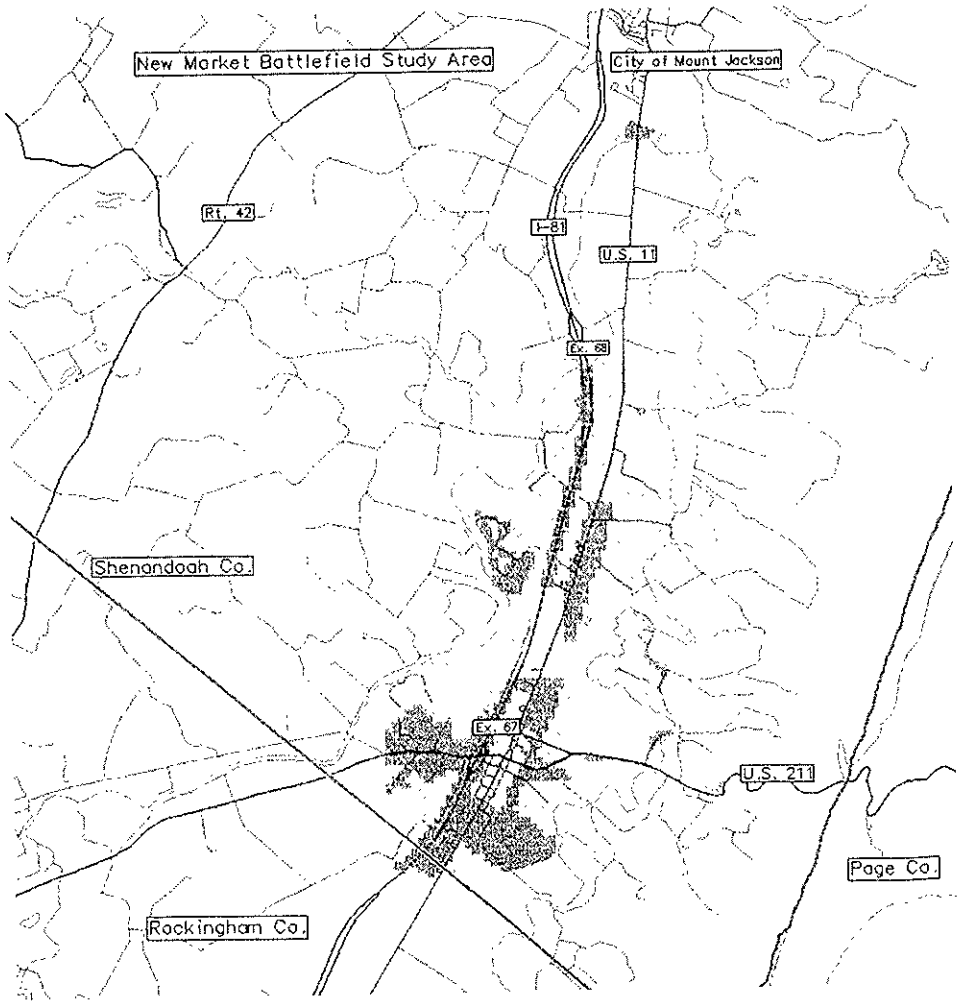
When GIS is used in conjunction with Global Positioning Systems (GPS), a direct link can be made between field survey and computer maps. GPS is a field survey instrument that can store the locational coordinates of features (such as an entrenchment line) as they are discovered in the field. The stored data can then be loaded into the GIS to yield a map of the feature. In addition to being highly accurate (within 5 meters), the resulting map can then be compared to historic military maps showing the same features.

Finally, GIS enables one to focus not only on a particular battlefield, but also the larger regional picture. The latter ability is especially significant because in order to understand the importance of a particular battle, it must often be seen in its larger regional context or frame of reference usually associated with a particular campaign.

While it is not required in the preparation of a nomination, GIS is an effective tool for documenting battlefields because of its flexibility in integrating map information of various scales and details and because it has the analytical power to highlight relationships among data, which in the absence of GIS, would be difficult or impossible to accomplish. Most States and a growing number of local governments are creating GIS databases. Participating in the exchange of spatial data among these entities not only cuts the cost of acquiring data but it also serves to integrate battlefield information into these governmental databases. For further information on GIS, contact the State historic preservation office.

PHOTOGRAPHS

Representative photographs of contributing and noncontributing resources found on the battlefield must be provided with the nomination. Copies of historic photographs, engravings, and illustrations are important documentation for battlefields and should be provided if available.



Computerized mapping can aid in evaluating the integrity of battlefields. This digitized map of Second Kernstown Battlefield (Kernstown, Virginia, July 24, 1864) shows areas retaining integrity from the time of the battle (light shaded areas) and areas which have lost integrity since the battle (dark shaded areas). The map overlays information taken from Landsat photographs on current land use, patterns of road networks, and stream formations. (Map by Cultural Resources Geographic Information Systems Facility, National Park Service).

IX. GLOSSARY

Battle line
A formation where soldiers move out of marching columns and form into lines of battle or columns of attack for both attack and defense.

Bivouac area
A temporary encampment.

Command post
A site used by a commander to control the operation of his military forces. Also called "headquarters."

Disengagement
When one or both military forces voluntarily withdraws from combat.

Flanking movement
To pass around or turn the right or left of an enemy force.

Observation post
Vantage point used to observe the enemy or a military engagement.

Picket line
A position held by a detached body of soldiers serving to guard an army from surprise.

Reserve area
An area where troops are held back from battle while the commander decides how to use them: to reinforce part of his line; counterattack the enemy; or to serve as a rearguard holding force against a victorious enemy.

Retrograde
The forced withdrawal of troops from an enemy or an advanced position.

Rout
A decisive or disastrous defeat.

Signal station
Vantage point used to transmit information from a forward area to a rear area.

Skirmish line
A small body of troops deployed in advance of a battle line to initiate contact with the enemy.

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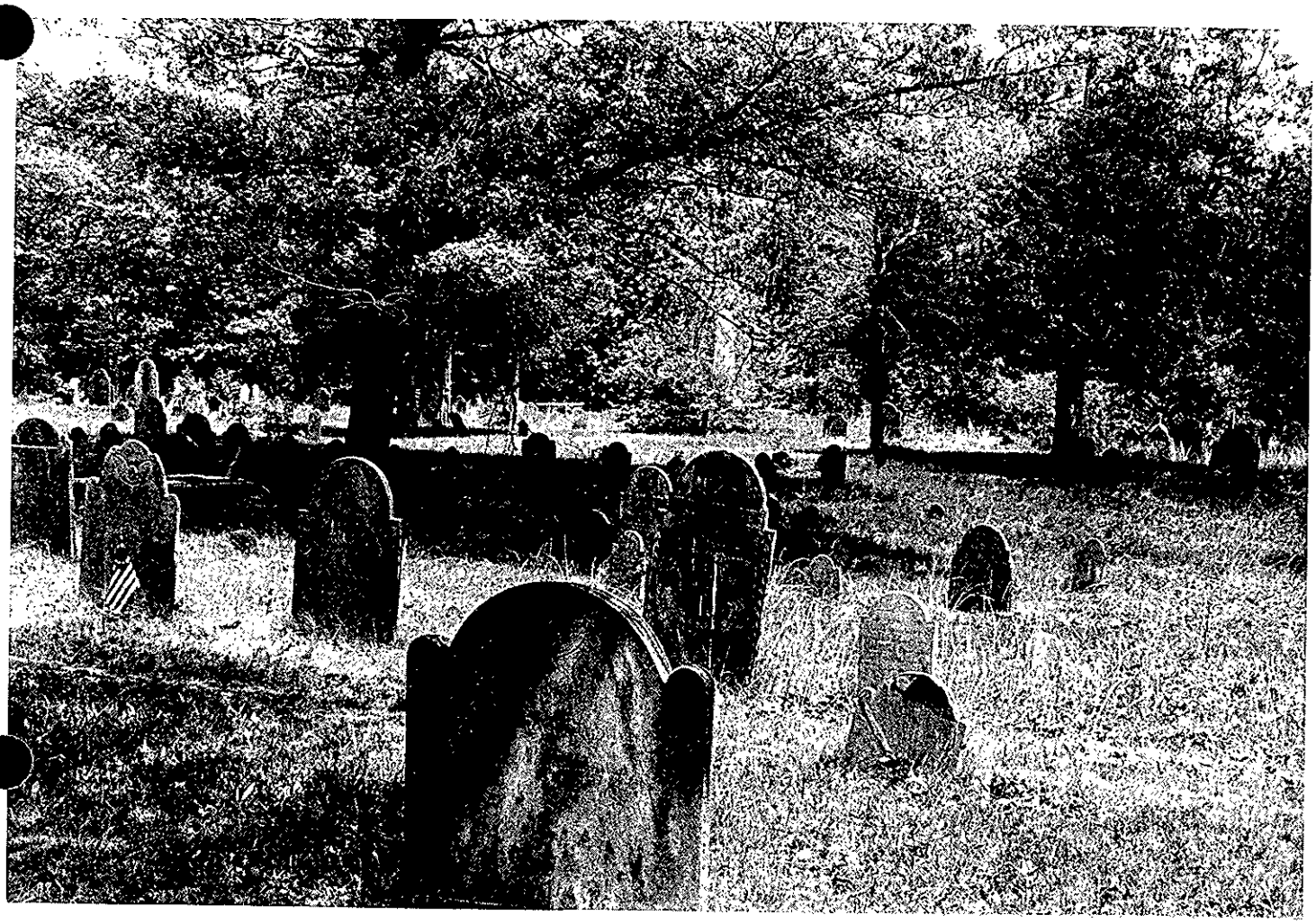
41

NATIONAL REGISTER BULLETIN

Technical information on comprehensive planning, survey of cultural resources, and registration in the National Register of Historic Places

U.S. Department of the Interior
National Park Service
Cultural Resources
Interagency Resources Division

GUIDELINES FOR EVALUATING AND REGISTERING CEMETERIES AND BURIAL PLACES



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(Cover Photo). The East Parish Burying Ground in Newton, Massachusetts, is an important link to the city's 17th century origins and illustrates the characteristic features of a dense concentration of tablet-type markers bearing grim epitaphs and carved imagery. (Thelma Fleishman, 1981).

NATIONAL REGISTER BULLETIN 41

GUIDELINES FOR EVALUATING AND REGISTERING CEMETERIES AND BURIAL PLACES

by
Elisabeth Walton Potter
and
Beth M. Boland

U.S. Department of the Interior
National Park Service
Interagency Resources Division
National Register of Historic Places

1992

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PREFACE

The creation of the National Register of Historic Places in 1966 provided the first national recognition for historic properties possessing State or local significance, and uniform standards for evaluating them. The National Register's Criteria for Evaluation established the threshold for defining the qualities that would make such a property worthy of preservation, but also needed to ensure credibility through adherence to standards acceptable to relevant professional disciplines. Through the special requirements of the Criteria Considerations, the criteria both caution against subjective enthusiasm for certain types of resources, and also reinforce the importance of objective historical analysis.

In the legislative history of the 1980 Amendments to the National Historic Preservation Act of 1966, Congress indicated a desire that the Secretary of the Interior review National Register Criteria for Evaluation from time to time to ensure their effectiveness in carrying out the policies of the Act. In 1986, upon the occasion of the 20th anniversary of the National Historic Preservation Act, the National Park Service organized such a review. In their December 17, 1986, report, those who reviewed the criteria concluded that no revision of criteria wording was warranted, but recommended several issues that could benefit from clarification through additional published guidance. The application of National Register criteria to graves and cemeteries was one such issue.

A greater appreciation has evolved in both scholarship and public perception for the important historical themes that graves, cemeteries, and other types of burial places and features can represent. The growing emphasis on the history of ordinary individuals, grass roots movements, cultural and designed landscapes, and various cultural groups has nurtured this evolution. At the same time, the identification, maintenance, and preservation of burial places is increasingly threatened through neglect, ignorance, and vandalism. This publication is intended to focus attention on these resources and provide detailed guidance on the qualities that render burial places significant representatives of our history worthy of preservation.

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This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. National Register Bulletin 41 was developed under the general editorship of Carol D. Shull, Chief of Registration, National Register of Historic Places. Antoinette J. Lee, historian, is responsible for publications coordination, and Patty Sackett Chrisman, historian, provides technical support. Comments on this publication may be directed to Chief of Registration, National Register of Historic Places, Interagency Resources Division, National Park Service, P. O. Box 37127, Washington, D.C. 20013-7127.

I. INTRODUCTION

Individual and collective burial places can reflect and represent in important ways the cultural values and practices of the past that help instruct us about who we are as a people. Yet for profoundly personal reasons, familial and cultural descendants of the interred often view graves and cemeteries with a sense of reverence and devout sentiment that can overshadow objective evaluation. Therefore, cemeteries and graves are among those properties that ordinarily are not considered eligible for inclusion in the National Register of Historic Places unless they meet special requirements. The National Register Criteria for Evaluation include considerations by which burial places may be eligible for inclusion in the National Register. To qualify for listing under Criteria A (association with events), B (association with people), or C (design), a cemetery or grave must meet not only the basic criteria, but also the special requirements of Criteria Considerations C or D, relating to graves and cemeteries.[1]

Burial places evaluated under Criterion D for the importance of the information they may impart do not have to meet the requirements for the Criteria Considerations. These sites generally have been considered as archeological sites. It is important to remember that although cemeteries and other burial places may be evaluated for their potential to yield information, they also may possess great value to those who are related culturally to the people buried there.

Roughly 1,700 cemeteries and burial places in all parts of the country have been entered in the National Register since 1966, either as individual listings or because they are part of historic districts.[2] These numbers reflect the essential presence of burial places in the cultural landscape. Various factors have contributed to the continuing trend of registration. Clearly important is the growing literature on funerary art and architecture, and on landscapes. With greater frequency since the 1960s, studies in American culture have treated not only the form and symbolism of gravemarkers, but also the social and spiritual values expressed in burial placements and the organization of burying grounds — including the different attitudes about death held by the various cultural groups that make up our society.

Though the tradition of cleaning up and beautifying old cemeteries is a long one, the current interest in these subjects partly owes to widespread incidents of abandonment, theft, vandalism, real estate development, and environmental hazards such as acid rain, which have pushed cemeteries to the forefront of preservation issues. National Register listing is an important step in preserving cemeteries because such recognition often sparks community interest in the importance of these sites in conveying the story of its past. Listing also gives credibility to State and local efforts to preserve these resources for their continuing contribution to the community's identity. The documentation contained in surveys and nominations of these historic burying places — especially those cemeteries that are neglected or threatened — is the key to their better protection and management. This information has a variety of uses, including public education; planning by local, State, or Federal agencies; or publication. The purpose of this bulletin is to guide Federal agencies, State historic preservation offices, Certified Local Governments, preservation professionals, and interested groups and individuals in evaluating, documenting, and nominating cemeteries, burial places and related types of property to the National Register.

The resources or types of properties relating to mortuary customs in the United States and its associated territories vary from region to region and age to age according to prevailing spiritual beliefs and methods of caring for the dead. The burial mound of prehistoric populations in the Mississippi River Valley, the tablet-filled graveyard of the Colonial period, the park-like "rural" cemetery of the early-to-mid 19th century, and the Art Deco mausoleum and crematorium of the modern industrial age — all are distinct manifestations of the cultures and environments in which they were created. These places are capable of providing insight to the cultural values of preceding generations unless they have been looted, severely vandalized, or compromised by development or natural forces. To measure the significance of burial places in American culture, we must know something of their geographic extent, the historic events affecting their creation, the span of time in which they evolved, their ceremonial functions, their aesthetic value, the reasons for the location and orientation of graves, and the underlying meaning of their embellishments.

This bulletin defines the term "burial place" broadly as a location where the dead are prepared for burial or cremation, or where the remains of the dead are placed. A burial place may be a

[1] The discussion of the criteria begins on page 9, and the requirements of the considerations on page 14. For a list of the National Register Criteria for Evaluation and the Criteria Considerations, see p. 33.

[2] For information on the National Register, contact the State Historic Preservation Officer in your State, or The National Register of Historic Places, Interagency Resources Division, National Park Service, P. O. Box 37127, Washington, D.C. 20013-7127.

single feature, ranging from the grandly monumented tomb of a national leader to an isolated grave expediently prepared alongside a battlefield or emigrant route. Other burial places are more complex, such as compound burial sites and cemeteries developed after deliberate selection and arrangement of the landscape. In Native American and Pacific Island cultures, certain burial places were ephemeral because they took place above ground. However, where evidence remains of cremation areas and sites traditionally used for scaffold and other encasement burials, such places would be encompassed by the general classification, burial place.

Cemeteries and burial places traditionally have been regarded as sacred and inviolate, especially by those whose ancestors are buried there. Recently, the concern of Native Americans about appropriate and respectful disposition of burial remains and objects of their descendants has resulted in greater sensitivity toward those for whom a burial place has familial or cultural importance. The Native American Graves Protection and Repatriation Act of 1990 (P.L. 101-601) sets out the rights of Indian Tribes and Native Hawaiian organizations regarding human remains, funerary and sacred objects, and other culturally significant objects for which they can demonstrate lineal descent or cultural affiliation. One of the main purposes of the legislation is to protect Native American graves and related items, and to control their removal. The Act encourages the avoidance of archeological sites that contain burials and also makes Federal agencies responsible for consulting Indian Tribes or Native Hawaiian groups when they encounter such sites, either in the course of planned excavations, or through inadvertent discovery. Consultation is required to determine the appropriate treatment of human remains and cultural objects. Many States, also, have passed legislation that addresses the discovery and disposition of graves.

Several factors resulted in a decision to omit detailed guidance on identifying, evaluating, and documenting archeological sites that contain burials, and on appropriate methods for studying them, from this bulletin. These factors include the specialized nature of investigating these burials, ongoing debates over the appropriate treatment of such sites, and evolving policies and procedures relating to the Native American Graves Protection and Repatriation Act. Nevertheless, references, examples, and brief discussions of prehistoric burials appear throughout this bulletin in recognition that they may be eligible for National Register listing.

II. BURIAL CUSTOMS AND CEMETERIES IN AMERICAN HISTORY

The types of cemeteries and burial places that might qualify for National Register listing are many and varied. They include:

- town cemeteries and burial grounds whose creation and continuity reflect the broad spectrum of the community's history and culture;

- family burial plots that contribute to the significance of a farmstead;

- beautifully designed garden cemeteries that served as places of rest and recreation;

- graveyards that form an important part of the historic setting for a church or other religious building being nominated;

- formal cemeteries whose collections of tombs, sculptures, and markers possess artistic and architectural significance;

- single or grouped gravestones that represent a distinctive folk tradition;

- graves or graveyards whose survival is a significant or the only reminder of an important person, culture, settlement, or event; and

- burial places whose location, grave markers, landscaping, or other physical attributes tell us something important about the people who created them.

Examples of these and many other types of burial places appear throughout this bulletin, especially in the section on applying the criteria. Some types of burial places represent events, customs, or beliefs common to many cultures, locations, or time periods. Others are unique representatives of specific people or events. Background information on some of the traditions in American burials that are so common that numerous examples have been, or are likely to be, identified and nominated is discussed briefly in this section; the omission of other traditions or historical developments should not be interpreted as precluding cemeteries or graves that do not fit into the topics that are included. For example, community cemeteries that reflect early settlement or various aspects of an area's long history may not fall into one of the traditions described in this section. Yet they frequently are nominated and listed in the National Register.

NATIVE AMERICAN BURIAL CUSTOMS

Native American burial customs have varied widely, not only geographically, but also through time, having been shaped by differing environments, social structure, and spiritual beliefs. Prehistoric civilizations evolved methods of caring for the dead that reflected either the seasonal movements of nomadic societies or the lifeways of settled communities organized around fixed locations. As they evolved, burial practices included various forms of encasement, sub-surface interment, cremation, and exposure. Custom

The Crawford-Dorsey House and Cemetery near Lovejoy, Clayton County, Georgia, represent a historic Southern plantation; the earliest graves are covered by seashells. (James R. Lockhart, 1983)

usually dictated some type of purification ritual at the time of burial. Certain ceremonies called for secondary interments following incineration or exposure of the body, and in such cases, the rites might extend over some time period. Where the distinctions in social status were marked, the rites were more elaborate.

The Plains Indians and certain Indians of the Pacific Northwest commonly practiced above-ground burials using trees, scaffolds, canoes, and boxes on stilts, which decayed over time. More permanent were earthen constructions, such as the chambered mounds and crematory mounds of the Indians of the Mississippi River drainage. In some areas of the Southeast and Southwest, cemeteries for urn burials, using earthenware jars, were common.

After contact with European Americans, Native American cultures adopted other practices brought about by religious proselytizing, intermarriage, edict, and enforcement of regulations. The Hopi, Zuni, and other Pueblo peoples of Arizona and New Mexico were among the first to experience Hispanic contact in the 16th century, and subsequently, their ancestral lands were colonized. At the pueblos — stone and adobe villages — where Roman Catholic missions were established, burials within church grounds or graveyards consecrated in accordance with Christian doctrine were encouraged for those who had been converted to the faith. However, Native Americans also continued their traditional burial practices, when necessary in secret.

Throughout the period of the fur trade in the North Pacific, beginning in the late 18th century, Russian Orthodox missions were established among the native populations settled along the coastline and mainland interior of Russian-occupied Alaska. At Eklutna, a village at the head of Cook Inlet, north of Anchorage, an Athabascan cemetery adjacent to the 19th century Church of St. Nicholas (Anchorage Borough - Census Area), illustrates continuity of a burial custom widely recorded in historic times, that of constructing gable-roofed wooden shelters over graves to house the spirit of the dead. In the cemetery at Eklutna, the spirit houses are arranged in regular rows, have brightly-painted exteriors fronted by Greek crosses, and are surmounted by comb-like ridge crests. In this particular example, variation in the size of the shelters is an indication of social status, while clan affiliations are identified by color and by the styling of the crest.

COLONIAL AND EARLY AMERICAN BURIAL CUSTOMS

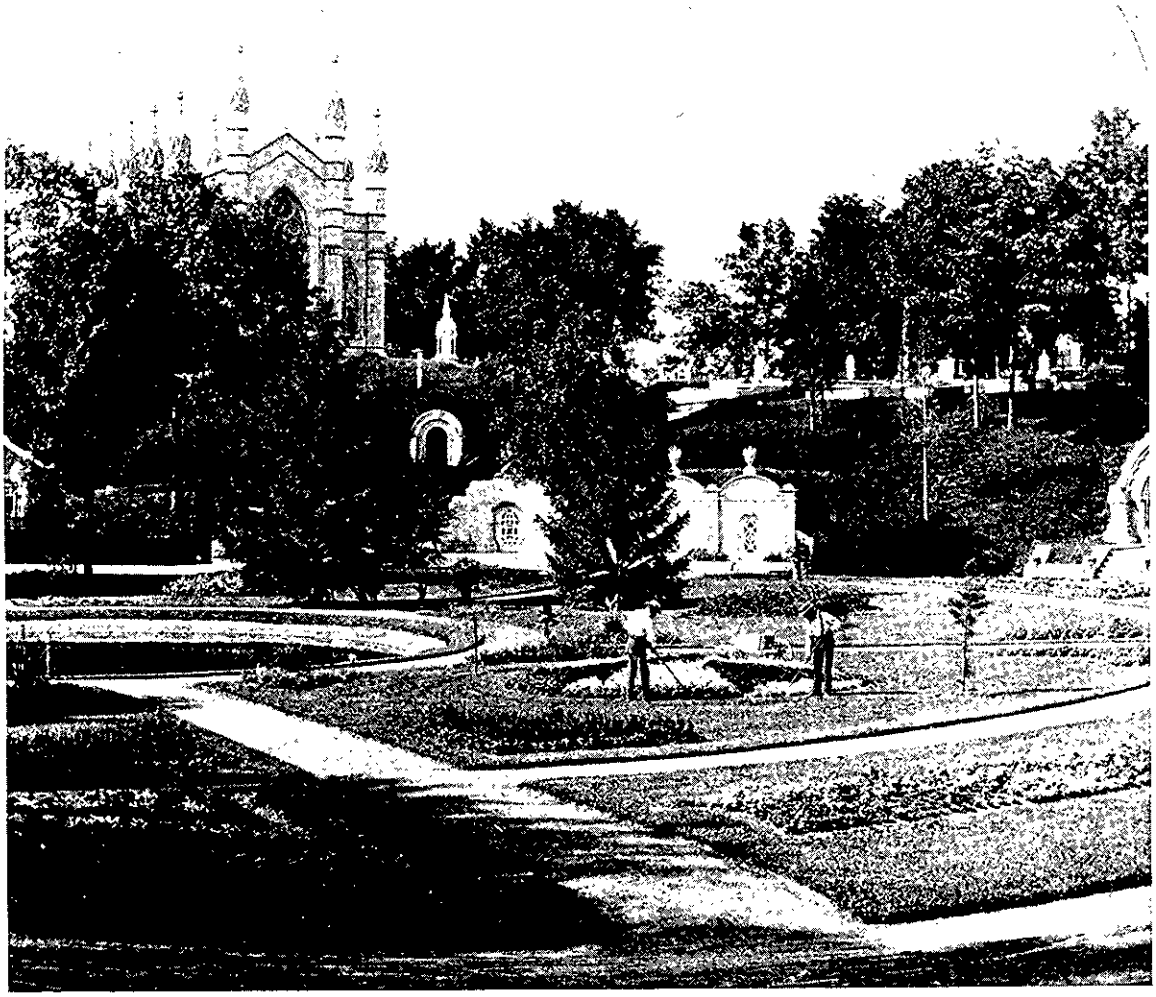
The earliest episodes of Spanish, French, and English settlement on the eastern shore of North America followed voyages of exploration in the 16th century. The original attempts at colonizing were made in Florida, the Carolinas, and Virginia. In 1565, the first lasting European community was established by the Spanish on the east coast of Florida, at St. Augustine, which survived attack from competing forces in colonization of the New World. An essential feature of the fortified settlement was the Roman Catholic mission church with its associated burial ground. Where they are uncovered in the course of modern day improvement projects, unmarked burials of the 16th and 17th centuries provide evidence for identifying the historic locations of successors to the founding church — sites that gradually disappeared in the layerings of later town development. The archeological record shows shroud-wrapped interments were customary in the city's Spanish Colonial period. Traces of coffins or coffin hardware do not appear in Colonial burials before the beginning of English immigration to the area in the 18th century. Graves of the Spanish colonists occurred in consecrated ground within or adjacent to a church. They followed a pattern of regular, compact spacing and east-facing orientation. These characteristics, together with arms crossed over the chest and the presence of brass shroud pins are a means of distinguishing Christian burials from precolonial Native American burials sometimes associated with the same site.

With the notable exception of the secular graveyards of Puritan New England, the ideal during the Colonial period in English colonies was to bury the dead in churchyards located in close proximity to churches. Churchyard burials have remained standard practice into the 20th century for European Americans and other cultures in the Judeo-Christian tradition. Early Puritans rejected churchyard burials as they rebelled against other "papist" practices, as heretical and idolatrous. Instead, many 17th century New England towns set aside land as common community burial grounds. Headstone images from this period also reflect the rejection of formal Christian iconography in favor of more secular figures, such as skulls representing fate common to all men.

In areas such as the Middle Atlantic region and the South, settlement patterns tended to be more dispersed than in New England. Although early towns such as Jamestown established church cemeteries, eventually burial in churchyards became impractical for all but those living close to churches. As extensive plantations were established to facilitate the production of large scale cash crops, such as tobacco, several factors often made burial in a churchyard problematical: towns were located far apart, geographically large parishes were often served by only a single church, and transportation was difficult, the major mode being by ship. The distance of family plantations from churches necessitated alternative locations for cemeteries, which took the form of family cemeteries on the plantation grounds. They usually were established on a high, well-drained point of land, and often were enclosed by a fence or wall. Although initially dictated by settlement patterns, plantation burials became a tradition once the precedent was set. Along with the variety of dependencies, agricultural lands, and other features, family cemeteries help illustrate the degree of self-sufficiency sustained by many of these plantations. Pruitt Oaks, Colbert County, Alabama, is one of many National Register examples of such a plantation complex.

ORIGINS OF THE "RURAL" CEMETERY MOVEMENT

In the young republic of the United States, the "rural" cemetery movement was inspired by romantic perceptions of nature, art, national identity, and the melancholy theme of death. It drew upon innovations in burial ground design in England and France, most particularly Père Lachaise Cemetery in Paris, established in 1804 and developed according to an 1815 plan. Based on the model of Mount Auburn Cemetery, founded at Cambridge, near Boston by leaders of the Massachusetts Horticultural Society in 1831, America's "rural" cemeteries typically were established around elevated viewsites at the city outskirts. Mount Auburn was followed



Mount Auburn Cemetery in Cambridge, Massachusetts, was a model for suburban landscaped cemeteries popular in the 19th century. Mount Auburn and other "rural" cemeteries of its kind inspired a movement for public parks. (Photographer unknown; ca. 1870. From the collection of the Mount Auburn Cemetery Archives)

by the formation of Laurel Hill Cemetery in Philadelphia in 1836; Green Mount in Baltimore, 1838; Green-Wood Cemetery in Brooklyn and Mount Hope Cemetery in Rochester, New York, in 1839; and ultimately many others.[3]

After the Civil War, reformers concerned about land conservation and public health agitated for revival of the practice of incineration and urn burial. The cremation movement gathered momentum rapidly around the turn of the century, particularly on the west coast, and resulted in construction of crematories in many major cities. Columbariums and community mausoleums were erected in cemeteries to expand the number of burials which could be accommodated with the least sacrifice of ground space.

Perpetual care lawn cemeteries or memorial parks of the 20th century represent a transformation of the "rural" cemetery ideal that began in the last half of the 19th century. At Spring Grove Cemetery in Cincinnati (Hamilton County), Ohio, superintendent Adolph Strauch introduced the lawn plan system, which deemphasized monuments in favor of unbroken lawn scenery, or common open space. Writing in support of this concept and the value of unified design, fellow landscape architect and cemetery engineer Jacob Weidenmann brought out *Modern Cemeteries: An Essay on the Improvement and Proper Management of Rural Cemeteries* in 1888. To illustrate his essay, Weidenmann diagrammed a variety of plot arrangements showing how areas could be reserved exclusively for landscaping for the enhancement of adjacent lots.

"Modern" cemetery planning was based on the keynotes of natural beauty and economy. Whereas 19th century community cemeteries typically were organized and operated by voluntary associations which sold individual plots to be marked and maintained by private owners according to individual taste, the memorial park was comprehensively designed and managed by full-time professionals. Whether the sponsoring institution was a business venture or non-profit corporation, the ideal was to extend perpetual care to every lot and grave. The natural beauty of cemetery sites continued to be enhanced through landscaping, but rolling terrain was smoothed of picturesque roughness and hilly features. The mechanized equipment required to maintain grounds efficiently on a broad scale prompted standardization of markers flush with the ground level and the elimination of plot-defining barriers.

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[3] Mount Auburn (Middlesex County), Laurel Hill (Philadelphia County), and Green Mount (Baltimore Independent City) are listed individually in the National Register. Because National Register files and published lists are organized by State and county, the name of the county is provided for each individually listed burial place cited in this bulletin. Other referenced cemeteries and burial places may be included in the National Register as part of larger historic properties, especially historic districts.

THE "RURAL" CEMETERY MOVEMENT AND ITS IMPACT ON AMERICAN LANDSCAPE DESIGN

The "rural" cemetery movement, influenced by European trends in gardening and landscape design, in turn had a major impact on American landscape design. Early in the 19th century, the prevailing tradition was the romantic style of landscape gardening which in the previous century the English nobility and their gardeners had invented using classical landscape paintings as their models. English garden designers such as Lancelot "Capability" Brown, William Kent, Sir Uvedale Price, Humphrey Repton and John Claudius Loudon artfully improved vast country estates according to varying aesthetic theories. To achieve naturalistic effects, gracefully curving pathways and watercourses were adapted to rolling land forms. Contrast and variation were employed in the massing of trees and plants as well as the arrangement of ornamental features. The "picturesque" mode of 18th century landscaping was characterized by open meadows of irregular outline, uneven stands of trees, naturalistic lakes, accents of specimen plants and, here and there, incidental objects such as an antique statue or urn on a pedestal to lend interest and variety to the scene.

The "rural" cemeteries laid out by horticulturists in Boston, Philadelphia, Baltimore, and New York in the 1830s were romantic pastoral landscapes of the picturesque type. Planned as serene and spacious grounds where the combination of nature and monuments would be spiritually uplifting, they came to be looked on as public parks, places of respite and recreation acclaimed for their beauty and usefulness to society. In the early "rural" cemeteries and in those which followed their pattern, hilly, wooded sites were enhanced by grading, selective thinning of trees, and massing of plant materials which directed views opening onto broad vistas. The cemetery gateway established separation from the workaday world, and a winding drive of gradual ascent slowed progress to a stately pace. Such settings stirred an appreciation of nature and a sense of the continuity of life. By their example, the popular new cemeteries started a movement for urban parks that was encouraged by the writings of Andrew Jackson Downing and the pioneering work of other advocates of "picturesque" landscaping, most particularly Calvert Vaux and Frederick Law Olmsted, who collaborated in the design of New York City's Central Park.

With the rapid growth of urban centers later in the 19th century, landscape design and city planning merged in the work of Frederick Law Olmsted, the country's leading designer of urban parks. Olmsted and his partners were influential in reviving planning on a grand scale in the parkways they created to connect units of municipal park systems. Although Olmsted was more closely tied to the naturalistic style of landscape planning, his firm's work with Daniel H. Burnham in laying out grounds for the World's Columbian Exposition of 1893 in Chicago conformed to the classical principles of strong axial organization and bilateral symmetry. The central unifying element of the imposing exposition building group was a lengthy concourse, a lagoon, terminated by sculptural focal points at either end. Following the Chicago World's Fair, civic planning was based for some time on a formal, monumental vision of "the City Beautiful."

The historic relationship of cemetery and municipal park planning in America is well documented in *Park and Cemetery*, one of the earliest professional journals in the field of landscape architecture. Inaugurated in Chicago in 1891 and briefly published as *The Modern Cemetery*, a title that was resumed in 1933, the journal chronicles the growth of an industry and indicates the developing professionalism within related fields. For example, the Association of American Cemetery Superintendents was organized in 1887. Cemetery superintendents and urban park officials held a common interest in matters of design as well as horticulture and practical groundskeeping.

The tradition of naturalistic landscape design that was developed by Olmsted and his followers continued into the 20th century. Widely influential was the work of John C. Olmsted and Frederick Law Olmsted, Jr., successors of the elder Olmsted and principals of the Olmsted Brothers firm which was consulted throughout the country on matters of civic landscape design. But after 1900, parks and cemeteries took on aspects of formal landscape planning made fashionable by the "City Beautiful" movement and renewed interest in formal gardens of the Italian style. Typically, classical formality was introduced to early 20th century cemetery landscapes in the axial alignment of principal avenues of approach centered on building fronts, and also in cross axes terminated by rostrums, exedras, and other focal features drawn from various traditions in classical architecture. By the 1930s, newer cemeteries and memorial parks showed the influence of modernism in a general preference for buildings and monuments that were stripped of excessive decoration. Greek architecture, admired for its purity and simplicity, was the approved model for monumentation in the early modern age.

MILITARY CEMETERIES

Military cemeteries, created for the burial of war casualties, veterans, and their dependents are located in nearly every State, as well as in foreign countries, and constitute an important type of American cemetery. There are over 200 cemeteries established by the Federal government for the burial of war casualties and veterans. These include national cemeteries, post cemeteries, soldiers' lots, Confederate and Union plots, American cemeteries overseas, and other burial grounds. Many States also have established veterans cemeteries. The majority of veterans, however, likely are buried in private and community cemeteries, sometimes in separate sections reserved for veterans.

During the American Revolution, soldiers were buried in existing burial grounds near the place of battle. One of the earliest types of organized American military cemetery was the post cemetery. Commanders at frontier forts of the early-to-mid 19th century buried their dead in cemetery plots marked off within the post reservations. Post cemetery registers reveal a fairly uniform system of recording burials, sometimes even including assigned grave numbers. Management of burial grounds fell to quartermaster officers. In 1850, the U.S. Congress called for the establishment of a cemetery outside Mexico City for Americans who died in the Mexican War. This was a precedent for the creation of permanent military cemeter-

ies over a decade before the creation of a national cemetery system.

During the Civil War, there was a critical shortage of cemetery space for large concentrations of troops. At first, this need was addressed through the acquisition of lots near general hospitals, where more soldiers died than in battle. As the war continued, however, it was clear that this was not an adequate solution. In 1862, Congress passed legislation authorizing the creation of a national cemetery system. Within the year, 14 national cemeteries were established. Most were located near troop concentrations, two were former post cemeteries, one was for the burial of Confederate prisoners and guards who died in a train accident, and several were transformed battlefield burial grounds. By the end of 1864, 13 more had been added. Two of the best known of the national cemeteries from the Civil War period are Arlington National Cemetery, established in 1864, and Andersonville, established in 1865. Arlington, the home of Confederate General Robert E. Lee at the beginning of the Civil War, was confiscated by the Union army in May of 1861. In 1864, on the recommendation of Brig. Gen. Montgomery C. Meigs, Quartermaster General of the Army, the grounds officially became a national cemetery. Andersonville became the final resting place of almost 13,000 soldiers who died there at the Confederate prisoner of war camp.

The establishment of Civil War-era military cemeteries often resulted from decisions by local commanders or by State civil authorities in conjunction with private associations. Burial grounds were established near battlefields, military posts, hospitals, and, later, veterans homes. Before the creation of the National Cemetery System, these burial grounds were referred to variously as national cemeteries, soldiers' lots, Confederate plots, Union plots, and post cemeteries. Many later were absorbed into the National Cemetery System.

Immediately after the Civil War, an ambitious search and recovery program initiated the formidable task of locating and reburying soldiers from thousands of scattered battlefield burial sites. By 1870, over 90 percent of the Union casualties — 45 percent of whose identity were unknown — were interred in national cemeteries, private plots, and post cemeteries. In 1867, Congress directed every national cemetery to be enclosed with a stone or iron fence, each gravesite marked with a headstone, and superintendent quarters to be constructed. Although many national cemeteries contain Confederate sections, it was not until 1906 that Congress authorized marking the graves of Confederates who had died in Federal prisons and military hospitals. The post-Civil War reburial program also removed burials from abandoned military post cemeteries, particularly those in the western frontier, for interment into newly-created national cemeteries.

Following World War I, only 13 percent of the deceased returned to the United States were placed in national cemeteries; 40 percent of those who died were buried in eight permanent American cemeteries in Europe. Similarly, after World War II, 14 permanent cemeteries were created in foreign countries. Today, there are 24 American cemeteries located outside the United States, which are administered by the American Battle Monuments Commission.

Until 1933, the War Department administered most military cemeteries. That year an executive order transferred 11 national cemeteries near national military parks or battlefield sites already under the jurisdiction of the National Park Service to that agency. Today, the National Park Service administers 14 national cemeteries.

Originally, hospital military cemeteries associated with former National Homes for Disabled Volunteer Soldiers and former Veterans Bureau (later Veterans Administration) hospital reservations were not part of the national cemetery system. In 1973, the Department of the Army transferred 82 of the 84 remaining national cemeteries to the Veterans Administration — today the Department of Veterans Affairs — which had been created in 1930 from the merging of the National Homes and Veterans Bureau. Also in 1973, the 21 existing "VA" hospital cemeteries were recognized as part of the National Cemetery System. The system has continued to expand, and there now are 114 national cemeteries managed by the Department of Veterans Affairs, where more than two million Americans — including veterans from all of the country's wars and conflicts from the Revolutionary War to the Persian Gulf — are buried.

The total number of military and veterans burial places in the United States is unknown because there are numerous veterans plots in private and non-Federal public cemeteries. In 1991, 70 percent of the markers provided by the Federal government to mark new gravesites were delivered to private or State cemeteries, and the remainder to national cemeteries.

The National Cemetery Section of Lexington Cemetery, Lexington, Fayette County, Kentucky, includes burials of Union and Confederate soldiers, and veterans of the Spanish-American War. (Lexington Herald-Leader Newspaper, 1958)

III. TYPES OF BURIAL PLACES AND ASSOCIATED FEATURES

Distinctive mortuary features and burial places may be eligible for inclusion in the National Register as free-standing buildings and sites nominated individually. Others are eligible because they are significant in a larger context, as, for example, a mausoleum located in a cemetery or a family burial plot on a farmstead or plantation. Cemeteries have been included in the National Register as component elements of historic districts encompassing entire villages, military reservations, or industrial complexes, as well as in association with churches. When a cemetery is included in a larger historic district, it is evaluated like other resources in the district: it contributes to the district's historic significance if it dates from the historic period, relates to the district's significance, and retains integrity; or if it possesses significance independent of the district's. Cemeteries also may be historic districts in their own right.

A cemetery that is evaluated on an individual basis is treated either as a historic site or as a district made up of individual graves, their markers, and plot-defining characteristics. A cemetery that is a site may or may not possess above-ground features that convey their significant historic associations, but still must retain historic integrity. A cemetery district, like other historic districts, is more than an area composed of a collection of separate elements; it is a cohesive landscape whose overall character is defined by the relationship of the features within it. More elaborate cemeteries may have, in addition to the basic cemetery features, ornamental plantings, boundary fences, road systems, gateways, and substantial architectural features such as mausoleums, chapels, and residences of sexton or superintendent — all requiring description and evaluation of significance.

Opposite are some of the types of properties or features that might be encountered in documenting and evaluating burial places. The list covers places for preparation and interment of the dead, commemorative objects, and a number of buildings and structures commonly associated with larger cemeteries (for definitions, see the Glossary, p. 28).

amphitheater
bench
burial cache
burial mound
burial mound complex
burial site
cairn
cemetery
chapel
columbarium
cremation area
crematorium
crypt
fountain
gatehouse
grave
gravemarker
graveyard
grave shelter
greenhouse
lych gate
mausoleum
memorial park
monument
mortuary
office building
ossuary
pumphouse
receiving tomb
rostrum
service building
sexton's residence
shelter house
superintendent's residence
tomb
vault

IV. EVALUATING CEMETERIES AND BURIAL PLACES

It is not essential that those evaluating cemeteries for potential National Register eligibility hold credentials in scholarly disciplines, but it is important that they be able to place the resource type in as broad a context as possible and to describe and analyze its components. Those not trained in the disciplines discussed below are encouraged to refer to the recommended sources listed at the end of the guidance, and to consult their local historical commission and State historic preservation office. They may wish to consult professionals who have had training or experience in archeology, anthropology, art history, architectural history, history of landscape architecture, horticulture, history American studies, cultural geography, or historic preservation. Within a number of these disciplines, the study of funerary art and custom is a specialized area. Appropriate expertise may extend to the fields of iconology, ethnology and folklore. Familiar with the terminology used to describe characteristic elements of prehistoric and historic burial sites, cemetery landscapes, buildings, and monuments, individuals in these fields may more easily be able to identify those elements in historic photographs, in plans, and upon inspection of a site.

Archeologists and anthropologists are qualified to evaluate the potential of burials to yield significant information about the past, and often are able to do so without disturbing the remains. Anthropologists and cultural geographers glean information from gravemarkers, inscriptions, and epitaphs, which reveal changing attitudes about death and afterlife, about demographics (the migration patterns of population groups), and about the prevalence of disease. The folklorist and anthropologist perceive meaning in the commonplace, traditional ways of treating graves that are untouched by the currents of high style monumentation.

Art and architectural historians are prepared to assess the visual qualities of the resource, the elements of artistic and architectural style embodied in sculptural monument, gatehouse, and mausoleum. Landscape architectural historians can evaluate and document elements of historic landscape design. Those who specialize in the study of material culture are knowledgeable about the evolving techniques of manufacture and the icons (forms and symbols holding special meaning) used by monument makers in various historic periods. Historians are qualified to relate cemetery development to changing attitudes about death and burial, trends in community planning, aesthetic taste and choices, and historic events such as episodes of settlement and military actions.

APPLYING THE NATIONAL REGISTER CRITERIA FOR EVALUATION

To be eligible for the National Register, a cemetery or burial place must be shown to be significant under one or more of the four basic Criteria for Evaluation. Criteria A, B, C, and D indicate the several ways in which a property may be significant in American history, architecture (including the disciplines of landscape architecture and planning), archeology, engineering, and culture. Decisions about the relative significance of cemeteries and burial places can be made only with knowledge of the events, trends, and technologies that influenced practices of caring for and commemorating the dead, and with some concept of the quality and quantity of similar resources in the community, region, State, or nation. Such background provides the context for evaluating significance.

The term "context," as applied to the process of evaluation, may be described simply as the relevant social, political, economic, and environmental circumstances of the historic period in which a property was developed. By studying a burial place in its broadest possible context, and by applying the basic criteria, the researcher is able to recognize those resources which are significant in representing a given period and historic theme.

Within the broad patterns of American history, the National Register defines a number of "areas of significance." Areas of significance are equivalent to the historical or cultural themes that the property best represents. Some of the areas of significance relevant to burial places are art and architecture, landscape architecture, community planning and development, archeology, ethnic heritage, exploration and settlement, health/medicine, military history, religion, and social history. It is important when applying National Register criteria to keep in mind that, except for archeological sites and cemeteries nominated under Criterion D, burial places also must meet the special requirements of Criteria Considerations C or D, which refer to graves and cemeteries, and possibly to A (religious properties) or other Criteria Considerations.

Criterion A: Properties can be eligible for the National Register if they are associated with events that have made a significant contribution to the broad patterns of our history.

Under Criterion A, the events or trends with which the burial place is associated must be clearly important, and the connection between the burial place and its associated context must be unmistakable. There are many ways in which a cemetery might represent an important aspect of a community's or a culture's history through association with a specific event or by representing broader patterns of attitudes or behavior. For example, our legacy of community

cemeteries began in Colonial times. In Boston, when "Brother Johnson" died in 1630, his burial was soon followed by others close by. This property then became the first burial ground for the Massachusetts Bay Colony, and was the only Colonial burial ground in Boston for 30 years. Ultimately, it assumed the name of a later church constructed there, becoming King's Chapel Burying Ground (Suffolk County). Depending on the history of an area, the age required of a cemetery to represent early exploration, settlement, and development will vary. In Colorado, the Doyle Settlement (Pueblo County), established by early pioneer Joseph Doyle in 1859, was one of the earliest non-mining communities in the State. Once a self-contained unit consisting of residences, dining facility, store, flour mill, blacksmith shop, school, and granaries, its importance in the early development of southern Colorado is now represented by only the school, the cemetery, and building foundations.

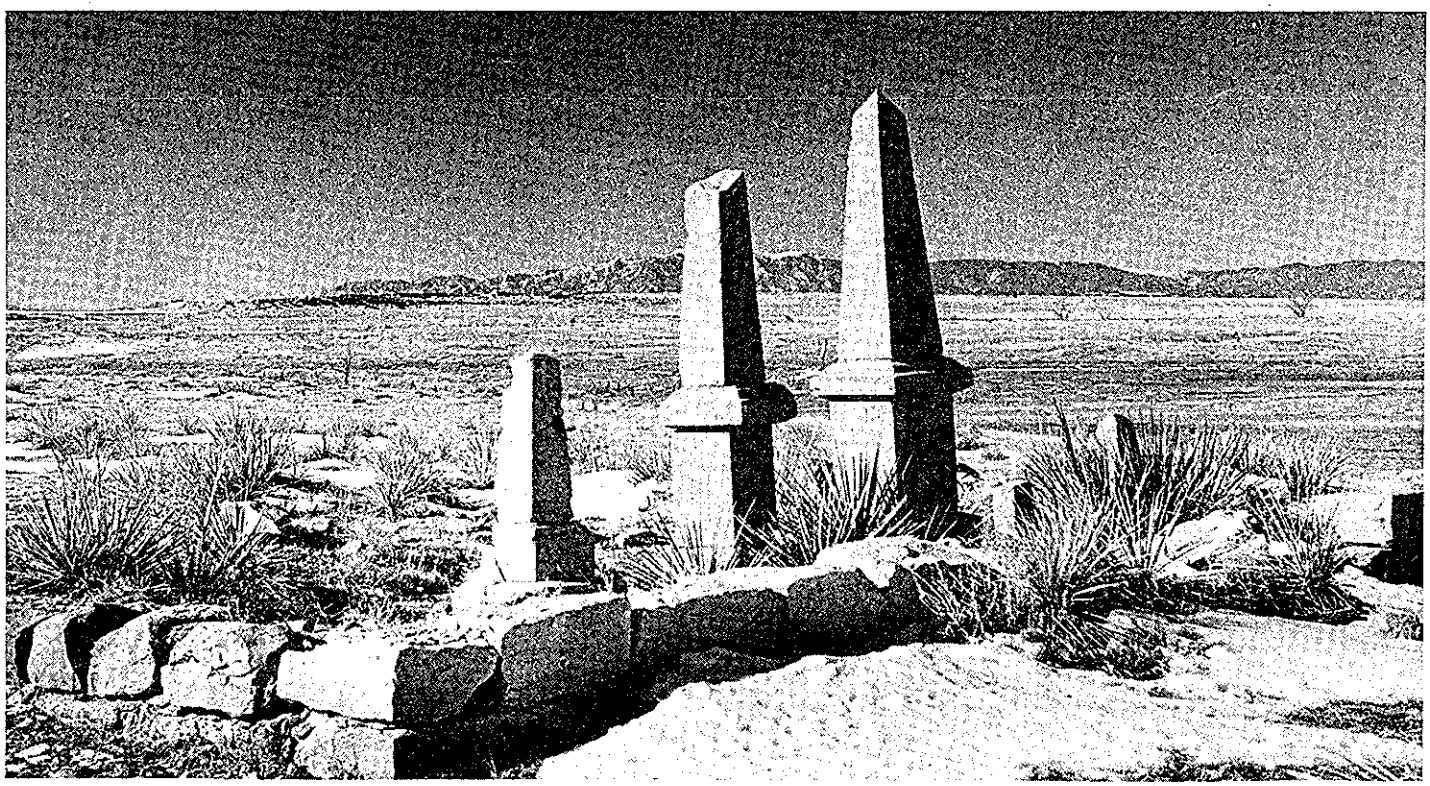
A cemetery may represent a variety of important aspects of an area's early settlement and evolving sense of community. Union Cemetery, in Redwood City (San Mateo County), California, was the subject of the State's first cemetery legislation in 1859. Early in its history, it became the focal point for an annual Memorial Day celebration, which grew over the years into one of the town's most important communal traditions. In addition, a study of the birthplaces of those buried there found at least 17 foreign countries and 26 States, demonstrating the ethnic and cultural diversity characteristic of early northern California communities.

Cemeteries may be significant for associations with specific events as well as long-term trends. The Kuamo'o Burials, Hawaii County, Hawaii, is the burial ground for warriors killed in a major battle in Hawaiian history. The Hawaiian ruling class traditionally had exercised power through a system of sacred rules, or *kapu*. After the death of Kamehameha I in 1819, authority was divided so that Kamehameha I's son Liholiho (Kamehameha II) controlled the secular government, and his nephew Kekuaokalani maintained the *kapu* system. When the new king acted to abolish the *kapu*, Kekuaokalani led an army in rebellion to protect the sacred traditions. Liholiho's forces prevailed, and the abolition of the *kapu* system, occurring the same year as the arrival of Christian missionaries, accelerated the assimilation of western culture. In contrast, Magnolia Cemetery, East Baton Rouge Parish, Louisiana, already was a cemetery when the Battle of Baton Rouge took place there in 1862. Although the Confederates failed to expel the Union forces occupying the city, the ferocity of their attack helped persuade Federal leaders to evacuate. As a result, the Confederates were able to secure a stronghold for transporting supplies on the Mississippi River. Much of the rest of the battlefield has succumbed to urban development, but the cemetery retains its integrity from the Civil War period.

Battles are a common, but not the only type of, event associated with cemeteries and other burial places. The Mass Grave of the Mexican Miners, within Mount Calvary Cemetery, McAlester (Pittsburg County), Oklahoma, is the only site representing a major 1929 mining disaster. Mexicans played a major role in the area's mining industry and made up almost half of the casualties from the 1929 explosion. The creation of a mass grave for 24 of the Mexican victims, dug by State prisoners and initially marked with only a single wooden cross (ten stone family markers were added later), also is evocative of a time in mining history when terms of employment did not include survivors benefits.

The evolution of burial customs and memorializations also can be an important context for understanding our history. In the 19th century, romantic appreciation of nature and changing

One of the few reminders of the vanished Doyle Settlement near Pueblo, Colorado, this cemetery also includes one of the state's best collections of carved Spanish headstones and represents the dual cultural influences on the community. (James Munch, 1979)



attitudes about death and memorialization led to gradual abandonment of overcrowded urban graveyards and church cemeteries in favor of spacious, landscaped burial grounds on the city outskirts. The great "rural" cemeteries outlying major cities in the eastern United States and the Midwest were founded by voluntary associations in the 1830s and 1840s. Their popularity inspired a benevolent movement, led to the development of urban parks, and was the foundation of an entire industry. Although most of the Register-listed community cemeteries across the country that were established in their image before 1900 are documented under Criterion C only — for landscape architecture, and sometimes art or architecture — many also may meet National Register Criterion A in the areas of social history or community planning.

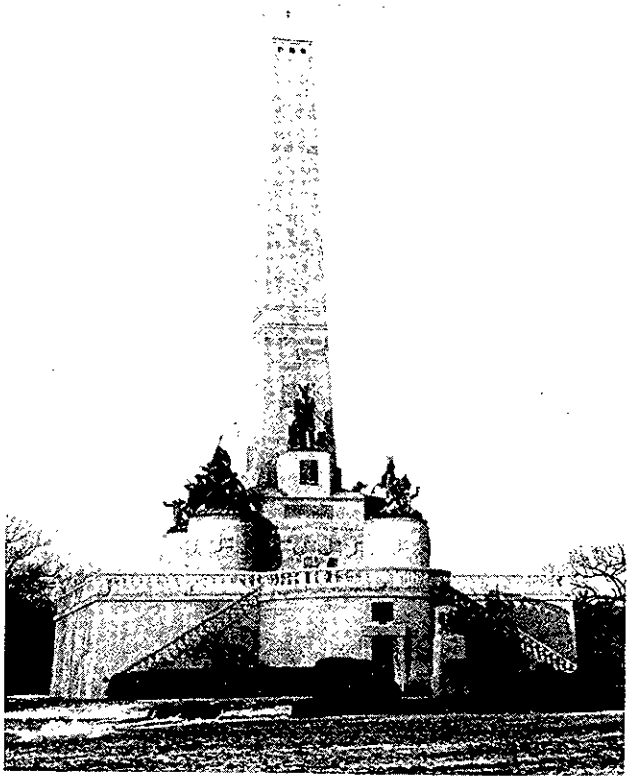
In the late 19th and early 20th centuries, American mortuary practices were greatly influenced by the cremation movement spurred by advocates in the medical and scientific community and a general awareness of the world's mounting population. The first national convention leading to formation of the Cremation Association of America was held at Detroit in 1913. In areas of the world where it was not in conflict with religious doctrine, the movement was well developed by the 1920s and 1930s. Public health laws were revised to allow hygienic disposal of the dead by incineration, and cremation societies were organized to promote and maintain private facilities. Some crematories were municipally owned. Typically, crematory design incorporated, in addition to the retort, a chapel and mausoleum, or columbarium. Frequently, the combination facility was sited in a conventional cemetery or memorial park. The spread of the movement related, in part, to the ideals of economy and efficiency that marked the early 20th century. The nation's early crematories and those representing later benchmarks in the broad reform movement would be eligible, in all likelihood, under Criterion A.

Criterion B: Properties may be eligible for the National Register if they are associated with the lives of persons significant in our past.

Under Criterion B, the person or group of persons with which the burial place is associated must be of *outstanding* importance to the community, State, or nation, as required by Criteria Consideration C (see page 16). As an example, Abraham Lincoln's tomb in Springfield (Sangamon County), Illinois is significant as the final resting place of the martyred figure who, as the nation's 16th president, successfully defended the Union of States in the Civil War and drafted the Emancipation Proclamation of 1862-1863. While not all other properties directly associated with President Lincoln's productive life are lost, the tomb also is important, in part, under Criterion A as the focal point of a broad-based commemorative effort begun shortly after he was slain in 1865.

Graves of persons significant to a particular State , region of the country, or cultural group also may qualify for listing. The Free Frank McWorter Grave Site, also in Illinois (Pike County), is listed in the National Register for its significance in representing the accomplishments of a former slave. Free Frank McWorter purchased his own freedom and that of his wife with the profits of his business before moving to Illinois in 1830. In Illinois, he established a farm, engaged in land speculation, founded a prosperous frontier community, and secured the freedom of 13 additional family members. The gravesite is the only property that survives to represent his achievements and his impact on this area of the State. In Utah, the Martin Harris Gravesite (Cache County) is listed as the State's only property associated with Martin Harris, one of three witnesses to the Book of Mormon, who also served as the first scribe to Mormon prophet Joseph Smith.

Cemeteries, as well as graves, may be eligible under Criterion B. Forestvale Cemetery, on the outskirts of Helena (Lewis and Clark County), Montana, is one of many National Register cemeteries that contain the graves of numerous persons who made outstanding contributions to the history of the State or area in which their graves are located. Among those buried in Forestvale are James Fergus, first commissioner of the territory, also credited with spearheading the formation of Fergus County; Cornelius Hedges, who played a prominent role in the development of the State's public education system and in the formation of Yellowstone National Park; J. Scott Harrison, the chief geological engineer who mapped all of Montana, including boundaries, mountains, principal rivers and streams, and some county borders; Albert Kleinschmidt, credited with the construction of the three largest irrigation



The Lincoln Tomb, Springfield, Illinois, is the final resting place for Abraham Lincoln, his wife Mary Todd Lincoln, and three of his sons. Built between 1869 and 1874, it was the culmination of a broad-based community effort to memorialize the slain president. (Stephen Lissandrello, 1975)

canals in the State; and W. A. Chessman, who constructed the Chessman Reservoir, ensuring a stable water supply for the city of Helena.[4]

Criterion C: Properties may be eligible for the National Register if they embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

Under Criterion C, funerary monuments and their associated art works, buildings, and landscapes associated with burial places must be good representatives of their stylistic type or period and methods of construction or fabrication. Alternatively, such property types may represent the work of master artists, designers and craftsmen, or the highest artistic values of the period. Appropriate areas of significance would be architecture, art, or landscape architecture.

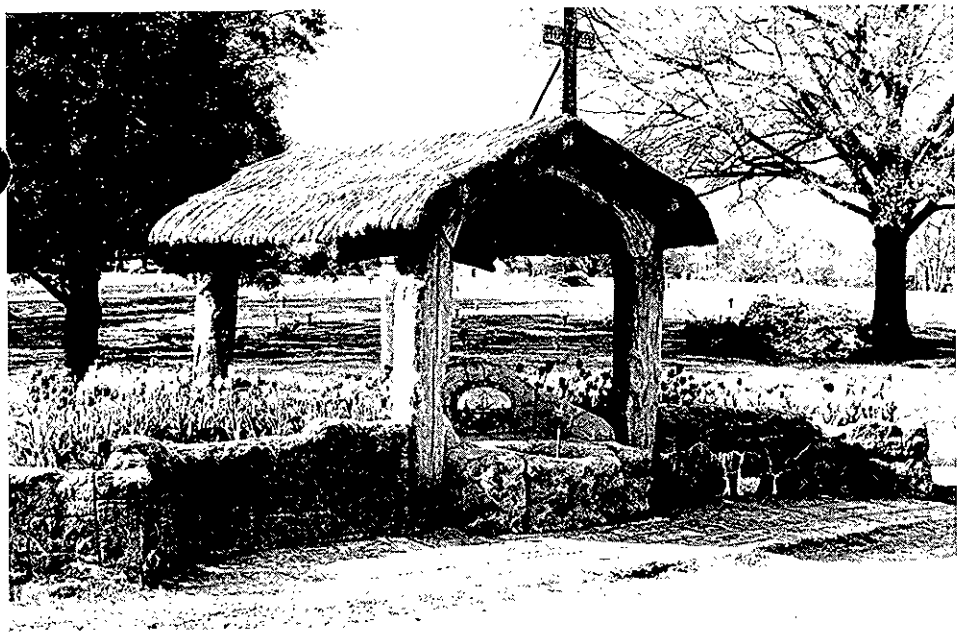
In the Colonial period, tablet-style gravemarkers typically were inscribed and embellished in low relief with the imagery first of death, and later also of resurrection, with various decorative symbols. Much of the work was done by stone carvers whose craftsmanship was of outstanding quality, recognizable in one burial ground after another by distinguishing motifs, craft techniques, or other signature marks. A 17th or 18th century graveyard containing a good representation of gravemarkers of the period and region would be eligible under Criterion C if the body of work is documented sufficiently to provide a basis for comparison. Attribution of particular works to a specific master carver, family, or group of artisans would be helpful, but is not essential to the documentation. Quality craftsmanship or distinctive folk art may be eligible even if the identity of the artisan is unknown. For example, the Hebron Church, Cemetery, and Academy, Banks County, Georgia, is eligible, in part, because of an unusual form of folk art found in northern Georgia. Early 19th century discoid markers there are believed to be made of hand-carved rock from a nearby outcropping by an early settler who learned the craft from ancestors in the British Isles.

In the closing years of the 19th century, the arts in America achieved a high point of integration based on the ideals of Renaissance classicism. The nation's leading architects and sculptors, most notably Richard Morris Hunt, Stanford White, Daniel Chester French, and Augustus Saint-Gaudens, collaborated in the design of important civic and cemetery monuments. There are many examples of high artistic achievement in funerary monumentation of the period eligible under Criterion C in urban centers. Among the best-known of these is the Adams Memorial in Rock Creek Cemetery in Washington, D.C., where Stanford White provided an architectural setting for the sublime bronze figure of transcendent peace completed by Saint-Gaudens in 1891. Historian-writer Henry Brooks Adams commissioned the monument in memory of his wife, the former Marian Hooper.

A cemetery that does not contain "high style" master works of funerary art nonetheless may be eligible under Criterion C as a distinguishable entity made up of a significant array of gravemarkers and monuments representing the common artistic values of a historic period. For example, the elaborate monumentation characteristic of cemeteries of the Victorian era was derived from the influence of the romantic movement in literature and art, which revered nature and sentiment. Grief and devotion could be expressed nobly in artistic terms by means of code-like imagery. Pyramid-capped mausoleums and tapering shafts on pedestals were among the popular monument forms drawn from the ancient world. Because of their association with Egyptian sepulchral monuments signifying eternal life beyond the earthly realm, the pyramid and obelisk became symbols for Christian belief in the eternity of the spirit. Indeed, obelisks were so widely used as gravemarkers that they, along with classical columns, account for much of the bristling quality of cemetery landscapes of the period. Some of the imagery was figural, encompassing effigies and idealized figures as well as lambs, cherubs, and other orders of angels. Among the many cemeteries listed for their notable collection of Victorian funerary art are Oakwood Cemetery, Onondaga County, New

The Mount Pleasant Cemetery in Newark, Essex County, New Jersey, illustrates characteristic features and attitudes toward death in the Victorian period in the profusion of attenuated, vertical forms, such as columns and obelisks, imagery expressing confidence in spiritual after-life. (Anna Sanchez, 1985)

[4] Refer to *National Register Bulletin 32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons* for additional guidance on applying Criterion B.



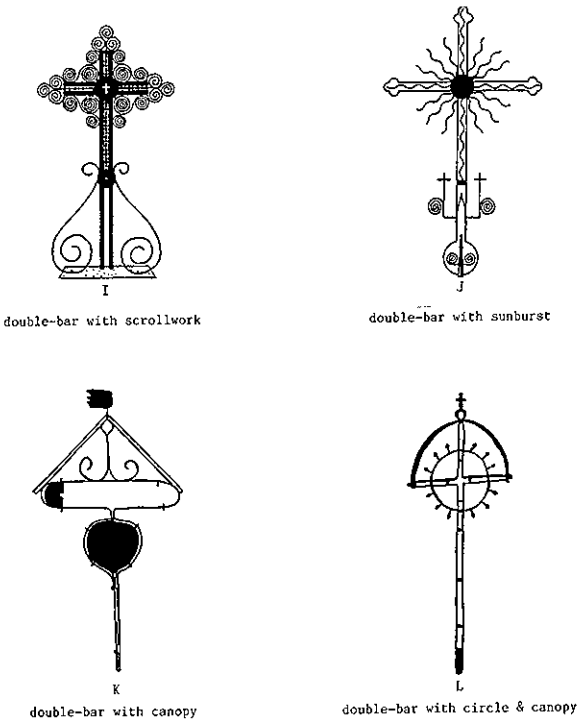
The Sculptures of Dionicio Rodriguez at Memorial Park Cemetery in Memphis, Tennessee, illustrate the work of a master artist. (Tennessee Historical Commission, 1990)

Four of the dozens of individually designed styles found in the German-Russian Wrought Iron Cross Sites in Central North Dakota represent an Old World folk tradition, which enjoyed its greatest period of popularity in this region from the 1880s until about 1925. (Timothy J. Kloberdanz, 1988)

York; Oakland Cemetery, Fulton County, Georgia; Elmwood Cemetery, Jackson County, Missouri; and Cave Hill Cemetery, Jefferson County, Kentucky. Not surprisingly, all are significant in the area of landscape architecture as well.

In part, the richness and variety of monuments in Victorian cemeteries was derived from the introduction of mechanized manufacturing processes. A broad range of patterns was available to monument makers in printed handbooks, a notable example of which was *Palliser's Memorials and Headstones*, published in 1851 by Palliser, Palliser, and Company, New York architects and designers. A great many markers were mass marketed through marble works and manufacturers' catalogs. Monuments of cast zinc marketed as "white bronze" were popular throughout the country after a fabrication process was developed in the 1870s. Metal gravemarkers generally were cheaper than marble and granite markers and, depending on the number and variety of casting molds used, could surpass in elaboration the carved stone monuments they emulated. City Cemetery, Washington County, Georgia, contains a significant collection of mass-produced designs. Cast iron fences, also readily available at this time, became extremely popular for fencing of both individual plots and entire cemeteries. The cast iron fences in Rapides Cemetery, Rapides Parish, Louisiana, are among the most important examples of Victorian ornamental cast iron in the State outside of New Orleans.

Less commonplace, but highly distinctive, examples of funerary art or



The rural setting and these six crosses, the only objects remaining from the old Mt. Carmel settlement in Pierce County, North Dakota, are evocative of the State's early period of German-Russian immigration. (Timothy J. Kloberdanz, 1988)

craftsmanship also may qualify for National Register listing. The Sculptures of Dionicio Rodriguez at Memorial Park Cemetery, Shelby County, Tennessee, constitute one of the finest collections of sculptures executed by this Mexican artist. His rustic works in tinted reinforced concrete imitate natural forms such as trees and stone masses. Mountain View Cemetery, Stillwater County, Montana, is known for its concentration of hand-carved sandstone tree stump and log tombstones, most believed to be the work of two local Italian carvers. In central North Dakota, German-Russian Wrought Iron Cross Sites contain a dazzling array of intricately embellished hand-crafted iron grave crosses, a long-established Old World folk tradition brought to the United States by German-Russian immigrants. The crosses, some by highly-skilled blacksmiths whose names are known, and others by unknown artisans, display a balance of cultural tradition and individual creativity.

Criterion D: Properties may be eligible for the National Register if they have yielded, or may be likely to yield, information important in prehistory or history.

Burial places may be eligible for their potential to yield information about cultural and ethnic groups. Under Criterion D, the common requirements are that the property have information to contribute and the information is considered important. The importance of the information to be yielded usually is determined by considering a research design or a set of questions that could be resolved by controlled investigation of the site. While commonly understood to apply to archeological research, Criterion D also encompasses information important in the study of material culture and social history. Except for the graves of significant historic individuals, burial places nominated under Criterion D need not meet the special requirements of the Criteria Considerations.

Information collected on Native Americans in all parts of the country reveals a great range and variation of burial ritual. The placement and orientation of burial remains and the objects associated with burials, such as implements, vessels for food offerings and personal adornment, reveal a people's spiritual beliefs, their view of afterlife, and distinctions in social, economic, and political status. Some aspects of burials, such as the lining or closing of graves with stones and the plugging of burial chambers with debris, indicate methods of protecting the remains. The similarity of burial practices in different regions could indicate links through trade and migration.

Present Federal, State, and local laws protecting Native American burial remains, burial goods, and sacred objects may constrain physical anthropological studies. However, where disturbance of burials is accidental or unavoidable, legally authorized scientific analysis of skeletal remains can disclose important information about environmental conditions of prehistoric times, including the prevalence of disease and trauma inflicted in combat. Sometimes these properties may be eligible without having been excavated; Hodgen's Cemetery Mound in Ohio, revealed as a burial mound by erosion, has never been excavated and was seeded to prevent further erosion; its significance is enhanced by its relatively undisturbed integrity. Also, it is not uncommon to find burying places associated with other archeological features, and such burial places may be eligible for National Register listing as part of a larger area of occupation for which testing or partial excavation has been carried out. Whether burial places are identified individually, or as part of a larger site, one should always consult representatives of any group for whom the burials or site have historic or cultural meaning, and also the State historic preservation office.

Anthropologists and historical archeologists can gain information significant in American culture from burial places. For example, West Africans carried in the slave trade to the east coast of America, and their descendants, adapted traditional burial rites to plantation and community life. Studies of African American cemeteries in the South reveal a variety of gravesite treatments based on a view of the spirit world that can be traced to the Bakongo culture of West Africa. Light-reflecting objects and personal possessions used to define and decorate graves are intended to attract and contain the spirit. The spiralled conch shell seen on graves in the coastal areas is an emblem of the eternal cycle of life and death, and inverted objects are oriented to the spirit world, which in traditional culture is a shimmering mirror of the living world beneath the earthly plane. Cemeteries having the potential to illustrate the practice of such beliefs may be eligible under Criterion D.

In cases where written documentation is not available, studies of a cemetery may reveal important information about an area. The site of Old Greenville is the location of a frontier town and county seat important in the early settlement of the Missouri Ozarks. Because a series of courthouse fires destroyed early records, information that can be obtained from cemetery features can enlighten various aspects of the area's past. Features documented as having information potential include location and grouping of graves; use and quantity of commercial markers, fieldstone, impermanent markers, or no markers; funerary art; and inscriptions indicating identity, cultural affiliation, birth and death dates, and cause of death.

SPECIAL REQUIREMENTS: CRITERIA CONSIDERATIONS

Certain types of properties, including cemeteries and graves, do not qualify for the National Register unless they meet certain special conditions. This category also includes birthplaces of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years. However, cemeteries and graves may qualify under Criteria A, B, or C if they are integral parts of larger properties that do meet the criteria, or if they meet the conditions known as Criteria Considerations. In some instances, a burial place nomination will need to be justified under more than one of the special conditions in addition to the basic criteria. Except for the graves of historical figures, burial places nominated under Criterion D are exempt from the Criteria Consideration requirements.

In the discussion below, examples that must be justified under the Criteria Considerations are those for which an explicit justification must be included in the nomination documentation. Following these are examples of properties likely to be accepted for National Register listing if the nomination documentation included an adequate explanation. Each discussion also includes at least one example of a type of cemetery or burial place that may be nominated, or included

in a larger nominated property, without the necessity of checking a Criteria Consideration blank on the form or providing a special justification in the nomination.

Criteria Consideration A: A religious property is eligible if it derives its primary significance from architectural or artistic distinction or historical importance.

Examples of religious burial places that *must* be justified under Criteria Consideration A requirements:

- A graveyard maintained as property of a church or synagogue.
- A crypt or crypts of a historic church or synagogue.
- A cemetery containing burials of members of a religious order or group, if the religious affiliation is a major part of the cemetery's significance.

Examples of religious burial grounds that likely would meet Criteria Consideration A requirements with adequate documentation:

- A graveyard of a church or synagogue distinguished by the artistic quality of its gravemarkers or by relatively early historical associations.
- A crypt significant for its artistic embellishment or associations with a person of outstanding importance.

Example of religious burial places that *do not* need to be justified under Criteria Consideration A:

- A graveyard or cemetery that is nominated along with the church or synagogue with which it is associated when the church or synagogue is the main resource nominated.

Criteria Consideration B: A property removed from its original or historically significant location can be eligible if it is significant primarily for architectural value or if it is the surviving structure most importantly associated with a historic person or event.

Examples of relocated burial places that *must* be justified under Criteria Consideration B requirements:

- A grave of a historic figure that has been moved from its original or earlier historic location to a place that became the focus of commemorative monumentation.
- A mausoleum, columbarium, or other building that has been relocated.
- A cemetery or section of a cemetery that became the location of reinterments of a group of historic figures.
- A graveyard or cemetery relocated in its entirety.

Examples of relocated burial places that likely would meet Criteria Consideration B requirements with adequate documentation:

- A mausoleum or other building relocated within the bounds of its historic setting without loss to its significant architectural character and without destroying the character of a historic district.
- A cemetery or section of a cemetery where a group of historic persons of outstanding importance were reinterred fifty or more years ago.
- A graveyard moved in its entirety if it represents a historic relocation and the artistic qualities and social significance of its historic gravemarkers are preserved.
- An ossuary or other burial place that represents reinterment as a traditional cultural practice.

Example of relocated burial places that *do not* need to be justified under Criteria Consideration B:

- A graveyard or cemetery in which a few reinterments have taken place; in which a small number of gravemarkers original to the grounds are missing or separated from their historic positions; or for which the age or historical associations are of overriding rarity and significance.

As part of a church nomination, the cemetery next to Our Lady of Perpetual Help Catholic Church in Colfax County, Nebraska, need not meet the requirements of Criteria Considerations A or D. (D. Murphy, 1980)

Criteria Consideration C: A birthplace or grave of a historical figure is eligible if the person is of outstanding importance and if there is no other appropriate site or building directly associated with his or her productive life.

Historical figures of outstanding importance in local, State or national history usually are more vividly associated with the places relating to their productive lives than with their graves. Gravesites may be far removed, geographically, from the setting of the individual's momentous activities. But if residences and business or professional headquarters are not preserved, the final resting place sometimes may be significant as the most substantial link to that person. A historical figure of outstanding importance is one whose contributions to local, State or national history were truly extraordinary. The accomplishments of such a person must stand out in kind and degree from those of others active at a comparable level in the same field and during the same period of time.

Prehistoric graves do not fall under this Criteria Consideration.

Examples of graves that *must* be justified under Criteria Consideration C requirements:

- A grave nominated for its associations with the person buried there.

- The grave of a historical figure that is nominated for its potential to yield information significant in local, State or national history.

Examples of graves that likely would meet Criteria Consideration C requirements if adequately documented:

- A grave that is the only substantial intact link to a historical figure of outstanding importance.

- The grave of a historical figure nominated under Criterion D for significant information about the past that is not available from other sources.

Example of graves that *do not* need to be justified under Criteria Consideration C:

- A grave located on the grounds of the house, farm, ranch, or plantation where the outstanding historical figure spent his or her productive years, and the property is being nominated as a whole.

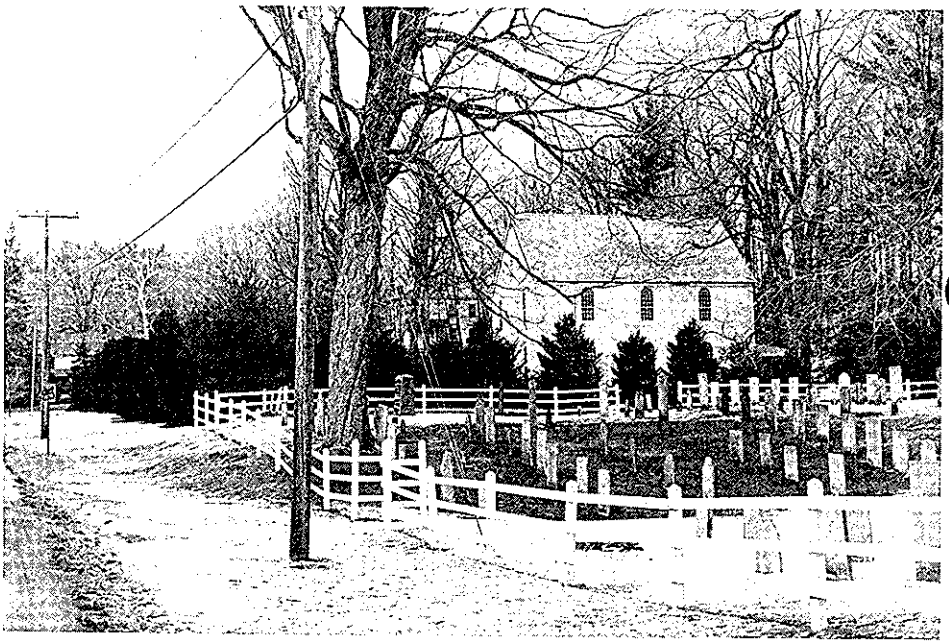
Criteria Consideration D: A cemetery is eligible if it derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events.

As collective burial places, cemeteries are the focus of many individual expressions commemorating family members and spiritual beliefs. In and of itself, this characteristic does not qualify a burial place for listing in the National Register. However, when a burying ground is of sufficient age and scope to represent more, such as patterns of early settlement or the values of a society generally, National Register Criteria Consideration D provides for its eligibility. Cemeteries nominated for the importance of the information they may impart may be eligible for listing without application of Criteria Consideration D.

To be considered a person of transcendent importance, an individual would have to meet the same test as that for a grave. To qualify for its age, a cemetery must date from an early period within its geographic and cultural context. The age of a burial place might be considered early relative to the period for which we have information about human activity, or relative to the exploration, settlement, and development of an area by a particular group. As with any other type of property, a cemetery may be eligible for the quality of design represented in its funerary art, construction or engineering techniques, landscape architecture, or other values recognized under National Register Criterion C. Likewise, under Criterion A, a cemetery may possess significant associations with historic events, including general events that reflect important broad patterns in our history.

Examples of cemeteries that *must* be justified under Criteria Consideration D requirements:

The St. Matthew's Church cemetery contributes to the significance of East Plymouth Historic District in Plymouth, Litchfield County, Connecticut, a community that was settled by a historically significant religious minority, and which developed as a center for surrounding farm families. (Connecticut Historical Commission, 1984)



- Any cemetery nominated individually under National Register Criteria A, B, or C.

- A cemetery that constitutes a substantial or pivotal portion of a historic district nominated under Criteria A, B, or C.

Examples of cemeteries that likely would meet Criteria Consideration D requirements if adequately documented:

- A historic cemetery containing the graves of a number of persons of outstanding importance — those whose activities determined the course of events in local, State, or national history; or those whose

activities were especially important in reflecting significant cultural currents of the time.

• A cemetery possessing important historic associations from a community's early period of settlement, or which reflects important aspects of community history.

• A cemetery that embodies the principles of an aesthetic movement or tradition of design and monumentation through its overall plan and landscaping, its gravemarkers and funerary sculpture, or its buildings and structures.

• A cemetery that is associated through its burials with a single important historical event such as a pivotal military battle.

• A cemetery that embodies the folkways, burial customs, or artistic traditions of an ethnic or cultural group whose impact on the community or region was significant but is not well documented in other resources.

Examples of cemeteries that *do not* need to be justified under Criteria Consideration D:

• A cemetery associated with a distinguishable cultural group that has the potential to yield important information such as migration patterns, subsistence levels, and prevalence of disease in historic or prehistoric times.

• A cemetery that is nominated along with the church or synagogue with which it is associated when the church or synagogue is the main resource nominated.

• A cemetery that is nominated as part of a historic district but is not the focal point of the district.

Criteria Consideration E: A reconstructed property is eligible when it is accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived.

Examples of reconstructed burial places that *must* be justified under Criteria Consideration E requirements:

• A burial mound or other surface burial place reconstructed largely of fabric that is not original.

• A cemetery in which a significant number of character-defining features, such as mausoleums and gravemarkers, are reconstructed of fabric that is not original.

Example of reconstructed burial places that likely would meet Criteria Consideration E requirements if adequately documented:

• A cemetery in which landscape plantings, road systems, mausoleums, and/or gravemarkers have been repaired and restored largely with original fabric in accordance with a well documented preservation plan.

Criteria Consideration F: A property primarily commemorative in intent can be eligible if design, age, tradition, or symbolic value has invested it with its own historical significance.

Most burial places, ranging from gravemarkers and grave shelters to substantial mausoleums and cemeteries as a whole, are commemorative in intent. Unlike many commemorative properties, however, the significance of a burial place often includes direct association with events that occurred on or near the site, or with the person or persons buried there. Other burial places may be significant for their artistic quality or their capacity to evoke widely-shared emotions.

Gettysburg National Cemetery, which now contains approximately 6,000 burials from the Civil War through the Viet Nam conflict, was established as a cemetery for the Union casualties from one of the decisive battles of the Civil War. The number of killed, wounded, and captured in the fighting of July 1-3, 1863, reached 51,000 and was unsurpassed in any other engagement of the Civil War. In addition to its direct association with the battlefield, the cemetery shares significance with the adjacent battlefield because of their long history as a place where the pathos of a nation was expressed, beginning with President Abraham Lincoln's immortal address at the cemetery's dedication little more than four and half months after the battle ended.

In general, national cemeteries meet Criteria Consideration F because they have been designated by Congress as primary memorials to the country's military history. Many of these also are directly associated with the battles in which the interred lost their lives.

Examples of commemorative burial places that *must* be justified under Criteria Consideration F requirements:

• A funerary monument of a heroic or martyred figure, or a tribal or national leader, if it is the commemorative function that is of primary significance.

Example of commemorative burial places that likely would meet Criteria Consideration F requirements if adequately justified:

• A national cemetery.

Examples of commemorative burial places that *do not* need to be justified under Criteria Consideration F:

• A gravemarker or monument significant primarily for its age or its distinction as an example of craftsmanship or architecture of a historic period or school.

• A gravemarker significant primarily as a document of the traditions of an ethnic or cultural group.

• A cemetery significant chiefly because it embodies the distinctive characteristics of a historic period or school of landscape design or of an important tradition of vernacular or folk design.

Criteria Consideration G: A property achieving significance within the last fifty years is eligible if it is of exceptional importance.

National cemeteries, collectively, possess inherent exceptional significance from associations with important events in our history. Because the cemeteries include the graves of military personnel associated with every war and branch of service, and draw their essential significance from the presence of the remains of those who have served their country throughout its history, the age of each cemetery is not necessarily the determining factor. To qualify, however, each cemetery must be used or prepared for the burials of veterans and their dependents, and must possess historic integrity.

Examples of burial places less than fifty years old that *must* be justified under Criteria Consideration G requirements:

• A grave that is less than fifty years old.

• A cemetery established less than fifty years ago.

• A new national cemetery or tracts of recently acquired land not yet developed for cemetery purposes, even if added to existing cemeteries.

• A mausoleum, mortuary, or crematorium that is less than fifty years old.

Examples of burial places less that fifty years old that likely would meet Criteria Consideration G requirements if adequately documented:

• A grave of a national or tribal leader that is exceptionally important because the leader's death had a galvanic effect on broad social movements and the gravesite is the focal point of reverence for the leader's achievements.

• A mausoleum, mortuary, or crematorium that is exceptionally significant as a pivotal design in the development of new technologies for care of the dead.

• A developed national cemetery that contains interments of veterans and their dependents, or one that has been clearly prepared for that purpose.

Examples of burial places less than fifty years old that *do not* need to be justified under Criteria Consideration G:

• A historic cemetery established more than fifty years ago, where the vast majority of burials, markers, and monuments are over fifty years old, but which is still active, and in which a number of burials occurred less than fifty years ago. (The period of significance in such a case would end either at the end of the cemetery's period of historical importance, or fifty years prior to the evaluation and documentation if the continuing use is perceived as significant but not exceptionally significant.)

• A cemetery significant for its plan or design which, although commenced over fifty years ago, was fully executed at a date that overlaps the most recent fifty year period by a few years.

INTEGRITY

To qualify for National Register listing, properties must retain historic integrity. The Criteria for Evaluation recognize seven factors which define historic integrity: location, design, setting, materials, workmanship, feeling, and association. All must be considered in determining whether a burial place retains enough of its characteristic features to represent the associations, function, and appearance it had during its period of significance. The natural and developed landscape features that are associated with complex burial places such as cemeteries must be considered as part of the evaluation of integrity.

In essence, the researcher should ask the following questions in evaluating integrity: 1) To what degree does the burial place and its overall setting convey the most important period(s) of use? 2) To what degree have the original design and materials of construction, decoration, and landscaping been retained? 3) Has the property's potential to yield significant information in American culture been compromised by ground-disturbance or previous investigation?

To assess the completeness and condition of a burial place, it is helpful to begin by identifying the characteristic features of the type of property under study, especially those that give the property significance. For a cemetery, such features would include gravesites, gravemarkers, boundary enclosures, walkways, gateways, road systems, natural and planted vegetation, buildings, structures, and the spatial relationship among all of these. By their constant exposure, certain gravemarker materials, such as wood and marble, are especially vulnerable to natural cycles of weathering and deterioration, just as vegetation is subject to growth and decay. Damage to, or modification and loss of, characteristic features do not necessarily render a burial place ineligible. It is a question of degree. A burial place which meets National Register standards for integrity should retain enough of its significant features from its period of significance to make clear its distinction as an important representative of its physical type, or of its historic associations.

Since the 19th century, American cemeteries commonly have been planned as "eternal" resting places of the dead. Even so, occasionally they are moved, obliterated, or adapted for new uses. Frequently, they are enlarged and their landscape altered or "improved" in keeping with changing tastes. It is important, therefore, both to distinguish nonhistoric development from that which reflects the historic period(s) of significance, and also to discern which changes occurred historically and may have acquired significance, and which help maintain the significant historic appearance — landscape restoration, for example. Nevertheless, to meet National Register standards for integrity, development of the historic period should predominate. The National Register defines as "historic" those elements, qualities, and associations that are at least fifty years old.

The Common Burying Ground & Island Cemetery in Newport County, Rhode Island, retains historic integrity. (Edwin W. Connelly, 1974)

The amount, distribution, and kind of nonhistoric features should all be considered in evaluating integrity. In some cases, an entire cemetery may not qualify for the National Register. If the original area has remained essentially intact while modern expansion occurred beyond or around it, then the historic portion likely will qualify because it is easy to draw boundaries that exclude the nonhistoric areas. For example, Providence Cemetery is a two-acre rural cemetery located about 11 miles from the county seat, and has been used for burials from the 1840s until the present. The northeast 3/4-acre, which contains inscribed tombstones from 1840 to 1870, was nominated and listed in the National Register for its associations with the earliest period of white settlement (1830s-1870) in what is now Grenada County, Mississippi. This portion of Providence Cemetery is one of the few identifiable properties to survive from that period.

When a large historic cemetery with scattered gravesites has had modern infill, the entire cemetery still may be eligible if the proportional number, size, and scale of new features are not so imposing as to overwhelm the overall historic appearance. Once the nonhistoric features begin to dominate, and one's impression is of a modern cemetery with isolated historic burials or clusters of historic gravesites, then the overall historic character of the cemetery has been lost, and it would not meet National Register standards.

"Improvements" also can affect historic integrity. Replacing a simple post and wire fence with a brick wall, modest slate headstones with elaborate monuments, and natural growth with nursery plantings all reduce integrity, however well-intentioned. Although beautification efforts may make a cemetery more attractive, replacing the original features diminishes the cemetery's authentic historic character. Changes that occurred during the historic period, however, may reflect cultural beliefs and practices and contribute to a cemetery's significance. In order to appropriately evaluate the impact of changes, one must determine not only which features are crucial components of historic character, but also why they are important. For example, is a fence or wall important because it provides a sense of solid enclosure, or because of its materials and design, or both? The answer will help determine the physical attributes a cemetery must retain to possess historic integrity.

In some cases, age or the rarity of resources representing a person, events, or historic period, may allow a greater tolerance for change, damage, or loss of historic features. The Vermillion Creek Crossing (Pottawatomie County, Kansas) was one of the early major crossings, and a well-known campsite for travellers along the Oregon Trail. Here Louis Vieux, a Pottawatomie chief for whom the town of Louisville is named, built a cabin and operated a toll bridge, blacksmith shop, stable, and general store. In 1849, approximately 50 people died of Asiatic cholera and were buried here. Louis Vieux, who served in many important capacities for his tribe and became quite wealthy, also was buried here in 1872, along with some of his family. The crossing site and the two cemeteries are important as the only remaining signs of this once-busy crossing, and retain integrity despite some vandalism and the loss of most of the stones that once marked each of the graves of the cholera victims. In New England, at least two major campaigns to move headstones within 17th and 18th century burying grounds have resulted in the arrangement of gravemarkers in neat rows, which were not present in the original layouts: one in the mid-1800s related to the Victorian aesthetic and the introduction of the lawnmower, and one during the era of Works Progress Administration projects of the 1930s. Yet, the major legacy of these cemeteries remains, in that the early markers, with their inscriptions and funerary designs, still remain to convey their important age, associations, and information.

Removal of graves may or may not diminish historic integrity. Many Chinese who were active in the settlement and development of Hawaii and the Mainland in the late 19th century observed Confucian doctrine which called for properly placed graves in their homeland. As the burial remains of these sojourners were returned to China, whole sections of American cemeteries were disinterred. Sometimes the emptied gravesites were reused on a cyclical basis. If evidence of the historic use of a disinterred cemetery subdivision remains in the form of gravemarkers, monuments, or depressions in the ground, the subdivision need not be excluded from the nominated area on the basis of integrity if it is culturally significant. Such areas were not intended to be permanent, and removal of burials is part of the cultural story; if visible traces make it distinguishable, the subdivision's relative position and function in the overall cemetery landscape still can be appreciated. A cemetery that has been *substantially* disinterred, and where removal of graves is not an authentic part of the cemetery's history, however, would not meet the standards of integrity, nor would most disinterred gravesites outside the cemetery setting.

Vistas external to a cemetery's grounds may have contributed to the feeling of the place in the historic period. If view corridors within the cemetery were purposely developed to incorporate broad vistas, and if the broad vistas have been eliminated or obscured by incompatible development on adjacent property, the cemetery has lost an important aspect of its character. If the grounds have remained intact internally, however, the cemetery would likely meet the essential requirement of integrity.

Isolated gravesites and small burying grounds occasionally are found in remote locations where they may have been established in the course of overland trail migration or in the aftermath of a massacre or military engagement. While it was not uncommon for survivors to have erected permanent gravemarkers in later years, the initial marking of such graves usually was ephemeral. Over time, the precise locations of many burial places of this kind have been lost. Oral tradition may be all that remains to mark the general vicinity of a gravesite. In assessing sites such as these, the standards of integrity require that the gravesite be verifiable by archeological testing or by visual traces, even if the traces are natural markers, such as a solitary stand of trees preserved in a cultivated field.

The eligibility of an isolated grave depends upon the grave's unmistakable relationship to the associated context or theme significant in local, State, or national history or culture. Few such graves would be eligible as individual sites, since they must be the only remaining property associated with a person of outstanding importance. More commonly, they would be evaluated as sites contributing to the significance of a historic district encompassing a larger cultural landscape, such as a homestead area or an intact segment of the Oregon Trail. A single gravesite or small group of graves that has been disinterred normally would not meet the standards of integrity. If a historic gravemarker remains at an empty grave, the marker could be evaluated as an object of artistic merit, but the associative significance of the grave is lost.

V. DOCUMENTING AND REGISTERING CEMETERIES AND BURIAL PLACES

GENERAL APPROACH

Determining the significance of a burial place requires a systematic investigation of the property and its historic context. Once assembled, the information is used to establish whether or not the burial place is a significant representative of its type, reflecting an important aspect of American history or prehistory.

Documentation begins with compiling information on the background of the site and its development over time. Such information would include the date the burial place was established, the period in which it was active, the circumstances under which it was established and maintained, and the cultural groups, individuals, organizations, agencies, or corporations responsible for initial and subsequent development. For a burial place with design distinction, such as a large, comprehensively designed cemetery, information should be provided about those who designed the overall landscape and its architectural features, and those who carved or fabricated individual monuments and grave markers. An analysis of components of the burial place would include identification of methods of construction and manufacturing techniques, as described in stone cutters' handbooks, fabricators' catalogs, and professional publications. Characteristic plant materials, layout of burial plots and circulation features, acreage encompassed, and the purpose or function of areas and features within the site boundaries also are important. The researcher should determine when newer tracts were added to the site and describe the site in relation to its surrounding landscape.[5]

Siting of burial places normally was carefully considered in both historic and prehistoric times. Chinese workers who came to Hawaii at the turn of the century founded fraternal societies that enabled them to maintain strong cultural, political, religious, and family ties with China. One of the chief concerns of these societies was care of the elderly and disabled and burial of the dead. It was important that the society's building and the adjacent cemetery be located in a beautiful, spacious area, on sloping ground, with a good view, so that spirits could roam freely. The Chee Ying Society, Hawaii County, Hawaii, is an example of such a society building, dependencies, and affiliated cemeteries.

Researchers should study the immediate setting; while the growth of a town, changing agricultural patterns, or other factors may have altered the surrounding landscape over time, often the basis for burial site selection is evident in local

Cultural and environmental factors can be important in understanding cemeteries. In southern Louisiana, cemeteries such as the Metairie Cemetery in New Orleans, Orleans Parish, reflect high-style French funerary architecture. At the same time, the tradition of building burial vaults above ground was well-suited to the high water table of the delta region. (Donna Fricker, 1991)

[5] Refer to *National Register Bulletin 18: How To Evaluate and Nominate Designed Historic Landscapes*, and *National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes* for additional information on historic landscape issues.

landforms — in the relationship of site to topographic features or traditional routes of travel. Researchers also should consult records of land use for verification of the reason a burial place developed at a particular location, and not make assumptions. For example, in the communities of Colonial New England settled by Puritans, graveyards were perceived as secular, in conformance with Calvinist doctrine. In that region, the mere proximity of an early graveyard to a church property does not necessarily signify a historical relationship between church and burying place.

The arrangement of graves within a burial ground is a significant aspect of character also. In vernacular burial grounds, the relation of one grave to another may be irregular — not in compact rows. Such informal placement may be a sign of haphazard development over time, but it could also relate to the customs of a particular cultural group. The Christian belief in resurrection of the body after death prescribed earth burials for the faithful. Lot arrangement frequently was influenced by the scripturally-based tradition of orienting the foot of the grave toward the east to place the dead in appropriate position for arising at the day of final judgement.

The researcher should learn as much as possible about the character of the site as it was first developed or appropriated for burial purposes based on documentary views, photographs, plats, plans and specifications, business and organization records, local histories, and oral tradition. The researcher then is prepared to describe the present condition of the site and determine how well it reflects the period in which it was developed.

The landscape and developed features of a burial place should be described in narrative form and represented graphically by means of a site plan or map. When it is known that significant historic features are missing or modified, as for example in the realignment of road or driveway, such missing features should be described and their former placement indicated graphically in dashed or dotted outline. Not all of the features listed below will appear in all burial places; however, the narrative description and site plan would include, but not necessarily be limited to the following, where applicable:

- general topography, including indication of the gradient (or slope) and elevation of the site in relation to the larger setting in which it is located;

- natural features such as streams, gullies, hills, and indigenous trees; naturalistic developed features such as ponds, lakes, or landforms;

- plat, or layout of cemetery plots, whether a rigid gridiron imposed on the site or an organization of plots conforming to natural contours;

- circulation system of roads, driveways, pathways, noting whether such features have axial alignment or are winding or curving; structural features of the system, such as bridges and drainage systems; and distinctive materials, such as cobble gutters or stone paths;

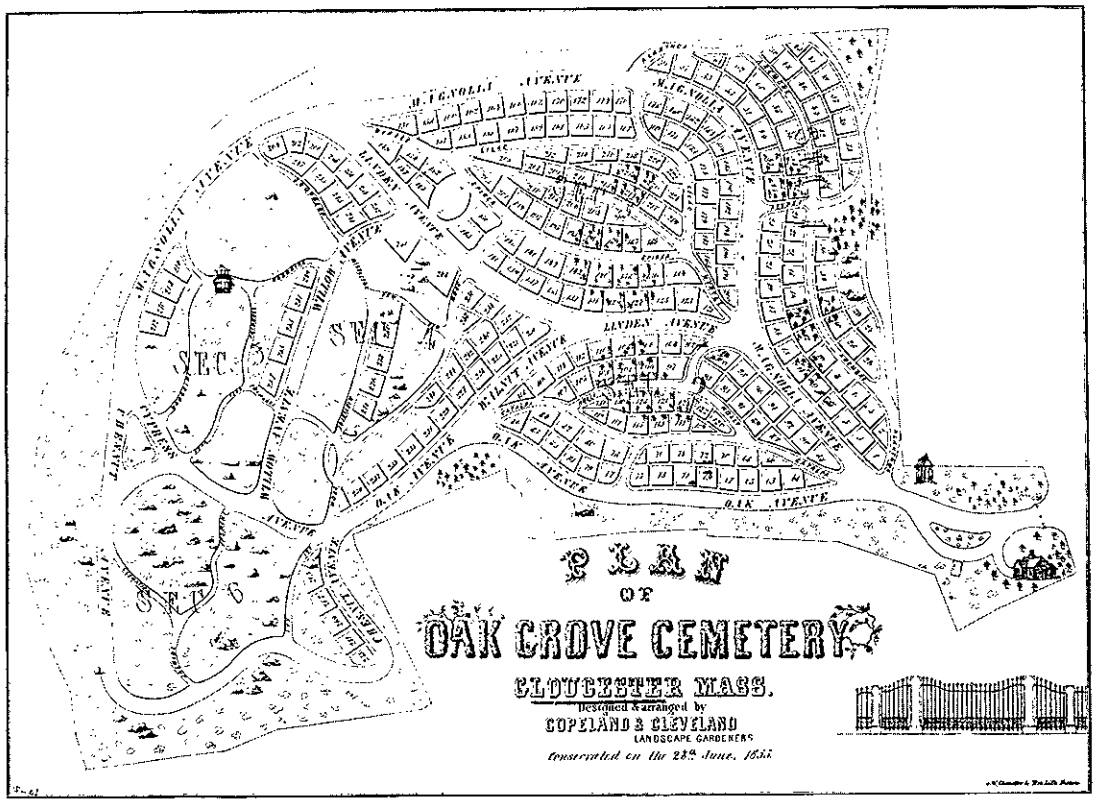
- views and vistas within the site from principal access points; views and vistas external to the site;

- characteristic vegetation, including the overstory of trees, understory of shrubs and grasses, exotic plant materials used as filler in burial plots, ornamental flower beds, and specimen plantings;

- gateways, fences, and hedges used for boundary and spatial definition;

- typical plot defining features such as wooden palings, iron fencing, and concrete curbing;

- prevalence of individual plot mausoleums, vaults, or above-surface tombs, and indication of the range and variety of individual grave markers;



The 1855 plan of the Oak Grove Cemetery in Gloucester, Essex County, Massachusetts, is an important source of cemetery documentation. (James O'Gorman, 1975)

• entrance signs, directional markers, outdoor lighting fixtures, and small-scale site furnishings such as benches, planters, ornamental sculpture, and fountains;

• maintenance and service features such as soil disposal and waste storage areas, greenhouses, tool sheds, and pumphouses; and

• buildings such as churches, memorial chapels, gatehouses, offices, residences, crematories, mausoleums, and columbariums.

RESEARCH AND FIELD INVESTIGATION

The object of the research phase is twofold: 1) to establish the contexts, or historical and cultural themes for documenting the property's significance, and 2) to determine the property's physical character and appearance during the important period(s) of its use or development. Toward the first end, general reference works on American burial customs, historical development of cemeteries and mortuary art and architecture; professional and trade journals, community histories, and ethnographic studies may be consulted to place the property in an overall cultural and historical framework.

Next, all available primary source material on the property under study should be assembled from church and municipal records, fraternal organizations, and cemetery corporations, as may be appropriate. Land records, maps and plats, census records, court documents, local histories, family and business papers, genealogies, newspapers, and other sources can provide information on settlement patterns, community development, and the lives of important people. Detailed information on the development of a particular burial place will be found in cemetery plats, architectural plans and drawings, landscape plans and planting keys, manufacturers' catalog orders, monument makers' statements of account, and gardeners' and sextons' diary entries. Library collections may provide documentary views and descriptions in the form of prints, early photographs, newspaper accounts, and advertisements. Interviews with church sextons, cemetery superintendents, and descendants of original owners of family plots may be useful. Archeologists also will review reports and other documentation on related or comparable sites to frame appropriate research questions that could be illuminated by a burial site investigation. It also is important to consult with any cultural group with which a burial place or cemetery is affiliated or for which it has special meaning.[6]

The object of field work is to analyze the property's present physical character in comparison with the property's appearance during the period of significance as documented through research. Field investigation may help establish the period of significance; in any case, it produces a record of the characteristic features remaining from the period of significance, and changes through time. It establishes the present extent and integrity of the property.

SITE PLANS

The essential aid to conducting field work is a site plan on which the distribution of physical elements is recorded graphically. A cemetery plat may be used effectively as a complement to a site plan, but it is not interchangeable. If a base map of the site is not available from the local planning agency, the cemetery plat may become the model from which to produce a sketch plan of the site. Planning base maps showing contour intervals as well as building ground plans are most useful because they portray with precision the siting of particular features on level ground and at prominent elevations. If a complex burial place underwent distinct episodes of development over a long period of use, a series of maps of comparable scale overlaying a base map may be useful in recording the evolutionary changes, either for the sake of analysis or as an exhibit to accompany the nomination. Whenever possible, all graphic information should be reduced to 8 1/2" x 11" format, or folded to that size, when submitted to the National Register.

PHOTOGRAPHS

Photographs are indispensable as records of the present condition of the burial place and its characteristic features. When compared with historic views — which are not required, but which can be helpful when available — contemporary photographs assist the researcher in gaining an understanding of the phases of surface development over time. For purposes of preparing the National Register nomination for a graveyard or cemetery, it may not be practical in every case to photograph each gravemarker. It is important, however, to provide a number of general views to illustrate the overall character of the landform and its developed features. These should be supplemented by a variety of close views of individual monuments and markers to convey the range and quality of materials and workmanship. Care should be taken to photograph gravemarkers from near surface level and at times and under conditions when the high contrast of light and shadow will give sharpness and clarity to inscriptions and sculptural relief. In addition to the form, embellishment, and position of gravemarkers in relationship to other markers, epitaphs and vital inscriptions are an important aspect of the cultural content of cemeteries. If landscape design is significant, photographs of plantings, circulation patterns, and other features may be necessary to adequately represent the site.

As a practical matter, good photographic and transcription records for a historic graveyard or cemetery are highly desirable. Such records, keyed to a plat, produce scholarly archives and preserve some information should the cemetery suffer loss as a result of theft, vandalism, or damage from natural causes. Moreover, comprehensive documentation may form the basis of a cemetery maintenance and conservation master plan. Such work is labor intensive, but genealogical societies and other volunteers may be enlisted to a duly authorized and properly supervised effort.

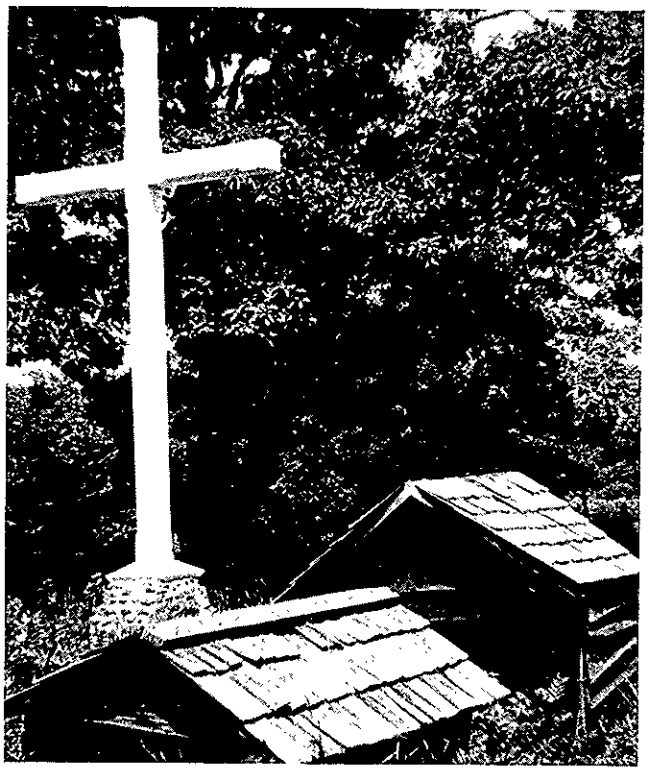
ARCHEOLOGY

Archeological field work and documentation involves scientific techniques

[6] Refer to *National Register Bulletin 38: Guidelines for Evaluating and Documenting Traditional Cultural Properties*, and the Native American Graves Protection and Repatriation Act of 1990 for additional guidance.

that invariably call for qualified professional supervision. Legal clearances normally are required. Where archeological investigations have been authorized in accordance with Federal, State, and local laws; aerial infrared photography; ground-penetrating radar, and proton magnetometers are among the remote sensing techniques and devices that may be used to locate below-grade ground disturbances and gauge the density and state of preservation of burial deposits without invading the site. Dense materials, such as stone, metal, and ceramic are revealed in sharp contrast against the background of soils. Bone and other organic matter also register in these sensing techniques, to varying degrees. These techniques can be expensive.

Surface investigation to determine the extent of a burial site is most effective when combined with carefully controlled testing which allow skeletal remains to be preserved intact, and minimizes impact to the site generally. Site plans, stratigraphic profiles, scale drawings, and photographs make up the graphic record of an archeological site. They illustrate the geographic bounds of the area investigated, the depth of testing, and the concentration and relative position of the artifacts and site features. Documentation also includes a report describing the range and variety of burial objects; their age as determined by laboratory radiocarbon dating or other means, as appropriate and comparative analysis of other dated materials. The functions of the artifacts, inferred from form and placement, the identification of the cultural group that performed the burial, and architectural and associated features of the site — such as vaults, chambers, cairns, and landscaping — are essential parts of the archeological record accumulated for analysis and evaluation.



The traditional gravehouses, Christian crosses, and other features at LaPointe Indian Cemetery in Ashland County, Wisconsin, possess important associations with the Chippewa Indians in northern Wisconsin. (Michael M. Weburg, 1976)

BOUNDARIES AND PERIODS OF SIGNIFICANCE

Using the information collected from research and systematic investigation of the site, the researcher should begin to establish the scope and extent of the area to be proposed for nomination and the period of time during which the nominated area was significant in American prehistory, history, or culture. Only after determining the geographical bounds of the nominated area and that period of time in which the property achieved the qualities which make it eligible for the National Register, is it possible to enumerate the features which contribute to the significance of the property.

OWNERSHIP

Determining ownership of burial places sometimes is complex. In some cases, family cemeteries on private land have been exempted from deeds and do not belong to the property owner on whose land they are located, but to the descendants of the family. When small private cemeteries in rural areas have been abandoned and are no longer maintained, they become the domain of the current landowner. For the volunteer group or family descendants trying to establish clear title and access to an abandoned cemetery, legal research and negotiation may be required. For documentation and assessment purposes, however, researchers may refer to deed records to establish the most likely owner. Sometimes the corporate body or trust fund that once provided care for a country cemetery, though inactive for many years, was never legally dissolved. The rights of Indian tribes, Native Hawaiians, or other groups — as established by the Native American Graves Protection and Repatriation Act of 1990, other Federal laws, and State legislation — also must be considered in determining ownership.

Typically, in early community cemeteries founded by voluntary associations, the cemetery land remained under ownership of the founding organization while the individual plots were separately held by the original proprietors and their heirs. In the West, where the earliest established community cemeteries often were founded by fraternal societies such as the Independent Order of Odd Fellows, burial grounds today are being deeded to local governments whose agencies — commonly parks and recreation departments — are looked to for stable long-term stewardship of the community's "pioneer" cemeteries. In such cases, when it comes time to complete the National Register of Historic Places Registration Form, "public-local" or both "public-local" and "private," whichever is appropriate, should be checked.

COMPLETING THE NATIONAL REGISTER REGISTRATION FORM

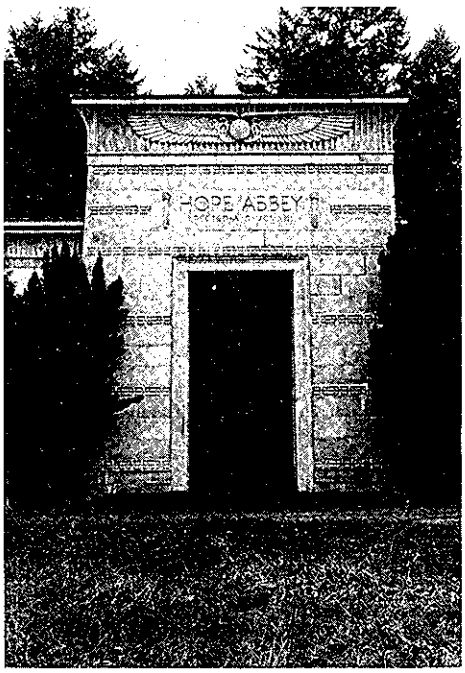
Nominations are processed according to the regulations set forth in 36 CFR 60, and are submitted to the National Park Service by the appropriate State or Federal Historic Preservation Officer. The following guidance supplements the instructions found in *National Register Bulletin 16A: How to Complete the National Register Registration Form.*

CLASSIFICATION

A burial place may be classified as a "site," "district," "building," "structure," or "object." A single or compound burial of limited scope, such as trailside graves or small family plots, would be classified appropriately as a "site." Also, when a cemetery is nominated as a significant or "contributing" feature within a larger historic district, such as a village or company town, it is counted as a "site."

A complex burial site, such as a cemetery encompassing a multitude of burials, developed landscape features, and buildings, is a "district." Its component parts are enumerated and described, and those which contribute to the significance of the nominated area are distinguished from nonhistoric features which are unrelated to the period of significance. Individual monumental tombs may be classified as "structures," and gravemarkers having artistic merit or cultural significance may be counted as significant "objects." The overall landscape design — including roadways, ponds, and plantings — may be counted as a "site"within the district if the design is a significant feature.

Because the term "burial place" is broadly interpreted in this guidance to encompass individual buildings, such as crematory and mausoleum facilities, the category of "building" would be an appropriate classification when such buildings are nominated individually or when counting the number of contributing features in a cemetery district. Also, since a property consisting of two or more resource types should be classified under the major resource, if there is one, a property consisting of, for example, a significant church and an associated graveyard would be nominated as a "building."



A principal contributing feature of the Masonic Cemetery in Eugene, Lane County, Oregon, is the Hope Abbey Mausoleum, which meets Criterion C as the State's only truly monumental example of the Egyptian style. (Richard Roblyer, 1980)

CONTRIBUTING FEATURES

The number and combination of features counted as contributing to the significance of the property will vary according to property type and will depend on the criteria under which the burial place is proposed for nomination. It is not expected that individual gravesites or markers in a cemetery would be counted as separately contributing or noncontributing features in most cases. However, buildings, structures, and objects of substantial size and scale, and those specifically discussed in the nomination text for their importance in understanding the burial place — including gravemarkers, should be counted. Plantings and other natural features should not be counted separately, but are included as part of a counted site.

In a cemetery district, individual gravemarkers would be counted as separately contributing features in those cases where gravemarkers have been comprehensively inventoried and evaluated and those of outstanding rank can be identified. When a cemetery is significant primarily because of the examples it contains of the distinctive work of regional stone carvers and other craftsmen, the important markers should be enumerated by an inventory and each one counted as a separately contributing feature. Others may be counted collectively as a contributing object. Taking the example of a national cemetery, markers by regulation usually do not vary; the amassed number of, say, stone crosses of uniform size spreading across the landscape is one of the distinguishing characteristics of a national cemetery. The gravemarkers in such a case may be counted in the aggregate as a single undifferentiated object contributing to the character of the nominated area.

FUNCTIONS

The funerary functions of all contributing resources of the burial place, must be identified, and both historic and current functions classified on the form using the instructions provided in *National Register Bulletin 16A.*

DESCRIPTION AND ANALYSIS OF FEATURES AND SIGNIFICANCE

The purpose of the narrative portions of the National Register form is twofold: 1) to describe and analyze the characteristic features of the burial place, and 2) to present a coherent argument that explains why the property meets the Criteria for Evaluation, including the Criteria Considerations for graves, cemeteries, and other kinds of properties marked for special conditions.

Description

To prepare the descriptive narrative, the researcher needs to determine the characteristic features the burial place must have to be a good representative of its period, style or design, and method of construction or fabrication. Through systematic description, the researcher will show that the property possesses those characteristics. The features that date from the period of significance should be identified and described in Section 7 of the registration form, along with a discussion of any changes that might affect historic integrity. The completed description will provide an accurate image of the current appearance and condition of the cemetery, within which both significant historic

features and nonhistoric changes and additions can be ascertained easily. It is especially important in cases where individual features within a cemetery are not inventoried and described that the description, in conjunction with maps and photographs, provide clear information on the general topography and the distribution of developed features that give the cemetery its historic character.

Consider the original cemetery in a community settled in the period of westward expansion, 1840-1890. The researcher may expect to find that it was established by a fraternal organization, platted around the nucleus of an earlier burial plot, and situated on high ground affording good drainage above the flood plain or on marginal land unsuitable for cultivation. Moreover, the gravemarkers, whether grand or modest, would reflect the vertical density and the variegation and embellishment of material characteristic of Victorian design. A community cemetery of this era that lacked well defined plots and an array of monuments ornamented in high relief likely would not be a good representative of the type; therefore, it likely would not be individually eligible for the National Register under Criterion C. This same cemetery, however, could be a contributing site in a historic district, or it might possess significant associations with the community's historic development that would make it individually eligible under Criterion A. For example, the cemetery might be the only remaining evidence of an extremely important trading, communication, and outfitting settlement along a westward migration route. In this case, the researcher would have to reconsider what physical characteristics were important in conveying the cemetery's important historic associations.

Significance

The first step in preparing the statement of significance is to identify the National Register criteria, considerations, and "areas of significance" in which the property should be evaluated. A cemetery could be evaluated in the areas of social history, ethnic heritage, art, architecture, landscape architecture, community planning, archeology, and others areas. In order to understand the property within an appropriate historic context, the researcher will have consulted reference works for information on the events, trends, and technologies which influenced development of resource types included in the area proposed for nomination. Based on information gathered in the statewide historic preservation planning process, the State historic preservation office may be able to provide data for a comparative analysis so the researcher can determine the appropriate level of significance — whether the property proposed for nomination is distinctive locally or in the State or nation. Guidebooks, conference proceedings, exhibits, and exhibit catalogs also may help the researcher place the nominated property into a larger perspective.

Periods of significance also must be specified. The period of significance cannot predate the extant features that compose the burial place. For example, the period of significance for the grave of a significant person would not include that individual's lifetime, but would be the year of burial. There may be several distinct periods of significance if the burial place remained active over a long span of time. If this is the case, all periods of significance should be noted. Ordinarily, the period of significance would not extend to the most recent period of 50 years unless specially justified under Criteria Consideration G on the basis of exceptional artistic values, historical associations, or potential to yield information.

It is desirable to keep the statement of significance as concise as possible while at the same time covering adequately the property's development and use during the period of significance. Those who shaped the burial place and its setting should be identified by name, if such information is available, or by cultural affiliation, if the property is a traditional cultural site or prehistoric burial place. It is important to focus on those aspects of the property's development and use which illustrate the property's significance under National Register Criteria A, B, C, or D.

Certain burial places may have potential for designation as a National Historic Landmark. If the property appears to have national significance and has been evaluated in a national context, the supportive argument should be presented in the nomination. Designation as a National Historic Landmark may be dependent upon the National Park Service evaluating the property in the course of a theme study. A well-documented National Register nomination for a burial place of potential National Historic Landmark quality will facilitate the property's review by National Park Service professionals.[7]

BOUNDARY DESCRIPTION AND JUSTIFICATION

Determining and justifying the boundaries of a burial place are important steps in completing the registration form. Boundaries should be drawn to encompass, but not to exceed, the full extent of resources which contribute to the significance of the property. External vistas from a suburban landscaped cemetery or a vernacular cemetery spectacularly sited in the countryside may be important to the overall feeling of the place. Nevertheless, boundaries should not be drawn to include scenic buffer areas or other acreage not directly related to the property's historical development. Encompassing a broad vista in the bounds of a nominated area normally is impractical. The bounds of burial sites should be based on the extent of the features associated with the burials. In some cases, site limits for archeological sites may be determined by remote sensing techniques or surface examination combined with controlled sub-surface testing.

Boundary definition is simplified when the current legal property description of a graveyard or cemetery is the same as the property's historic boundaries. However, if portions of the burial place under investigation have been irreversibly altered or eroded, it may be necessary to deviate from the current legal description in drawing the boundary in order to exclude areas which are plainly lacking in integrity and no longer contribute to the significance of the property. Similarly, large tracts of fallow acreage known as "reserve ground" within the bounds of a cemetery plat should not be included in the nominated area unless they contain development such as road systems or service buildings relating to the historic period. In any

[7] Further information concerning the National Historic Landmark Program may be obtained by writing to the Chief Historian, History Division, National Park Service, U.S. Department of the Interior, P.O. Box 37127, Washington, DC 20013-7127.

case, the boundary must be justified in a short narrative statement which explains why the boundaries were selected.

The delineation of boundaries may be documented in various ways. If appropriate, the current legal property description may be used. Where historic and current boundaries differ, the documentation may describe the area to be included from point to point, such as "from the northeast intersection of Rte. 5 and Cemetery Drive, north approximately 200 feet, . . . , then west fifty feet to the point of beginning." Although a fence may be located along the boundary, it should not be cited as defining the boundary because it may not be permanent. Features that are permanent, such as contour lines may be used to define boundaries when they constitute appropriate edges. Site plans, also called "sketch maps," may be used to indicate boundaries, if the map includes a scale indicator. For some large areas without obvious features to cite as edges, such as a rural site or a large cemetery, UTM points may define the boundaries, if the lines connecting the cited UTM points constitute the actual boundary lines of the area nominated.

Under the authorization of the National Historic Preservation Act of 1966 and the Archeological Resources Protection Act of 1979, the National Park Service will restrict information on the location or character of a historic resource if revealing this information would expose the property to vandalism, destruction, or other harm. The information must be included on the National Register Registration Form, but checking the "Not for Publication" box on the form ensures that sensitive information will not be reproduced or distributed.[8]

Photographs should capture the essence of a cemetery's character. The Laurel Grove - North Cemetery in Savannah, Chatham County, Georgia, is significant, in part, for its large number of Victorian statues and monuments. (James R. Lockhart, 1982)

MAPS AND PHOTOGRAPHS

Each registration form must be accompanied by a United States Geological Survey (USGS) map with marked Universal Transverse Mercator (UTM) reference points for the purposes of locating the property geographically and illustrating its position in relation to prominent topographic features. In addition, for complex burial sites and cemetery districts, the nomination should include at least one site plan (sketch map). The site plan should locate the bounds of the property; give contour intervals, if relevant; and show the placement of major features, including nonconforming, nonhistoric development. Each feature identified as contributing or noncontributing in the form should be numbered on the site plan to correspond to a numbered inventory in the narrative discussion. Although, as stated above, it is not necessary to count and describe every gravemarker and other feature, all those specifically identified and counted must be shown on the map accompanying the nomination, either individually or collectively by area.

Copies of historic plats and building plans, if they are available, are helpful in documenting the original design intent and the integrity of some burial place property types.

A number of unmounted black and white photographs of high quality must accompany each nomination. There is no requisite number of photographs to be submitted. Requirements are that there should be as many photographs as necessary to depict the property clearly. Representative views of all characteristic features, as well as altered features and development outside the period of significance, should be included. Each photograph must identify the photographer, date, subject, and direction of the view. Prints of historic photographs are recommended as a means of documenting the integrity of the property. Photographs should be keyed to the inventory of contributing features in the narrative discussion, where appropriate. Numbered directional arrows may be placed on the site plan to indicate the direction of views shown in the photographs.

[8] Refer to *National Register Bulletin 29: Guidelines for Restricting Information about Historic and Prehistoric Resources* for additional information.

VI. CONCLUSION

Discussion of burial practices in this bulletin is general rather than comprehensive in scope. Its purpose is to suggest the broad range of burial places from various periods that hold potential for listing in the National Register of Historic Places. In selecting examples for sake of illustration, it was not possible to touch on all regions of the United States and its associated territories, nor all cultural groups and traditions. No value judgement is implied in these omissions. Neither should it be inferred that there is greater value in the high style cemetery than in vernacular examples. Users of this guidance should be encouraged that the criteria for evaluating significance and integrity are applicable equally to urban graveyards, folk cemeteries, and small burial grounds in a rural setting. Above all, those wishing to pursue the registration process should know from this guidance that their efforts will be supported by ample precedent, a growing volume of reference literature, and organizations ready to assist.

VII. GLOSSARY

Altar tomb — A solid, rectangular, raised tomb or gravemarker resembling ceremonial altars of classical antiquity and Judeo-Christian ritual.

Bevel marker — A rectangular gravemarker, set low to the ground, having straight sides and uppermost, inscribed surface raked at a low angle.

Burial ground — Also "burying ground;" same as "graveyard" (see below).

Burial cache — A place of concealment for burial remains and objects.

Burial mound — A mass of earth, and sometimes stone or timber, erected to protect burial chambers for the dead.

Burial site — A place for disposal of burial remains, including various forms of encasement and platform burials that are not excavated in the ground or enclosed by mounded earth.

Cairn — A mound of stones marking a burial place.

Cemetery — An area set aside for burial of the dead; in Latin American culture known as "campo santo," or holy field.

Cenotaph — A monument, usually of imposing scale, erected to commemorate one whose burial remains are at a separate location; literally "empty tomb."

Chapel — A place of worship or meditation in a cemetery or mausoleum, either a freestanding building or a room set apart for commemorative services.

Chest marker — A solid, rectangular, raised gravemarker resembling a chest or box-like sarcophagus.

Cinerary urn — A receptacle for cremation remains, or ashes, in the shape of a vase.

Columbarium — A vault or structure for storage of cinerary urns.

Crematorium — A furnace for incineration of the dead; also crematory.

Cremation area — An area where ashes of the cremated dead are scattered or contained.

Crypt — An enclosure for a casket in a mausoleum or underground chamber, as beneath a church.

Epitaph — An inscription on a gravemarker identifying and/or commemorating the dead.

Exedra — A permanent open air masonry bench with high back, usually semicircular in plan, patterned after the porches or alcoves of classical antiquity where philosophical discussions were held; in cemeteries, used as an element of landscape design and as a type of tomb monument.

Family cemetery — A small, private burial place for members of the immediate or extended family; typically found in rural areas, and often, but not always, near a residence; different from a family plot, which is an area reserved for family members within a larger cemetery.

Flush marker — A flat, rectangular gravemarker set flush with the lawn or surface of the ground.

Gatehouse — A building at the main entrance to a cemetery that is controlled by a gate; a shelter or habitation for the gate keeper.

Grave — A place or receptacle for burial.

Gravemarker — A sign or marker of a burial place, variously inscribed and decorated in commemoration of the dead.

Graveyard — An area set aside for burial of the dead; a common burying ground of a church or community.

Grave shelter — A rectangular, roofed structure usually of wood, covering a gravesite, enclosed by boards or slats or supported by poles; in tribal custom used to contain burial offerings and shelter the spirit of the dead; also grave house.

Headstone — An upright stone marker placed at the head of the deceased; usually inscribed with demographic information, epitaphs, or both; sometimes decorated with a carved motif.

Interment — A burial; the act of committing the dead to a grave.

Ledger — A large rectangular gravemarker usually of stone, set parallel with the ground to cover the grave opening or grave surface.

Lych gate — Traditionally, a roofed gateway to a church graveyard under which a funeral casket was placed before burial; also lich gate; commonly, an ornamental cemetery gateway.

Mausoleum — A monumental building or structure for burial of the dead above ground; a "community" mausoleum is one that accommodates a great number of burials.

Memorial park — A cemetery of the 20th century cared for in perpetuity by a business or nonprofit corporation; generally characterized by open expanses of greensward with either flush or other regulated gravemarkers; in the last half of the 19th century, those with flush markers were called "lawn" cemeteries.

Military cemetery — A burial ground established for war casualties, veterans, and eligible dependents. Those established by the Federal government include national cemeteries, post cemeteries, soldiers' lots, Confederate and Union plots, and American cemeteries in foreign countries. Many States also have established cemeteries for veterans.

Monument — A structure or substantial gravemarker erected as a memorial at a place of burial.

Monolith — A large, vertical stone gravemarker having no base or cap.

Mortuary — A place for preparation of the dead prior to burial or cremation.

National cemetery — One of 130 burial grounds established by the Congress of the United States since 1862 for interment of armed forces servicemen and women whose last service ended honorably. Presently, the Department of Veterans Affairs maintains 114, the National Park Service (Department of the Interior) administers 14, and the Department of the Army has responsibility for two.

Obelisk — A four-sided, tapering shaft having a pyramidal point; a gravemarker type popularized by romantic taste for classical imagery.

Ossuary — A receptacle for the bones of the dead.

Peristyle — A colonnade surrounding the exterior of a building, such as a mausoleum, or a range of columns supporting an entablature (a beam) that stands free to define an outdoor alcove or open space.

Pet cemetery — An area set aside for burial of cherished animals.

Potter's field — A place for the burial of indigent or anonymous persons. The term comes from a Biblical reference: Matthew 27.7.

Receiving tomb — A vault where the dead may be held until a final burial place is prepared; also receiving vault.

Rostrum — A permanent open air masonry stage used for memorial services in cemeteries of the modern period, patterned after the platform for public orators used in ancient Rome.

"Rural" cemetery — A burial place characterized by spacious landscaped grounds and romantic commemorative monuments established in a rural setting in the period of the young republic and at the dawn of the Victoria era; so called for the movement inspired by the American model, Mount Auburn Cemetery (1831) in the environs of Boston; a cemetery developed in this tradition. The term is used with quotation marks throughout the guidance to distinguish this distinctive landscaped type from other kinds of burying grounds occurring in the countryside.

Sarcophagus — A stone coffin or monumental chamber for a casket.

Screen memorial — A vertically-set gravemarker consisting of a tablet with wing elements resting on a continuous base.

Sepulcher — A burial vault or crypt.

Sexton — Traditionally, a digger of graves and supervisor of burials in the churchyard; commonly, a cemetery superintendent.

Shelter house — A pavilion or roofed structure, frequently open at the sides, containing seats or benches for the convenience of those seeking a place to rest; erected in rustic and classical styles to beautify a cemetery landscape.

Slant marker — A rectangular gravemarker having straight sides and inscribed surface raked at an acute angle.

Stele — An upright stone or commemorative slab, commonly inscribed or embellished on one of the broader vertical surfaces; a gravemarker type revived from classical antiquity.

Table marker — A rectangular grave covering consisting of a horizontal stone slab raised on legs, which sometimes are highly elaborate; also "table stone."

Tablet — A rectangular gravemarker set at a right angle to the ground, having inscriptions, raised lettering or carved decoration predominantly on vertical planes, and top surface finished in straight, pedimented, round, oval, or serpentine fashion.

Tomb — A burial place for the dead.

Tomb recess — A niche or hollow in a wall that shelters a tomb.

Tumulus — A mound of earth protecting a tomb chamber; in the ancient world, important tumuli were encircled by drum-like constructions of stone.

Vault — A burial chamber, commonly underground.

VIII. SOME RECOMMENDED SOURCES

Cemetery researchers will be aided by innumerable regional studies, cemetery guidebooks, conference proceedings, exhibit catalogs, and even a growing body of videotaped material. Current publications of the cemetery and monuments industries also can be helpful. *American Cemetery, Stone in America*, and *MB News* (trade journal of the Monument Builders of North America), for example, frequently contain articles on historic cemeteries and the manufacture of traditional gravemarkers.

Bibliographic searches in the local library are recommended, as is consultation with State cemetery associations, genealogical societies, and the State historic preservation office. Many States have published guides to research and legislation affecting cemeteries and burial places. An extensive bibliography for the general study of cemeteries and gravemarkers compiled along disciplinary lines is found in *Cemeteries and Gravemarkers: Voices of American Culture*, edited by Richard E. Meyer, one of the recommended sources listed below.

The Association for Gravestone Studies (AGS), a non-profit organization, publishes an annual journal, *Markers*, as well as a quarterly newsletter, and serves as an information network for cemetery scholars and preservationists nationwide. AGS maintains an archive and a limited mail-order lending library service for members. AGS can be reached at the following address: 30 Elm Street, Worcester MA 01609.

In 1985 the City of Boston, steward of as many as 16 historic cemeteries ranging in date from 1630 to 1841, launched its "Historic Burying Ground Initiative," an ambitious, long-term program encompassing comprehensive inventories and treatment of gravemarkers, landscape rehabilitation, and improved maintenance and security procedures. The Boston initiative involves a number of city agencies and community groups and is believed to be the largest cemetery recordation and restoration project undertaken by local government in the country. Further information may be obtained from the Boston Parks and Recreation Department, 1010 Massachusetts Ave., Boston MA 02118.

The following is a list of some of the sources available, and is designed to lead the researcher to more sources. Many of these works contain extensive bibliographies.

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NATIONAL REGISTER BULLETINS

National Register bulletins may be obtained by writing to the National Register of Historic Places, National Park Service, U. S. Department of the Interior, P.O. Box 37127, Washington, D.C. 20013-7127.

No. 15 How to Apply the National Register Criteria for Evaluation

No. 16A How to Complete the National Register Registration Form

No. 16B How to Complete the National Register Multiple Property Documentation Form

No. 18 How to Evaluate and Nominate Designed Historic Landscapes

No. 22 Guidelines for Evaluating and Nominating Properties that have Achieved Significance Within the Last Fifty Years

No. 24 Guidelines for Local Surveys: A Basis for Preservation Planning

No. 29 Guidelines for Restricting Information about Historic and Prehistoric Resources

No. 30 Guidelines for Evaluating and Documenting Rural Historic Landscapes

No. 32 Guidelines for Evaluating and Documenting Properties Associated with Significant Persons

No. 36 Evaluating and Registering Historic Archeological Sites and Districts (in draft)

No. 38 Guidelines for Evaluating and Documenting Traditional Cultural Properties

No. 39 Researching a Historic Property

No. 40 Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields

IX. NATIONAL REGISTER CRITERIA FOR EVALUATION

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

B. that are associated with the lives of persons significant in our past; or

C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack distinction; or

D. that have yielded or may be likely to yield information important in prehistory or history.

NATIONAL REGISTER CRITERIA CONSIDERATIONS

Ordinarily, cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the last fifty years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

a. a religious property deriving significance from architectural or historical importance; or

b. a building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a particular person of event; or

c. a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his productive life; or

d. a cemetery that derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

e. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master pan, and when no other building or structure with the same association has survived; or

f. a property commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or

g. a property achieving significance within the past fifty years if it is of exceptional importance.

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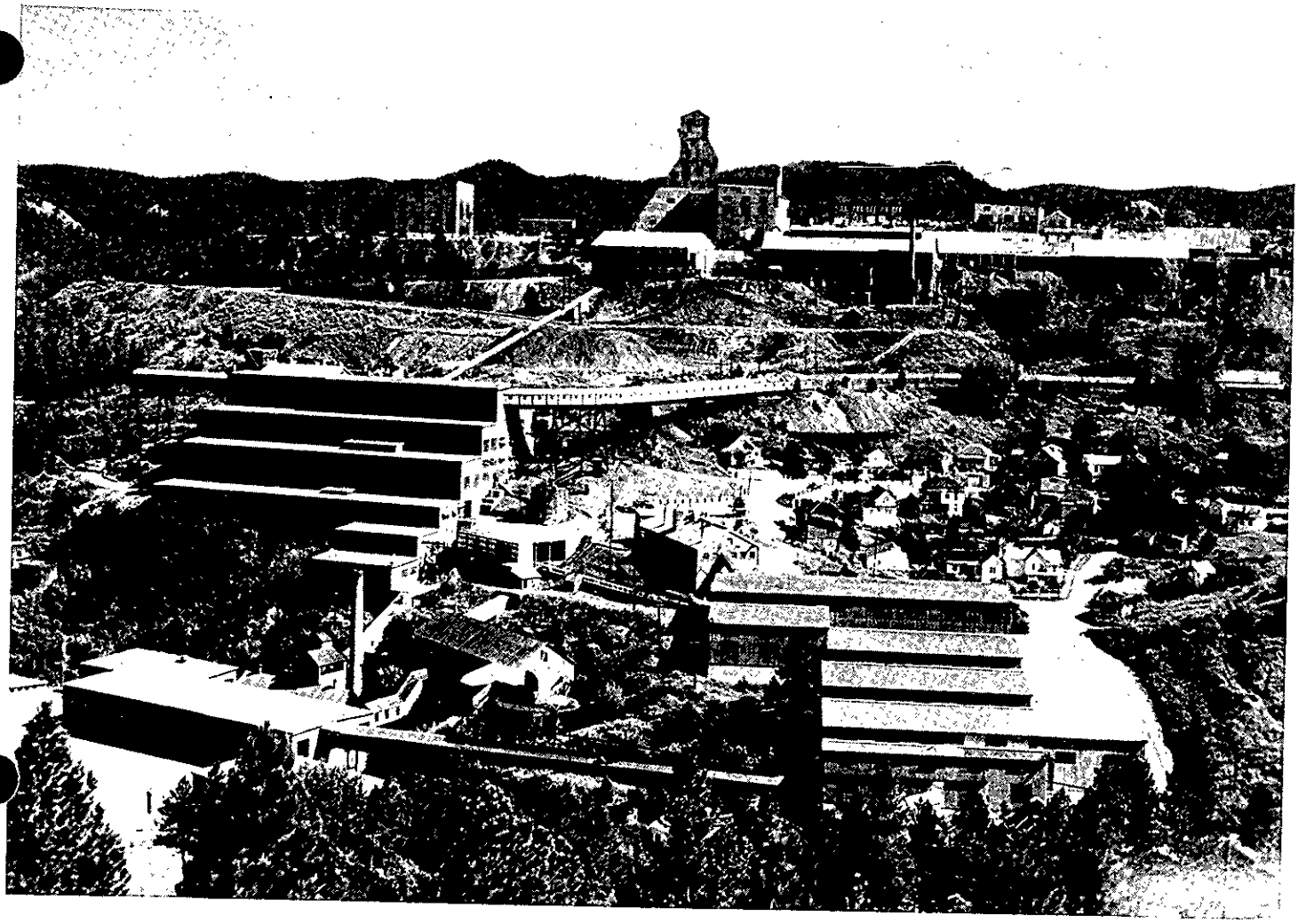
NATIONAL REGISTER BULLETIN

Technical information on comprehensive planning, survey of cultural resources, and registration in the National Register of Historic Places

U.S. Department of the Interior
National Park Service
Cultural Resources
Interagency Resources Division

GUIDELINES FOR IDENTIFYING, EVALUATING, AND REGISTERING HISTORIC MINING PROPERTIES



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 also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting 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.

Cover Photo: This photograph of Lead Historic District in South Dakota illustrates the complex array of mineral extraction facilities, mills, worker housing, and tailings piles which typify the industrial nature of many historic mining properties. (Scott Gerloff)

NATIONAL REGISTER BULLETIN 42

GUIDELINES FOR IDENTIFYING, EVALUATING, AND REGISTERING HISTORIC MINING PROPERTIES

by
Bruce J. Noble, Jr.
and
Robert Spude

U.S. Department of the Interior
National Park Service
Interagency Resources Division
National Register of Historic Places

1992

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PREFACE

Mining activity comprises an important component of our nation's heritage. Native Americans engaged in the extraction and processing of precious metals long before initial contact with Europeans. Stories of abundant mineral wealth ranked high on the list of factors that first attracted Europeans to the North American continent. The quest for mineral wealth continues in contemporary America. Many centuries of mining activity have left a legacy of historic mining sites that now exist throughout the entire United States.

The opulent Victorian architecture characteristic of some successful nineteenth-century mining towns has galvanized interest in preserving and restoring these communities. The decaying industrial sites where the actual mining occurred have received considerably less attention. However, the industrial mining sites often face the greatest threats today. Massive earth moving efforts associated with modern mining, along with programs to reclaim abandoned mine lands, can harm the remnants of historic mining activity. In addition, many mining sites have fallen victim to the combined effects of neglect, abandonment, vandalism, and severe weather.

The threats faced by these properties, along with the complex task of understanding the significance of deteriorated sites associated with our industrial heritage, suggest the timeliness of a bulletin on evaluating and nominating historic mining properties to the National Register of Historic Places. The National Register evaluation process offers a framework for assessing the significance of mining sites, while listing in the National Register will help assure that significant mining sites are recognized and protected when possible. The ultimate goal of this bulletin is to provide a body of information to support Federal, State, and local efforts to manage historic mining properties with a sense of stewardship predicated upon recognition of the importance of these properties in our nation's history.

Lawrence E. Aten
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I. INTRODUCTION

The United States has ranked among the world's leading nations in the production of gold, silver, copper, iron, lead, coal, oil, zinc, molybdenum, uranium, and other metals. These treasures from the earth have also made major impacts on the settlement and development of many regions, from Appalachia to Alaska. Precious metals have created unimaginable fortunes, while unwise investment has caused the loss of millions of dollars. Large segments of the population have been influenced by the work of prying ore, rock, or coal from the bowels of the earth. The purpose of this bulletin is to assist in the recognition of significant mining properties worthy of listing in the National Register of Historic Places.[1]

Some of this country's spectacularly successful mining operations have already been documented and recognized. For example, Virginia City, Nevada; the Sloss blast furnaces at Birmingham, Alabama; Butte, Montana; the Elkins coke works at Bretz, West Virginia; Kennecott, Alaska; and the Calumet and Hecla Mine in Calumet, Michigan, are designated National Historic Landmarks. Many additional mining properties are listed in the National Register of Historic Places. However, throughout the nation, many significant mining properties have yet to be documented, evaluated, and listed in the National Register. Many of these remaining resources are small, but important, elements of historic mining activity such as a ditch, a shaft opening, a road, or a collection of prospect pits. As a result, this bulletin will not focus on mining camps and their architecture, but instead will emphasize the identification, evaluation, and registration of the frequently overlooked mining properties and industrial tracts.

Mines and industrial tracts encompass a range of types of historical and cultural properties. They vary from iron works, to precious metal mills, to dredges and their associated outbuildings. They include mercury furnaces from the Mexican-era in the West; an early twentieth century nickel refinery in Perth Amboy, New Jersey; Russian coal mines in Alaska; the expansive open pits of the Iron Range of Minnesota; coal tipples in Appalachia; and copper mines of the Southwest. Although the various metals require different technologies to extract economically valuable metal from ore, there are many similarities in extraction, beneficiation (the initial process of upgrading ore), and refining. Oil and gas fields, however, require unique technologies developed for the extraction of fossil fuels. This difference means that the extractive industries of oil and gas are not examined in detail, although this bulletin will give general direction for their evaluation.

The transient nature of mining activity has left a legacy of historic properties that pose challenges to our traditional rules for evaluating significance and integrity. Many mining structures were built for temporary use and quickly abandoned once the minerals had been exhausted. The resources have subsequently experienced decades of neglect, aggravated by vandalism and severe weather. In other cases, mining activities were short-lived. Hamilton, Nevada, for example, witnessed a whirlwind of silver rush activity in 1869, but the mines failed and the town faded to a ghost town within a decade (Jackson, 1963). The significance of such properties will have to be based on their archeological potential and not on their present lack of standing structures.

The need for guidance in evaluating mining resources is pressing because of a marked increase in activities that threaten historic mining resources. These activities include the recent upswing in coal mining and precious metal mining which can impact historic mining areas. In addition, mine reclamation and clean-up efforts often threaten historically significant mines. Although well-intended, these clean-up activities can contribute to the loss of significant resources.

The National Register of Historic Places provides an important tool for evaluating and protecting mining properties. Utilizing uniform criteria to evaluate significance and employing established integrity standards, the National Register process provides a valuable yardstick for measuring the historical significance of mining properties. Thus, the National Register is the best means for determining the significance of historic mining properties in the United States. In addition to providing an incentive for preservation by recognizing resources that warrant preservation, listing affords a measure of protection from Federal undertakings and can help to identify properties worthy of Historic Preservation Fund grant assistance, tax incentives, and other forms of assistance. The bulletin will also provide an approach for complying with Federal laws such as the Surface Mining Control and Reclamation Act of 1977 that help protect properties listed in the National Register.

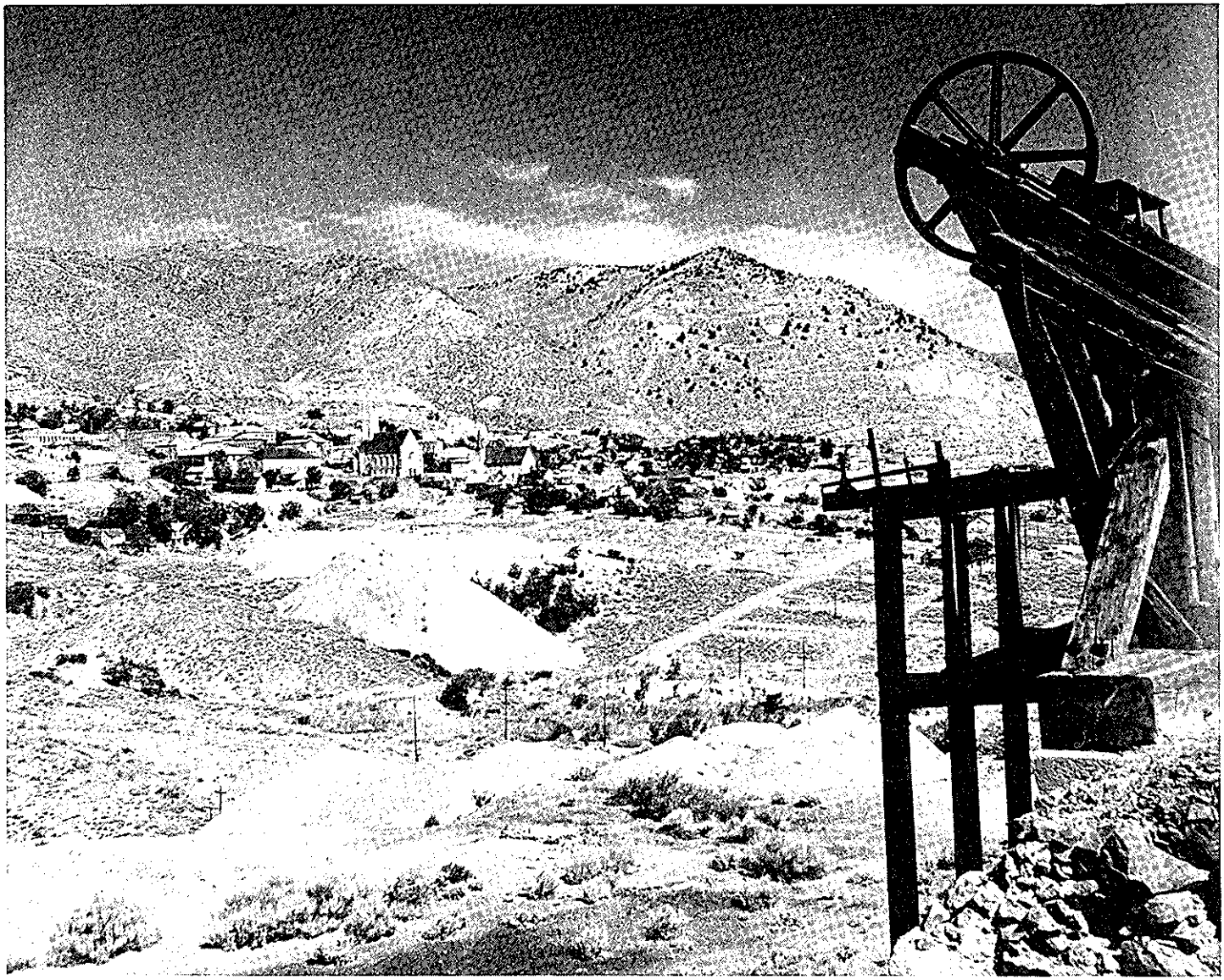
National Register listing also gives credibility to State and local efforts to preserve mining resources based on their continuing contribution to a community's identity. The documentation contained in surveys and nominations of these historic mining properties — especially those that are neglected or threatened — is the key to their better protection and management. This information has a variety of uses, including public education; planning by local, State, or Federal agencies; or publication. The purpose of this bulletin is to guide Federal agencies, State historic preservation offices, Certified Local Governments, preservation professionals, and interested groups and individuals through the process of identifying, evaluating, and registering historic mining properties to the National Register.

This bulletin outlines a general approach to the identification, evaluation, and registration of historic mining properties throughout the United States. A broad range of mining activities were conducted in different regions of the country. Although this bulletin may not provide specific details about every form of mining and every type of

mining property, the general process discussed in this bulletin will assist with the nomination of a great diversity of mining properties.

The focus of this bulletin is historic mines or associated properties constructed specifically for the extraction of minerals or to support the extraction, benefication, and refining of minerals. In addition, this bulletin may also assist with the identification, evaluation, and registration of properties associated with non-metallic mining. Examples include clay mining (associated with brick making), salt mining, salt petre mining, and rock and gravel quarrying. For the purposes of this bulletin, the word "mineral," when used in the context of extracted matter, includes coal.

General instructions for preparing National Register nominations are available in two National Register bulletins: 16A: *How to Complete the National Register Registration Form*, and *16B: How to Complete the National Register Multiple Property Documentation Form.*



This photo of Virginia City, Nevada illustrates characteristic features of mining towns such as headframes, tailings piles, and exploration pits. Representing one of the United States' most successful mining operations, the Virginia City Historic District was designated a National Historic Landmark in 1966. (Jim Reinheiler)

II. HISTORIC CONTEXTS FOR MINING

Mining camps have been the focus of many mining-related National Register nominations. Too often, however, mining areas are evaluated for their architectural resources without fully considering the role once played by industrial features like mines and mills. In many cases, the industrial features associated with mining receive scant attention because they lack any remaining buildings, structures, or objects. The transient nature of mining properties and the frequency with which mines have been abandoned means that many mining resources occur either as simple earthen protuberances or as subsurface voids. Historic machinery is scavenged from isolated mining locations, often to be displayed in distant museums. Present-day mining can obliterate historic mining features.

A single mining district may contain features dating to several distinct mining periods. Understanding the cultural resources in a former mining area can be complicated by the repeating boom and bust periods within a single mining district. Each boom period occurred with the rise of metal market prices or by the introduction of new technologies. These booms brought new equipment and machinery which is either superimposed over or placed alongside the remains of previous mining activity.

Along with changes caused by market price fluctuations or evolving technologies, the metals sought by nineteenth-century prospectors tended to change over time as local conditions improved, caused usually by a drop in transportation, labor, or fuel costs. Most Western prospectors initially sought gold, then moved to silver, and finally to base metals. For example, the Butte mines were first located during the great Montana gold rush of the 1860s. After the decline of the readily accessible placer gold, the local economy slumped until a fresh discovery made Butte a huge silver producer in the late 1870s. Silver mining collapsed in 1893, but by then the copper mines on Butte Hill had come into production (Malone, 1981). Other early Western mining towns witnessed similar, though less phenomenal, histories as silver mines became tungsten mines and gold mines began by yielding gold before later moving or to produce zinc and lead. The mining of iron, coal, and other base metals also relied on favorable economic conditions, all tied to cheap labor, fuel, and transportation.

The preceding discussion demonstrates that the initial evaluation of mining properties can pose challenges. These challenges result partly from the fact that the industrial features associated with mining have not always been fully appreciated. In addition, many of the industrial features which typify mining properties have either been demolished or seriously damaged through neglect. Finally, evolving technologies and changes in the types of minerals being mined can create situations where resources dating to a variety of periods may be contained within a single mining district.

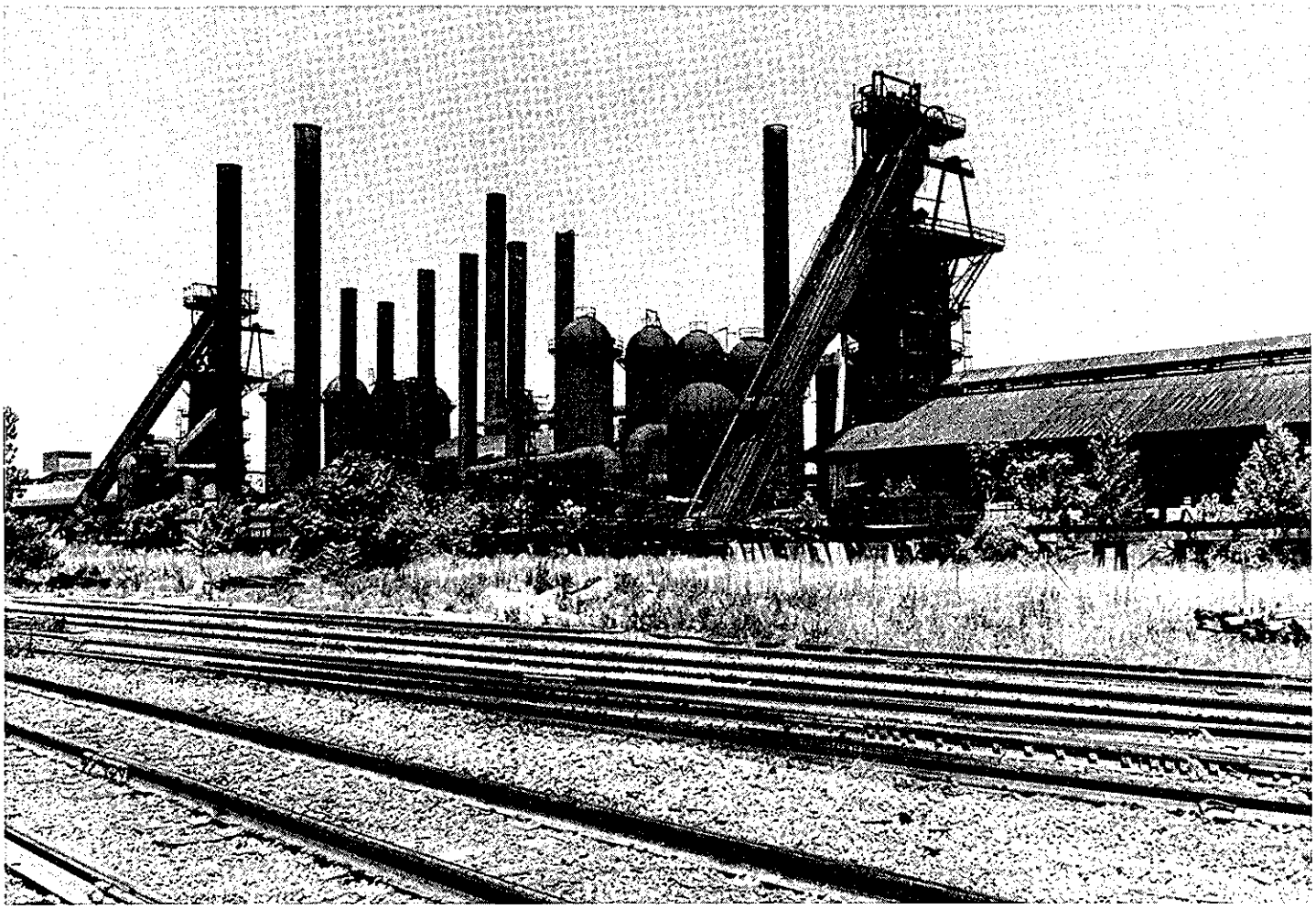
The potential complexities of evaluating diverse and enigmatic mining properties can be addressed by identifying historic contexts. The identification of historic contexts should emphasize those contexts associated with extant historic properties likely to be encountered during field surveys. By following this practice, historic contexts will help to unravel the separate threads of mining history which may exist within a single geographic area.

A historic context can be described as a particular theme that is further deliniated by a time period and a geographic area. (For example, "Silver Production in Butte, Montana, 1879-1893.") Identifying historic contexts will serve a variety of purposes. They can provide locational information that will assist with the identification of mining properties in the field. Furthermore, an individual property associated with a given historic context can be compared with other properties related to that context to reach decisions about the relative significance of related properties. In addition, initial historic context documentation identified at this early point will expedite the nomination process by allowing for eventual incorporation of this documentation into the narrative of a nomination.

With regard to historic contexts for mining areas, the *theme* component of the context will revolve around some aspect of mining history. These themes should not be defined too narrowly. In addition to considering mining technology, research done to develop themes should consider transportation, water systems, habitation, labor, the role of ethnic groups, and the role played by prominent figures in the mining industry. In some cases, themes may involve mining as one component of a more general overview of a community's industrial and economic development.

In defining an appropriate *time* frame, a historic context (or series of contexts) should attempt to span the period from the time of a mining region's initial discovery to the point of its abandonment or decline. Although each mining district will have its own unique history, districts will experience a series of similar phases during the course of their development. Generally speaking, each district will have: 1) a discovery phase, 2) a development or boom phase, 3) a mature phase or phases emphasizing production, and then 4) a bust or decline phase. These phases may recur if a new technology is discovered to work the lower-grade ore or if other developments occur, such as the advent of uses for discarded ores or the new availability of cheaper transportation, fuel, or labor. Awareness of these common phases may help to determine the appropriate time periods for mining district historic contexts.

The *geographic* component of a historic context can relate to political boundaries which define the extent of a



The Sloss Blast Furnaces, dating from 1881, are among the oldest extant blast furnaces in the Birmingham, Alabama iron and steel district. The complex is representative of Alabama's preeminence in pig-iron production in the early twentieth century, and was designated a National Historic Landmark in 1972. (Historic American Engineering Record).

town, county, State, or Federal land management unit (i.e., a national park or national forest). The geographic definition may simply be the mining district boundaries established during a miners' meeting and duly recorded in the county courthouse. The US Geological Survey (USGS) has also drawn boundaries for mining districts that may clearly define the geographic extent of historic mining activity. In addition, for over a century USGS has published bulletins which include maps of mining regions. In the East, State geological survey reports and maps serve the same purpose. These maps may also assist with the development of historic contexts.

In conclusion, historic contexts must be identied to allow for confident evaluations of a historic mining property's significance. Because most mining properties are either in ruins or mere imprints on the landscape, they can pose difficult integrity questions. Significance must be determined based on an understanding of an area's history before making decisions about National Register eligibility. In some cases, significant historic properties may be entirely overlooked without a proper historic context. Even ruinous properties can be significant if they yield information valuable in historical archeology, especially if the property contains remains of engineering works that help to illustrate the broader historic context of technological innovation and diffusion. For example, the nomination of the Dubuque, Iowa, lead mines was based on a written historic context and on archeological evidence that revealed a great deal about mining and smelting technology in the early 1800s. The nomination of these lead mines occurred in spite of the fact that no standing structures remained at the location of this previously active mining district.

SOURCES OF HISTORIC CONTEXT INFORMATION

Identifying historic contexts related to mining activity should begin with an investigation of existing contexts. State Historic Preservation Officers (SHPO) represent one possible source of existing historic context documentation. In particular, statewide historic preservation plans, previously completed multiple property submissions, and other information maintained by SHPOs may contain material concerning historic mining properties. Other possible sources of existing information include Federal agencies (particularly Federal land-managing agencies) and academic institutions. Background investigations

may reveal that a number of mining-related historic contexts have already been developed for a given area. If so, these existing contexts may provide valuable assistance to the researcher.

A number of other sources may assist with the development of historic contexts. The USGS has published mining-district maps showing geologic formations and minerals throughout the United States. In addition, descriptions of mining districts are contained in a series of USGS bulletins, monographs, professional papers, and other publications. These sources supply information on ore deposits. Some mining districts, especially in the West and Alaska, received thorough evaluation and mapping by the USGS. These evaluations led to the publication of reports that describe mines, prospects, and company activities, as well as geographic and cultural information.

In the East and the Midwest, where the USGS was less active, State geological bureaus provided similar publications and maps on mining regions. Coal mining areas in Pennsylvania, West Virginia, and Kentucky, for example, were extensively mapped by the State. Early information on lead mining can be found in the reports of the State geological offices of Missouri, Wisconsin, and Iowa. Information on the early copper industry can be found in Michigan geological reports.

Information in these geological reports, which often included economic histories, can be crosschecked with corporate descriptions in the *Mines Handbook* (after 1905) and *The Mineral Industry* (after 1892). Other useful government reports include the annual reports of the U.S. Mining Commissioner, 1866-1876, the reports of the Director of the Mint, and the Bureau of Mines annual report (later called the *Minerals Yearbook*). These reports, particularly the bulletins and information circulars of the USGS and Bureau of Mines, frequently include specific data on lode and placer mining techniques and equipment as well as discussions of individual mines and mining districts. The Bureau of Mines also published technical reports on mine safety and technology.

Other records of the Federal government will have potential research value. With regard to mining in the West, specific information about mine ownership can be found in the mineral patent records of the Bureau of Land Management (BLM). Created through a merger of the Grazing Service and the General Land Office in 1946, BLM offices will also contain records of mineral patents issued by the General Land Office. Deed records housed in the local county courthouse may provide an additional source of mine ownership information. If litigation occurred, extensive files may be found in the Department of Justice records in the National Archives in Washington, DC. If minerals were produced for military purposes, the records of the Secretary of War should be consulted.

State and local histories may contain information on mines and mining in a particular locality. In addition, some States published annual reports issued by State geological surveys, mine inspectors, mining commissioners, or department of mines. Records of State corporation commissions, which may contain articles of incorporation and annual reports, can help to explain corporate involvement in mining enterprises.

Period journals and newspapers provide a panoply of promotional information about a mine. Both successful and unsuccessful mining camps and towns frequently had newspapers that touted each mine or prospect. Individual mines and mining companies produced annual reports and distributed other forms of literature. The productive ones published annual reports which might include photographs and diagrams that typically described the extent of both works and machinery. Although mining town newspapers and company literature can provide fascinating local color, these sources must be used with caution based on their inclination to accentuate the positive and downplay the negative.

In some cases, mining activity was well documented by early photographers. Archives, museums, and other sources should be contacted for historical photographs to assist with historic context research. Photographs of mine equipment and mill machinery for a specific mine may not exist, but contemporary photographs of nearby mines and mills document the material culture and industrial facilities of a particular mining region.

In the West, early mining district record books can serve as an important source of historic context material. In some cases, these record books document the formation of miners' committees that established district laws and recorded the tenuous ownership of mineral deposits. (After the passage of the 1872 Mining Law, only a patent issued by the Federal government would legally secure ownership.) A hypothetical example of the value of these early records might involve a prospect pit discovered in an 1860s gold district, but abandoned after the first rush. Lacking these records to provide historic context information that links the property with the early gold rush era, the evaluation may be based solely on the marginal integrity that the property exhibits today. Such an evaluation would overlook the prospect pit's critical association with a significant period in mining history.

Oral histories can also serve as an important source of historic context information. Individuals living near historic mining areas may offer valuable information about resources in a given locale. In some cases, previous oral history studies will already have documented these stories either on tape or in print. In other cases, researchers may have to seek out individuals capable of providing valuable perspectives concerning local mining properties.

There are many books and other sources of information on the history of mining. (See Section VI for a listing of mining history references.) These studies help provide a general understanding of mining history. The difficult task is to combine the historic context information in these sources with the guidance provided in other National Register publications and use these materials to conduct successful field evaluations and prepare nominations for actual mining properties.

III. IDENTIFICATION

SURVEY AND DOCUMENTATION

National Register Bulletin 24: Guidelines For Local Surveys: A Basis for Preservation Planning, provides advice regarding appropriate fieldwork practices. Although National Register Bulletin 24 addresses questions about where and how to survey, specific questions about mining-related resources are not defined. Therefore, the following comments offer guidance specifically focused on surveying historic mining properties.

Perhaps most importantly, surveys of historic mining areas should be conducted with caution. Because mining properties are often located in remote areas, such as rugged mountain slopes or in steeply banked canyons, hiking trails may provide the only access. Given this situation, those involved with mining area surveys should be prepared to encounter rigorous conditions when conducting fieldwork.

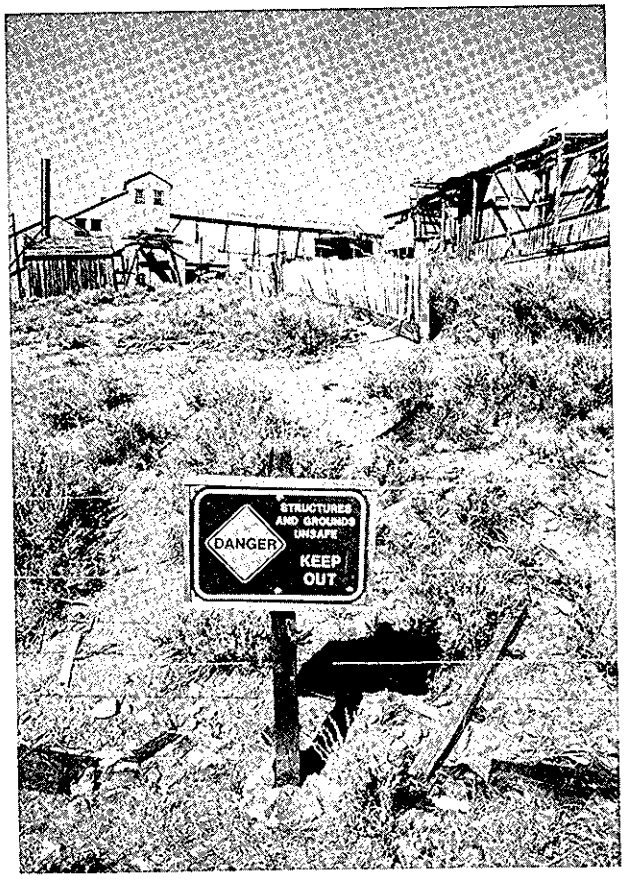
Mines present special hazards with potentially lethal consequences. Field personnel should be trained in, familiar with, and able to recognize mining-related dangers prior to conducting field work. All explosives encountered should be considered extremely dangerous. Blasting caps are just as dangerous as "stick" powder. Explosives can be found in any part of a mining area, not just in the vicinity of the powder magazine. The ground around mine openings is frequently unstable; unguarded and obscured shafts, raises, and stope openings are hazards to avoid. Covered mine openings should not be considered safe. Unless proper training has been completed, one should not enter the underground portion of a mine. The hazards associated with surveying historic mines are real and should not be ignored.

In the West, many historic mines are located on public lands. The opposite situation prevails in the East where most historic mines will be on privately owned lands. Regardless of the geographic locale, owner consent should always be obtained before venturing onto privately-owned mine lands.

After ascertaining that conditions are safe and contacting the owners, begin the survey by defining the limits of the area to be investigated. This could be the entire mining district or just one mining claim whose boundaries are recorded in the mining deed records in the county courthouse or in the mineral patent records of BLM. If a mine operation extended over several claims, patented or unpatented, the survey area should encompass the full extent of claims associated with the mine. In the case of large mining corporations, ownership could extend over hundreds of claims. Other sources that will assist in defining the limits of a survey area include oral histories, company records, industrial directories, and USGS and State geologic maps and surveys.

The relationship between the claims and the topography can differ dramatically between hard rock and placer mining districts. Placer claims will usually be oriented to the drainage patterns while lode claims will follow the geologic structure as it was understood at the time the claims were located. Claims may also overlap and homestead, townsite, and other land claims may cover the same ground as placer and lode mineral claims. Knowledge of the historic development of an area should be acquired before conducting field work. This will ensure appropriate boundaries for the field survey.

Because many mining properties contain few standing buildings or structures and disconnected parts of machinery scattered throughout the area, the field surveyor should use the previously gathered historic context information to determine the type of mine at hand. This step is important because, for example, a placer mine will have different features than a hard rock mine or mill. Hard rock mines tend to have more fixed structures than placer mines. More important, placer mine surface equipment does not necessarily stay in one place. Over time, placer mine excavation and processing plants are moved along a creek as the stream bed is dug up and the auriferous material



The California State Parks Department has placed warning signs around the industrial buildings and mine openings at Bodie State Park, California. Researchers should be aware of dangers associated with surveying mining properties. (Robert Spude)

washed through the sluice box. On some creeks, the equipment associated with a placer mine may be found abandoned in place miles from where it was first used.

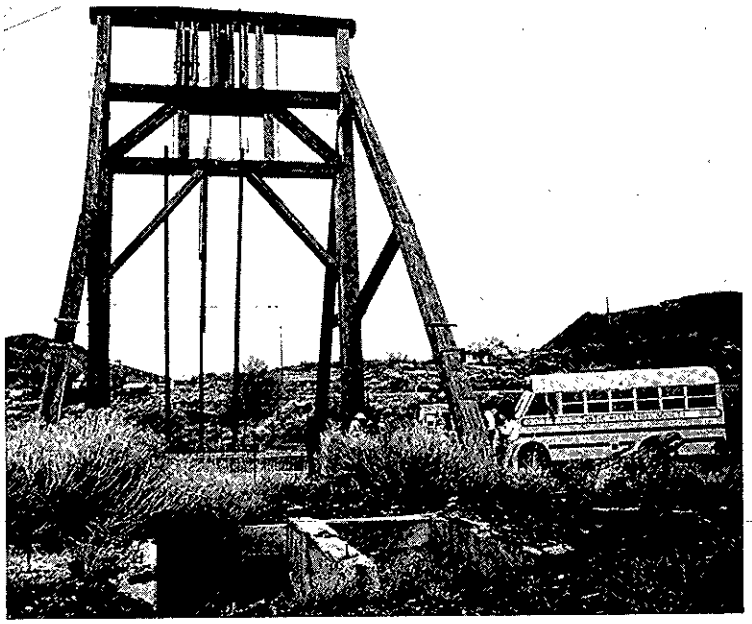
Furthermore, the fieldwork should result in thorough mapping of any evidence of earth-moving activity. This would include the mapping of waste rock and tailings piles. Dumps and tailing piles will often indicate the locations of removed or obscured features and will provide clues about the type of activity that created them. Coal mine waste gobpiles on the Illinois prairie or placer mine dredge tailings in California may be the only indications that major mining industries once operated in these areas.

Outlying support features should be mapped as well. For example, if a headframe stands over a shaft, not only should the headframe be described, but also the hoist house. The dams, flumes, and penstock supplying water to placer mines are as important as the camps erected to house the miners. Machinery should be described, especially its function and manufacturer (if these can be readily determined). Sanborn fire insurance maps and patent maps from BLM may provide descriptions and details on mines and structures that date to the time when the mine was in operation, as would any map prepared by companies owning the property. If available, these maps should be compared to the resources evident today.

Mill drawings may be available from company records. If not, examples of mills are in standard plan books, mine machinery catalogs, contemporary mine engineering books, or advertisements in such journals as *Coal Age, Mining and Scientific Press, The Colliery Engineer* and *Engineering and Mining Journal*. Regional journals are also helpful, but are rare until the 1890s. Field analysis of mills, especially outlines of foundations and tailings, will help describe the adaptations of general plans for the specific location.

A process flow chart is essential in understanding the metallurgy in use at mills. Flow charts were prepared for all mills, but few are extant. Thus, thorough mapping and noting of machinery in place is needed in order to reconstruct the flow chart diagram. Similarly, mapping of landscape features and remaining equipment can be used to reconstruct operations at placer, hard rock, and coal mines. While usually less complex, flow charts at coal and placer mines are equally useful to the understanding of mining operations.

Mining property surveys should include **preliminary research** related to the mine, the actual **field survey** of physical remains, and **property analysis** designed to reanimate the operational system which once functioned at a mine. This three step process is especially important in cases where the contemporary mining property lacks historic buildings and structures.



Hardrock Mines used shafts to tap ore bodies; headframes supported the rope or wire cable that hauled workers and ore. Wooden headframes, like this one at the Bullion-Beck mine in Eureka, Utah, were replaced by steel at the turn of the century. (Robert Spude)

PRELIMINARY RESEARCH

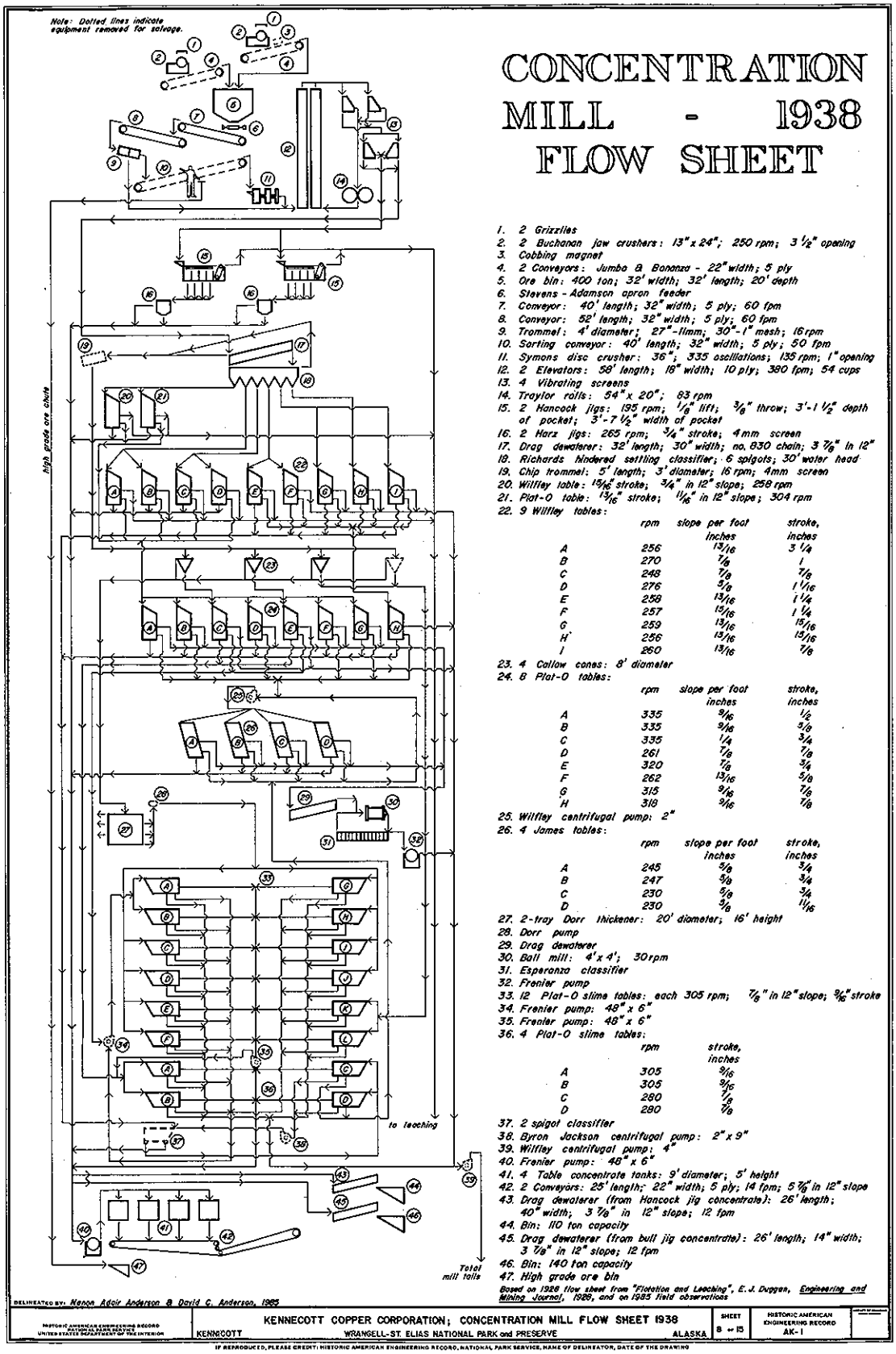
As discussed previously, preliminary research is begun during the initial process of preparing historic contexts. However, in most cases, new information will be produced to refine historic contexts both immediately before and during the field survey. Thus, the ongoing nature of preliminary research will help to flesh out the historic contexts, develop new contexts, and provide further input to the field survey process. In turn, information derived from the survey will lead to further refinements in the historic contexts.

When conducting preliminary research, it is critical to engage in a literature search that yields information about the type of extraction, beneficiation, or refining process that took place in a given area. Preliminary research into the history of resources associated with mining activity plays an important role in preventing erroneous field interpretations: bituminous coal is processed differently than anthracite; a gold mill is different than a silver mill. At minimum, read the USGS or State geological bureau report on the mining area prior to beginning field work. Remember too that technology changed as did the terms used to describe mining. Use technical publications contemporaneous with the period of mine operation: a 1930s technical description of a gold mill will differ greatly from a description in an 1880s publication.

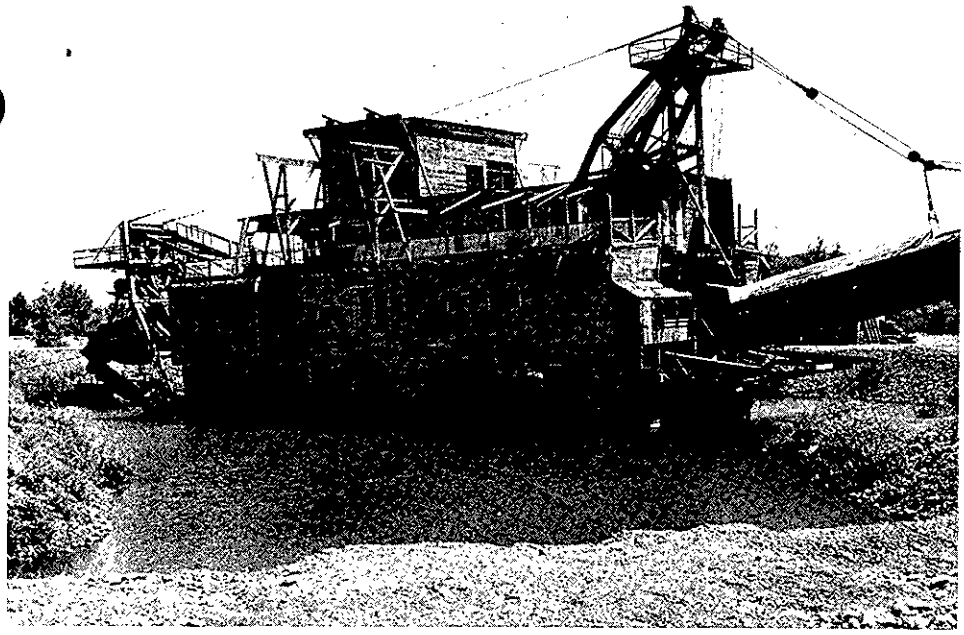
Other sources to consult include the following: census records, tax assessment records, company books, personal diaries, community plats, cartographic sources, iconographic and pictorial materials, professional and technical journals, governmental publications, newspaper accounts, city directories, oral histories, and local informants. Information recorded during field work should use mining nomenclature from the period of operation and for the region. A West Virginia coal tipple and a Nevada mine headframe and ore bin might do essentially the same thing — store coal or ore pulled from the mine — but mining glossaries will help field crews get their descriptions correct. Use the appropriate glossaries and technical publications for the area and era. (See Section VII for a partial glossary of mining terms.) Initial historic contexts developed at this point should remain flexible enough to allow for the incorporation of new materials that may result from visiting the property or completing additional research.

FIELD SURVEY

With the preliminary research documentation in hand, the field inventory of physical remains can begin.



The flow sheet for the Kennecott Concentrator in Kennecott, Alaska is one of the few extant process flow charts which were once prepared for all mill sites. These diagrams are essential to understanding the technology employed in the mills. (Nanan and David Anderson, Delineators, Historic American Engineering Record)



Placer gold mines were once numerous in the West. Some employed floating dredges, such as the Sumpter Valley Gold Dredge in Baker County, Oregon, to dredge up gravel and wash gold dust and nuggets from the waste. Dredges typically deposited large tailings piles along stream beds. (Oregon State Historic Preservation Office)

The physical remains of mines may include standing buildings, structures, and other architectural remains; machinery; archeological remains; and landscape features such as mine waste rock dumps, mill tailings, water delivery systems, open pits, and roads. Archeological remains, which may be the most abundant, typically include prospects, privy pits, wells, cellar holes, building foundations and platforms, dugouts, domestic and industrial trash dumps, isolated artifacts, collapsed headframes, machine pads and platforms, depressions, roads, ditches, pathways, and bulldozer cuts.

The methods used to locate the physical remains of mines may include aerial photography, pedestrian survey, remote sensing (such as radar profiling or proton magnetometry), and simple probes. For preliminary mapping and assessment purposes, low-level aerial photography is an excellent way to document the physical remains of mining properties. A systematic program of pedestrian survey, however, is essential. Planning for scale is critical since the physical remains of mining properties may cover a large geographical area. Historic placers, which can extend for miles, call for inventive approaches to field mapping and documentation. For example, using small-scale aerial photography and transparent overlays to record linear features and apparently isolated elements as well as the location of larger concentrations of features can often make sense out of apparent chaos. Superimposed historic maps on contemporary maps can help identify features and further detail the chronological and industrial development of an area. Recording methods should include photography, the preparation of architectural plans and elevations, sketches of machinery and other objects, narrative description, and the preparation of scaled maps.

Field surveys also should include methods for assessing the integrity and significance of the physical remains. Determining whether archeological deposits have a buried component may, for example, require probing or remote sensing. The suitability of the physical remains for conveying a sense of time, place, and historical patterns or themes should be considered. The surveyor should also record observations about the extent to which the physical remains are repositories of information, including the presence or absence of artifacts that carry information needed to answer important research questions about mining technology or community. Mining resource surveys will often require multi-disciplinary approaches to survey, using the talents of archeologists, historians of technology, landscape architects, architects, and mining engineers as well as assistance from geologists or practicing miners or individuals with first hand knowledge of the area.

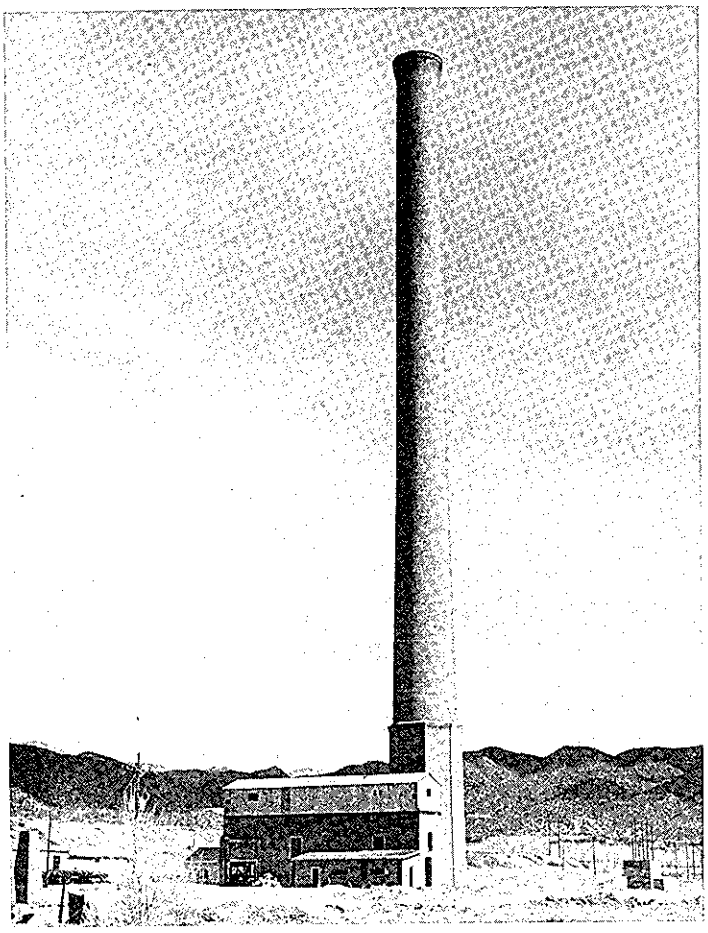
PROPERTY ANALYSIS

Beyond field identification of individual physical remains, the greatest challenge connected with mining property inventories involves the issue of property analysis. In this case, property analysis refers to the need to link the now disparate physical remains to the former reality of working mines and related social systems. What now appears to be disconnected and geographically isolated buildings, landforms, machinery, and archeological features once worked together to accomplish ore extraction or beneficiation.

Identifying the activities and the time periods represented by the physical remains is a key problem. Abandoned mining properties, for example, typically are reoccupied and may include buildings, machinery, landforms, and archeological remains from more than one time period. The new episodes of mining cut through the physical remains of older mining activities, making it difficult to interpret the engineering and other technological systems from earlier time periods. Sorting the physical remains by time period and activity into separate technological or social systems may be helpful. The location of the Tenabo Mill in central Nevada, for example, which was built in 1886 to process gold and silver ore, includes the mostly archeological remains of two separate beneficiation technologies: the Russell process in the original mill and the cyanide process installed in 1908. Evidence of both technological systems can be seen when viewing the extant physical remains today, but the earlier Russell process technology has been largely destroyed by the later cyanide operation (Hardesty, 1988).

IDENTIFYING PROPERTY TYPES

Mining properties may contain a great variety of resources representing the mineral-extraction process. Evaluation of these complex properties can be organized by noting that the processing of ore into metal includes the following three basic functions: **extraction** of the ore from the earth; **beneficiation**, which



Smelters, such as this one at the Ohio-Colorado Smelting and Refining Company in Salida, Colorado, represent one type of beneficiation plant.

upgrades the ore's value; and **refining**, which enhances the value of the ore/metal even further until it achieves a nearly pure state.

All three functions may occur within one mining property, such as at some Western or southern Appalachian gold mines, or may be miles apart, such as iron, copper, or lead smelters located great distances from mines. Although a universal description of mineral properties will not address all individual cases, the following provides a general guide to defining historic mining property types based on these three fundamental stages of mineral processing:

EXTRACTION

The property types associated with mine extraction sites can be generally classified into two categories reflecting the evolution of a mine: prospecting/mine exploration property types and mine development or exploitation property types. The distinction can be applied to hard rock, placer, and coal mines.

Prospecting/Mine Exploration Property Types

These property types are associated with the search for ore bodies. Hand-dug prospect pits, power-shovel trenches, bulldozer cuts, and drill holes, for example, are the physical remains associated with four different patterns of mine exploration technology. Some additional explanation will help to understand the origin of typical exploration activity.

Mining is a speculative industry. To discover metal, many test pits or prospects must be dug. According to the 1872 Mining Law, holding an unpatented claim requires a miner to do annual assessment work that might include digging another prospect hole in order to retain possessory title by demonstrating that a claim is still active. If a mining district has a producing mine, speculators employ a process sometimes known as grubstaking that involves paying prospectors to seek outcrops of ore and to excavate exploratory shafts or adits. In return, the prospector promises the speculator a percentage of any profits earned. In big speculative ventures in coal, iron, or copper areas, investors might pay crews to test lands they have optioned for purchase. In placer mines, pits as well as trenches may be found across streambeds or on benches where placer miners sought gold at bedrock, often without luck.

Given this sort of activity, holes abound in mining areas. These holes are not truly mines, but prospects. Individually, these prospects may appear to lack significance. However, prospects are often associated with the phase of a region's mining history that witnessed rampant speculation or boom and bust. Entire mining camps have arisen based not on actual metal production, but on the speculative investment in prospects. Thus, isolated holes — shafts or adits — may qualify as separate property types. In addition, a combination of research and field work may reveal a pattern of prospect holes on the land that offers physical evidence of the speculative phase of mining development in a given region.

These prospect holes may acquire additional significance if historical archeological evidence associated with an adjacent camp or equipment is found. If the material culture possesses sufficient integrity, it will help the archeologist in reconstructing the unwritten history of the mining property. Additionally, the prospect hole may have significance if it is associated with any of the following: the first settler of an area, a prominent miner with whom no other properties are associated, or to prehistoric or aboriginal mining.

Mine Development and Exploitation Property Types

These property types are associated with the definition and extraction of an ore body. Typically found at such locations are the physical remains of hoisting works such as headframes and hoist engines; excavations such as open pits or shafts or adits; ventilation systems such as air shafts or blowers; power systems such as steam boilers or electric generator houses; drainage systems such as Cornish pumps; water delivery systems; ore bins or tipples; transportation systems such as shortline railroads or ore cart runways; and maintenance and administrative facilities such as blacksmith shops, assay laboratories, offices, and worker's housing. These structures and systems are described in the nine-volume *Mining Library* published by McGraw-Hill in the 1910s. Their eight-volume *Library on Coal Mining* series does the same for that industry.

Hard rock mines were opened with shafts or adits (tunnels). The ore was removed from large openings called stopes. Creation of these large openings required the use of new support technologies such as square-set timbering and, later, concrete supports. A hoist and head frame over a shaft used a cable and bucket or cage to hoist ore; a horizontal adit had a level or slightly inclined rail system to tap the vein. An open pit or surface pit used earth-moving machinery to remove overburden and to extract ore. At the mine

surface, waste rock was dumped and ore was stored in bins to await shipment to processing plants.

Coal mines were different from hard rock mines in that coal was usually ready for market after minimally separating it from waste rock by water or gravity (or both) and dumping it into bins for shipment. This all occurred in a tipple, located at or near the mine entrance. The development of the district around St. Clair, Pennsylvania, was characteristic of the anthracite regions of Appalachia in the nineteenth century. At the mine, coal was extracted by pit, shaft, or other standard methods, and then broken, cleaned, and sized at a surface plant called a breaker (used to crush the hard anthracite coal). Mine owners then loaded coal into railroad cars bound for the markets of Philadelphia or nearby industries (Wallace, 1988). There was no further beneficiation or refining. Some bituminous coal was converted to coke by a baking process in beehive shaped ovens, which removed impurities. Coke ovens were beneficiation plants, in the strictest sense, used to improve coal to meet the heat requirements of industry.

Placer gold mines, abundant in the West, required a different technology than either hard rock or coal mines. For example, a placer gold mine system might include dams, penstocks, flumes, ditches and holding ponds for water; moved gravels and rock piles; sluice boxes or long toms; hydraulic nozzles; camp buildings; support structures; and, if used, dredges and their support facilities. Placer mines can extend for miles along a streambed.

As technology changed, placer mining operations might also cover earlier operations, new tailing piles covering old workings. In the placer mines of Virginia City, Montana, gold miners in the 1860s first used simple sluice boxes and then hydraulic plants to extract gold nuggets and dust. After 1890, the Conrey Placer Mining Company used floating gold dredges on Alder Gulch to dredge gravel and wash the gold dust and nuggets from the waste, while also covering earlier mine debris. The gold was purified and melted into bars at an assay lab on site and shipped to the U.S. Assay Office in Helena. There was no further processing needed to sell the mine product to the purchaser, the Federal government (Spence, 1989).

Open mines may be found from coast to coast, wherever rock outcrops exist. A survey of existing literature and a file search should be conducted prior to field evaluation. This mine adit is located on the Tantiusques Reservation in Sturbridge, Massachusetts. (Wolfgang Lowy)

The technical literature on placer mining is vast; see, for example, August J. Bowie, *Hydraulic Mining*, 1878; Robert Peele, *Mines Handbook*, 1918 ed.; Charles Janin, *Gold Dredging in the United States*, 1918; and the bibliography in Rodman Paul, *California Gold*.

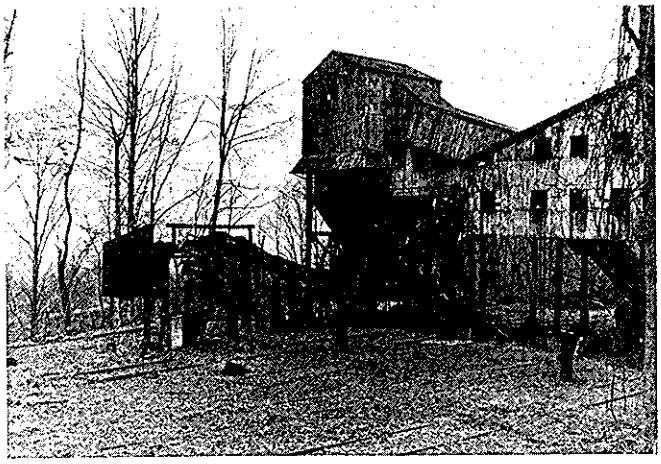
BENEFICIATION

Except for coal, placer gold, or the rare cases involving placer silver, platinum, or copper, most minerals are extracted from the ground in an impure and excessively bulky state and need to be upgraded before shipment to a refinery. Beneficiation—the upgrading of ore to increase its value—is accomplished in a processing plant.[2] Beneficiation is a broad category, which includes many metallurgical processes.

The history of metallurgy is complex and rapid changes occurred during the nineteenth and twentieth centuries. Thus, one must be aware of changing processes used for metal beneficiation as well as the machinery developed to crush, concentrate, and separate metal from waste rock. Fortunately, the various processes used in connection with beneficiation property types are detailed in published textbooks. For example, Charles R. Hayward's *An Outline of Metallurgical Practice* (1929, revised 1940) describes over fifty different processes for extracting metals.

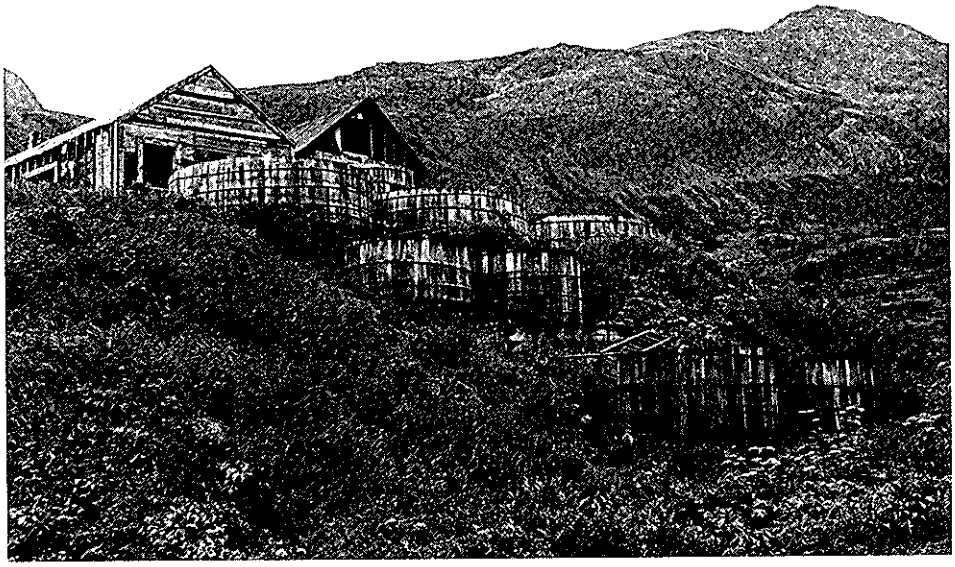
The complexity of beneficiation property types results, in part, from the way that the technology of milling systems responded to the increasing sophistication of mining practices. At the Oro Belle mine in the Bradshaw Mountains of central Arizona, to cite an example involving gold, the first prospectors of the 1860s used the donkey-powered arrastra to crush the ore and then used mercury to amalgamate the gold. In the early 1870s, a group of miners built a steam-powered arrastra. In 1888, the new owners built a standard ten-stamp mill to crush the ore. The sand-like ore then washed across copper plates where mercury captured or amalgamated with the gold. This mill was eventually expanded to include concentration tables, which produced a concentrate of lead, zinc, and gold, which was shipped to Colorado smelters. By the early 1890s, the cyanide process was introduced at the plant. This evolution was typical. Thus, a property might have an overlay of several technologies. Similar changes occurred in silver mills, lead and zinc

[1] Beneficiation, in its strictest definition, includes every phase of upgrading mineral value, from the mine face to the refinery product. However, in its common use, the meaning of beneficiation is restricted to the processing of ore in a mill or concentrator, or otherwise preparing the ore for refining. In the Iron Range of Minnesota, concentrators were called "benificiation plants".



A coal tipple consists of the tracks, trestles, and screens where coal is processed and loaded. Coal tipples are good examples of Mine Development and Exploitation property types. Pictured is the Kay Moor tipple located along the New River in Kay Moor, West Virginia. (National Park Service)

Cyanide leaching tanks at the Hirshey Mine in the Chugach National Forest in central Alaska represent beneficiation processes employed widely in the United States in the early twentieth century. (U.S. Forest Service)



concentrators, and copper concentrators during the nineteenth and twentieth century.

In general, the development of concentration mills changed through time to reduce the amount of skilled labor required for each ton of ore processed. In the book *Cradle to Grave,* Larry Lankton discusses the evolution of technology and its impact on Lake Superior copper mining labor and strife. It is important to link the evolution of mining technology to the impact it had on management, labor, business, politics, and communities, besides the obvious role it had in the history of science and technology.

Iron, copper, lead, zinc, and other base metal ores commonly were crushed and received initial beneficiation in concentrators that were first based upon gravity and then upon flotation processes. Understanding which process was used will help the field team determine what type of crushers and/or separation machines were used. This will also help with architectural description since mills were designed around the interior machinery metallurgy not the reverse.

Smelters represent another type of beneficiation plant. A smelter may accept high-grade ore directly from a mine or receive the concentrate from a mill for further reduction by heat. The heat and fluxes of the smelting process removed further impurities and upgraded the ore into a form known as a matte. Early smelters were small scale and operated either adjacent to, or in proximity to, the actual mines. As transportation networks evolved and fuel, space, water, labor and other factors came into play, smelters were relocated away from mines. The early plants used simple log-, charcoal-, or coal-fueled fires to melt ores into a matte that was still not pure, but rich enough in content to ship to refineries and manufacturers.

Given the evolution of the smelting process, an early nineteenth- century Pennsylvania iron "plantation," a mid-century Midwest lead smelter, and an 1860s - 1880s Colorado silver-lead smelter would all be located near the mines. By the end of the century, new economies of scale and fuel demands were removing the plants from the mines to distant locales. In the process, the industry became identified with the large conglomerates created at the turn of the century such as Anaconda in copper, the American Smelting and Refining Company (ASARCO) in silver-lead (Marcosson, 1949; Marcosson, 1957), and U.S. Steel. Smelters either operated as independent corporations that bought ores from a number of producers or as part of an integrated system linking mine, mill, and smelter. Large smelters were built at rail centers and near fuel—at Pittsburgh; Pueblo, Colorado; El Paso; and the Salt Lake Valley—to serve many mining districts.

Certain smelting companies, like the Cambria Iron Co. at Johnstown, Pennsylvania, and the United Verde Copper Company at Jerome, Arizona, provide examples of the evolution in the direction of high-capacity smelters. Each mining company began with small furnaces with a capacity of a few tons per day; within three decades of initial operations, the firms had mammoth plants reducing thousands of tons of iron or copper ore. Cambria included coking ovens to prepare coal, iron furnaces, roller mills that produced railroad rails and iron wire all in a one mile long complex (Brown, 1989).

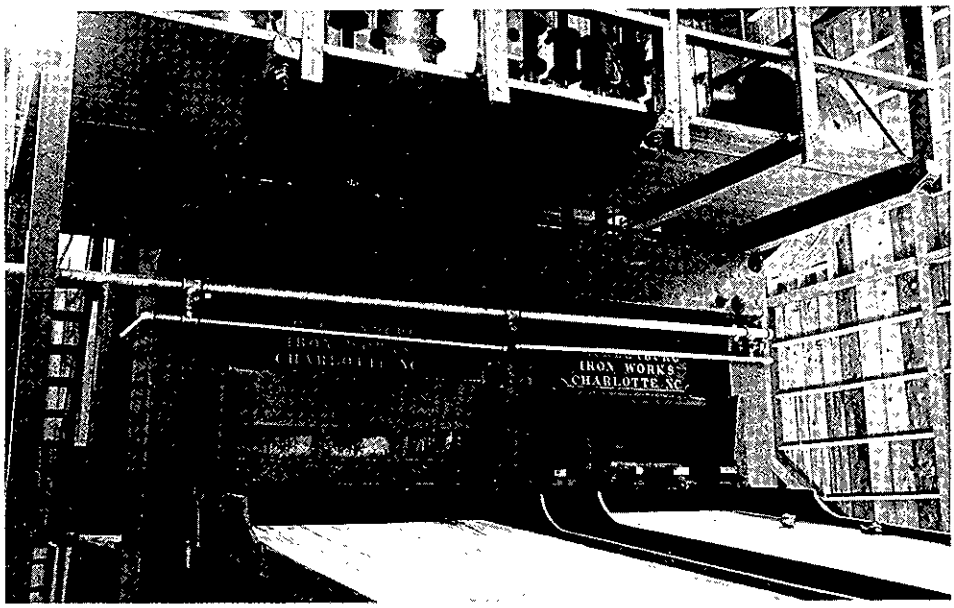
The above discussion reflects the complex nature of beneficiation as the process evolved over time. The broad overview provided is intended as a general introduction to the subject that will assist with the identification of property types associated with beneficiation.

REFINING

Refineries convert metal into a state of purity suitable for industrial use, manufacturing, or for commercial exchange. U.S. mints and U.S. assay offices refined the gold and silver amalgamated from mills. Although private banks, express offices, and assay offices might also contain the necessary furnaces to refine the metal, after 1866 Congress required them to sell their product to the U.S. mints. (Prior to 1866, several private assay offices minted gold coins for regional use as specie.) By the

turn of the century, a dozen branch mints or assay offices were operated by the Bureau of the Mint. These offices served the local mines by buying gold and helped the local economy by providing gold coins for the specie-short frontier economy, from the southern Appalachian gold fields to Alaska.

Base metals used by industry were refined at the larger smelters of the West or in Eastern refineries that offered access to international metal markets. Refineries were like smelters and operated in concert with them. The Eureka, Nevada, refinery, one of the earliest in the West, is discernable from the adjacent smelter by location and by archeological evidence. Refineries might also be associated with manufacturing works in Eastern cities, where the refinery might also be used to create blended metals called alloys. The great works of the New York City area and Chicago provided an array of metals and alloys to manufacturers. In general, field survey will be easier for refinery property types because of the amount of technical literature published about these large-scale, capital-intensive properties.



Stamp Mills such as this one, located at the Reed Gold Mine in North Carolina, crushed gold ore into a sand-like consistency which was then washed across copper plates where mercury was amalgamated with the ore. The amalgamation process was widely employed in the United States until the early twentieth century, when it was replaced by the cyanide process. (Virgil Smithers)

In addition to defining property types based on the three mineral processing stages, other historic mining property types exist. These property types include engineer-designed complexes, mining landscapes, and related properties.

ENGINEER-DESIGNED COMPLEXES

The ideal mining situation was the bonanza mine that had its own concentration mill on site; a smelter to reduce the product into nearly pure metal; a tramway or railroad haulage system connecting the entire works; and an infrastructure of power house and lines, company housing, store, and office. This situation most often existed in iron and copper camps. For example, by the end of the 1890s the Arizona Copper Company had an integrated complex designed by mining engineers. This complex included shaft houses with hoists that lifted the ore to ore bins, narrow gauge trains that collected and hauled the ore to concentration mills, and railroads that hauled the ore from the concentration mills to the company's smelter at Clifton, Arizona.

Most larger mines were part of an engineer-designed system. They were intricate industrial operations with every component ideally working in harmony to reduce costs, increase production, and maximize profits. Especially after the 1890s, mining engineers developed standard systems for mine operation. *The Mines Handbook* by Peele et al. describes in detail most of the components of the mine engineers' system. This system, which integrated massive operations to produce economies of scale, corresponded with the rise of big business in America. Massive operations created phenomenal profits, which often went into bigger plants. These engineer-designed complexes help define the twentieth-century operations at Minnesota's iron ranges, the copper mines of the Far West, the lead and zinc of the tri-state region of the Mississippi Valley (Illinois, Wisconsin, and Iowa), and the big gold mines of Cripple Creek, Colorado, and the Homestake of Lead, South Dakota.

On the other hand, smaller mine operations may have been designed by a skilled craftsman during the nineteenth century or before, or by an engineer, especially after the turn of the century. Yet, these are rarities. The lead district in the tri-state region of the upper Mississippi Valley, for example, is dotted with small mine pits where miners extracted abundant lead deposits during the antebellum period. These pits reflect a lack of system in mining as well as a lack of common knowledge about geology, ore deposits, and mining. Engineer-designed complexes reflect the development in the professional skills of mine engineering and allowed for the development of massive industrial corporations.

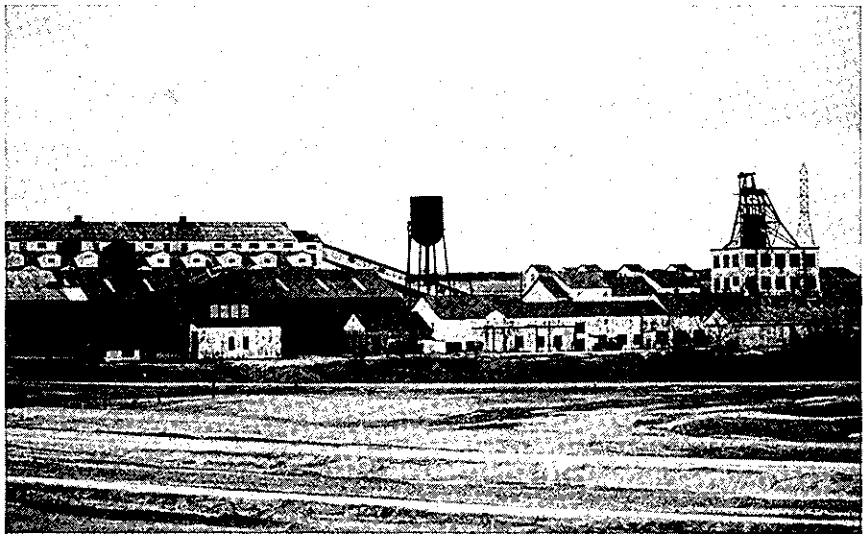
MINING LANDSCAPES

National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes defines a rural historic landscape as "a geographical area that historically has been used by people, or shaped or modified by human activity, occupancy, or intervention, and that possesses a significant concentration, linkage, or continuity of areas of land use, vegetation, buildings and structures, roads and waterways, and natural features." Given the extent to which mining activity represents a human activity that modifies the natural features of the earth, many mining properties will qualify as historic landscapes.

Landscapes may represent the most dramatic visual images of mining. Mining landscapes evoke images of time, place, and historical patterns associated with past mining epochs. Mining landscapes might include ravaged landscapes denuded by nineteenth-century hydraulic mining in the Mother Lode region of California,

barren strip-mining landscapes of West Virginia, gaping holes in the earth characteristic of open-pit mining landscapes found in places such as Bingham Canyon in Utah and the Mesabi Range in Minnesota, and dredging landscapes in Alaska characterized by mounded tailings piles lining great stretches of creek and river beds. In addition to the visual impact of the mining landscape, the land forms created by mining provide clues to past activity. Spoil piles often indicate the location of adits and shafts, and placer tailings can help define the methods used to mine a stream even if few artifacts are present.

Mining landscapes can be characterized and distinguished by historic patterns of land use such as strip-mining, hydraulic mining, or open-pit mining; the spatial organization or layout of the landscape; characteristic natural and cultural landforms such as mine waste rock dumps, mill tailing flows, and canyons; roads and pathways; vegetation patterns related to land use such as secondary growth of plants on mine waste rock dumps; distinctive buildings and structures such as headframes or cyanide mills or coal tipples; clusters of buildings and structures such as those at mines or urban settlements; and small-scale features such as mine claim markers or fences. Landscapes can be described and evaluated by utilizing the methodology applied to rural historic landscapes (see *National Register Bulletin 30.)* In most cases, mining landscapes will be defined as historic districts for the purposes of National Register nomination.



The Federal Lead Company's mill in Missouri Mines State Park near Bonne Terre, Missouri is an example of a large scale concentration plant. This facility upgraded ore into a concentrate for shipment to the smelter at Herculaneum on the Mississippi River. (Robert Spude)

RELATED PROPERTY TYPES

Mining properties may include buildings, structures, or systems that support mine operations such as entire communities complete with stores, schools, and other properties. For example, housing and support facilities such as employee homes, machine shops/blacksmith shops, and power houses may be located on mining property. Rail haulage and road systems may also appear. McGill, Nevada; Madrid, New Mexico; and Calumet, Michigan are examples of one-time major mining towns that include housing and support facilities, along with the usual commercial and service industries. These related property types should be recorded as components of the overall mining operation.

In remote placer districts, such as in parts of Alaska, isolated mining camps — tent frames and small cabins — that once provided shelter frequently remain as monuments to the tenacity of early prospectors and miners. Water pipelines and ditches (like the Fairhaven Ditch across Bering Land Bridge National Preserve) snake around the contours of hills for miles, often far from any other evidence of mining activity. Small mining camps may contain a limited number of buildings and structures: one or two cabins or tent frames and a few outbuildings such as a shed, several dog houses, and a cache. These small camps, while important as mining property types, are often associated with a number of other activities including hunting, trapping, and woodcutting.

Tailings piles, such as the ones at the Socorro Mines in Catron County, New Mexico, can be important landscape features that contribute to the significance of a mining property. (Chris Wilson)

Potentially significant mining-related properties can also be located in places distant from the actual mine locations. These properties include mine union halls, hydro-electric plants, school of mines laboratories, courthouses, and mine promoters' homes. Although important to the history of mining, these properties require little discussion in this bulletin. They can be evaluated and nominated according to standard practices outlined in *National Register Bulletins 16A* and *16B.*

IV. EVALUATION

APPLYING NATIONAL REGISTER CRITERIA TO MINING PROPERTIES

To be eligible for listing in the National Register of Historic Places, a mining property must be significant in American history, architecture, engineering, or culture and possess integrity of location, design, materials, workmanship, feeling, and association. In addition, the mining property must meet one or more of the four National Register criteria:

A. be associated with events that have made a significant contribution to the broad patterns of our history; or

B. be associated with the lives of persons significant in our past; or

C. embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that posses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. have yielded, or may be likely to yield, information important in prehistory or history.

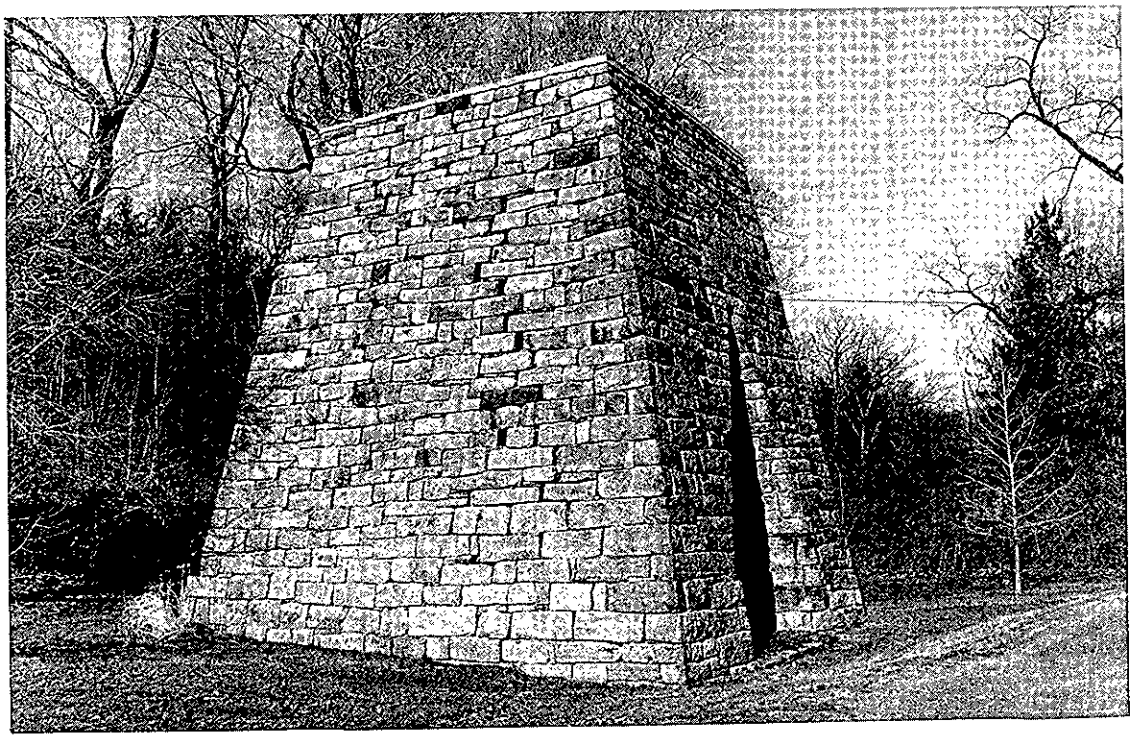
CRITERION A

Under Criterion A (association with "events that have made a significant contribution to the broad patterns of history") a mining property may qualify for listing in the National Register through its connection with historic themes. Applicable areas of significance (listed in *National Register Bulletin 16A)* include the following:

Agriculture: Some early mining properties were operated as part of plantations or haciendas which included the production of food stuffs for workers and wood for furnaces. Hopewell Furnace National Historic Site, a restored iron plantation in Pennsylvania, exemplifies this type of early mining operation, as do presently unevaluated Mexican-era mines of the Southwest around Tubac, Arizona.

Business: The development of big business has been associated with extractive industries generally, and oil and the iron and steel industries specifically. The captain of industry or robber baron, depending on the view of the writer, is exemplified by such families as the Rockefellers, the Douglases of Arizona, and the Guggenheims.

Commerce: Mining properties such as the Julien Dubuque lead mines of Iowa produced minerals for exchange and barter. Other commerce-related mining activities may include those properties associated with attempts to corner certain metals markets, such as Jay Goulds' effort to corner gold in the 1860s and the Secretan syndicates attempt on copper in the 1880s. Virtually all successful mines helped to increase commerce and trade.



The Ross Furnace in Westmoreland County, Pennsylvania is one of several hundred charcoal iron furnaces which remained in use in Western Pennsylvania long after they had been phased out in the eastern part of the State. This furnace was abandoned in the 1850s. (Diane B. Reed)

Community Planning and Development: Company towns often were found adjacent to mines, especially in the base metal and coal industries. Some town planning was unique such as Phelps-Dodge's mission-style company towns at Ajo, Arizona, and at Tyrone, New Mexico.

Conservation: Mining has often been viewed as the antithesis of conservation. Major disputes over resource conservation have been caused by the attempts of corporations to exploit ore bodies. An example would include the Ballinger-Pinchot feud which involved efforts to develop an Alaskan coal field intended to provide fuel for a proposed smelter for working Kennecott copper ores. This plan violated the conservation philosophy espoused by U.S. Forest Service Chief Gifford Pinchot and led to a controversy that eventually caused serious fractures both in President William H. Taft's cabinet and in the Republican party.

Economics: The accumulation of phenomenal wealth from a few mines caused massive speculation in the industry as well as in the stock markets of the world. The brief economic panic of 1907, for example, is associated with the financial machinations of Butte's copper kings and the collapse of rampant speculation in the mines of Nevada. The history of monetary processes is closely tied to the precious metal industry. The Panic of 1893 was caused by the demonetization of silver; its impact was the near total collapse of the Western silver mining industry.

Education: Schools of mines played a significant part in the development of public education, especially in the West where training was needed to operate mines and mills. These colleges often had laboratories or educational mines in mining districts. A number were located in mining districts, such as at Fairbanks, Alaska; Houghton, Michigan; and Butte, Montana. In certain instances, schools even owned and operated mines. Examples include Harvard University's ownership of the Conrey Placer Company of Montana.

Engineering: After 1890, many mining complexes featured components designed by mining engineers. This would include water and transportation systems built to serve mining operations. Noteworthy examples of mining engineering would fall under this area of significance. The ascendance of the mining engineer over the skilled craftsperson was a gradual process. Many mining properties can demonstrate the nature of the change and provide evidence of the intermediate steps in the process of change.

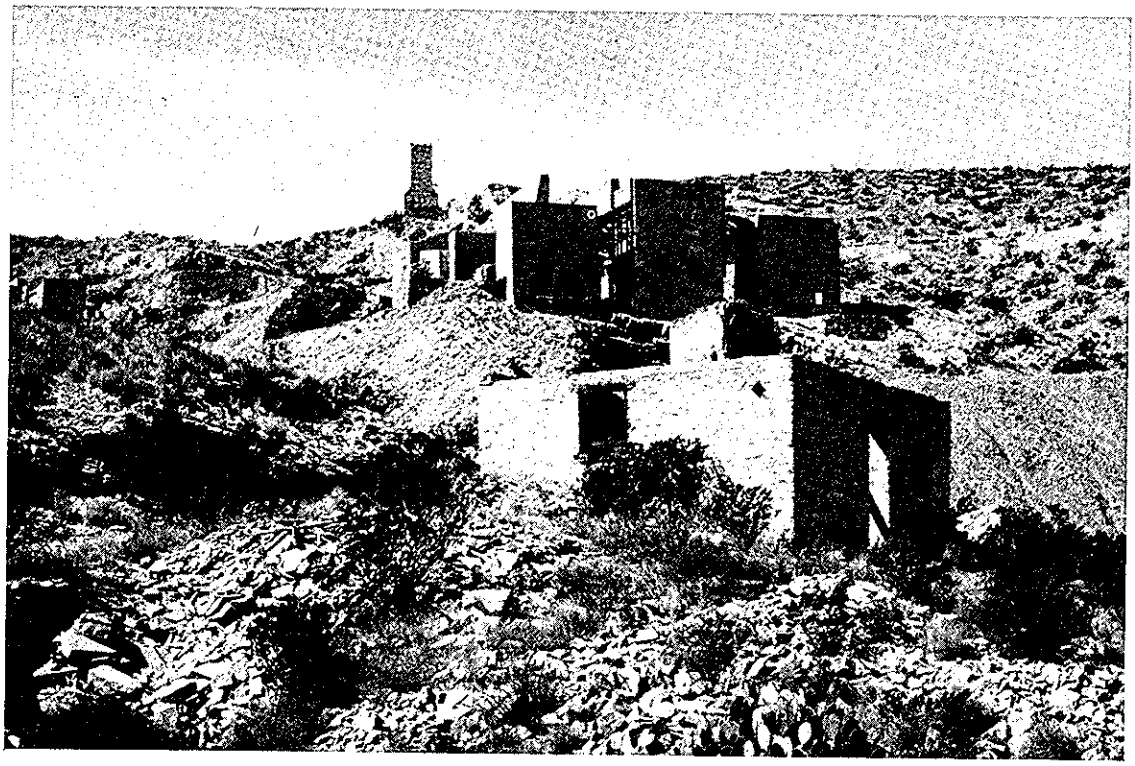
Ethnic Heritage: Alibates Flint Quarries National Monument in Texas and Pipestone National Monument in Minnesota offer examples of extractive technology and resource use by American Indians. American Indians worked in the California gold fields, Arizona copper mines, and Alaskan mines. Spanish and Mexican mining predates American mining in the Southwest; Mexican-Americans played an important role in the early development of mining in the former Spanish provinces. Immigration of ethnic groups from the mining regions of Europe and Latin America may be evident at mining properties. The gold mining districts of the West attracted numerous Chinese laborers as well.

Exploration/Settlement: This area of significance applies to mining properties that represent exploration or early settlement. This includes properties associated with the prospecting, discovery, and development of a region. The gold rushes in California, the Rocky Mountains, and in Alaska a half century later are strongly associated with early settlement of their respective regions.

Invention: Mining properties may be related to the discovery of a new metallurgical process, the introduction of new machinery, or to the development of new methods of transport and power transmission. An example would be the long-distance power transmission plant at Telluride, Colorado.

Labor: Mining properties may be related to mine accidents, miners strikes, unions, and other aspects of labor history. The tragedy at Ludlow, Colorado, or the bloody mine wars of West Virginia are two examples of labor controversies.

Law: Mining properties may be related to the development of mineral law or to localities connected with significant litigation which caused the reinterpretation of mineral law. For example, Nevada's history is closely associated with mining law, especially the evolving legal perspectives related to the Mining Law of 1872.



Mining properties such as the Mariscal Mine in Big Bend National Park in Texas may be eligible for listing in the National Register under Criterion D. The processing plant and the waste rock piles at the Mariscal Mine may yield significant information about mining technology. (David G. Battle)

Literature: Mining properties may be related to literary figures such as Mark Twain, Jack London, Bret Harte, Rex Beach, Mary Halleck Foote, and other writers who lived in Western mining camps and used their experiences as a basis for their writing. Many of the Muckrakers or mining critics wrote about frauds in the extractive industries or published accounts of mining safety problems. One such critical examination of mining appears in Upton Sinclair's *King Coal*..

Military: Mining properties may be related to military intervention during miners strikes, military efforts to protect miners working in dangerous frontier conditions, and military expeditions which acted to stimulate interest in a particular area's mineral resources.

Politics/Government: Mining properties may be related to the development of mining districts or miners' meetings held to formulate laws for a district. Other properties with associations to the politics/government area may be related either to political debates over federal regulations, like the silver issue of the 1870s-1890s, or to the political aspirations of such individuals as the Western bonanza kings. These bonanza kings include California's George Hearst, Colorado's Simon Guggenheim, Montana's William A. Clark, Nevada's James G. Fair, and others who used their mining wealth for political ends.

Science: Mining properties may be related to important developments in geology, metallurgy, and other aspects of mining engineering. For example, early geologist Douglass Houghton and scientist Charles T. Jackson aided in the description and development of Midwest mineral deposits.

Social History: Mining properties may be related to corporate efforts to protect the well-being of workers through the construction of company hospitals and libraries, sponsorship of humanitarian endeavors, and other aspects of social history.

CRITERION B

Under Criterion B (association with "persons significant in our past") a mining property will possess significance if directly related to a historically significant person. Examples would include properties linked to the following aspects of a person's historical significance: Herbert Hoover's mine engineering career before he entered politics, financier Bernard Baruch's rise to power through mine speculation dealings, General Sherman's early years as a California gold dealer, or bonanza king Horace Tabor's association with the Matchless mine in Leadville, Colorado. Applicable themes under Criterion B may include exploration/settlement, invention, law, literature, politics/government, and labor. (For additional information about Criterion B, see *National Register Bulletin 32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons.)*

CRITERION C

Under Criterion C, a mining property possesses significance if it embodies "the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction." Mining properties are often eligible for National Register listing within the following categories:

Architecture: Mining properties have an architecture of their own, especially the industrial complexes of mills, hoist houses, and smelters. Innovations in the use of metal and concrete have received broad application in the realm of mining. The multitude of gables and roof slopes has inspired other architectural developments. Noteworthy vernacular architecture is sometimes evident in mine buildings constructed by particular ethnic groups, such as the Cornish influence seen in Central City, Colorado.

Engineering: The field of mining engineering and its derivatives, such as metallurgical engineering, witnessed tremendous progress in the last century and a half. Mining properties often provide excellent illustrations of the changes in methods of mining technology over time. The work of master engineers, such as Daniel Jackling's design for the open pit at Bingham Canyon, Utah, have significance based on their design and engineering innovation.

CRITERION D

Under Criterion D, a mining property is significant if it contains information important in prehistory or history. Eligible resources which may provide such information include standing buildings or structures; surviving machinery; landforms such as mill tailings or mine waste rock dumps; or less visible physical remains such as privy pits, trash dumps, prospect pits, collapsed headframes, building foundations, roads, and machine pads or anchor piers. Application of Criterion D to mining properties requires the development of a good research design that not only identifies the research questions that are important to mining-related scholarship or science but also the information that is needed to answer the research questions. The information value of what remains can be evaluated within a systematic framework based on the following: developing research questions, identifying data requirements, and assessing the property's information content.

Research Questions

The research questions used under Criterion D should be important and derived from a scholarly field, or combination of scholarly fields, such as history of technology, historical archeology, archeology, anthropology, geography, architectural history, or landscape architecture. Among others, questions about variability and change in mining technology, mining society and culture, and mining landscapes should be considered. The conditions under which innovations in mining technology take place and are accepted or rejected (e.g., Basalla 1988), for example, or the impact of changes in mining technology upon the workplace (e.g., Dix 1988, Lankton 1991) are likely to be important. Similarly, questions about community formation (e.g., Hogan 1990), the miner's domestic household, the spatial organization of mining settlements, the production and consumption of commodities in the mining frontier marketplace, ethnicity and ethnic relations, gender, and social structure are likely to be important to scholarship on mining society and culture. And yet another group of questions that may be important to the application of Criterion D have to do with the characteristics and evolution of mining landscapes (Francaviglia 1992).

Identifying Data Requirements

"Critical information" assessment is the next step in Criterion D evaluation. The type of information needed to answer each of the questions identified in the research design must be stipulated. Questions about mining technology, for example, might require information about variability and change in architectural arrangements, the spatial arrangement of work-related activities,

the arrangement and type of machinery, and landforms. Similarly, the information needed to answer questions about the mining frontier marketplace may include the consumer behavior of a miner's domestic household, retail and wholesale store inventories, transportation costs, and factory production.

Field Assessment of Information Content

The last step in evaluating the significance of a mine under Criterion D is field assessment. How does one know that a property contains critical information? First of all, it is necessary to make an inventory of what remains at the property that can provide information. The remains containing information may be buried or visible on the surface and may take the form of isolated artifacts, archeological features such as trash dumps or privy pits or wells, standing buildings and structures, machinery, or landforms such as mill tailings or mine waste rock dumps. Next, assess the quantity and quality of information contained in the remains at the property. Domestic trash dumps, for example, often contain artifacts carrying information about the consumer behavior of domestic households, household organization, gender, ethnicity, and social structure.

CRITERIA CONSIDERATIONS

Ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; and properties that have achieved significance within the past 50 years *shall not be considered eligible* for the National Register. However, such properties *will qualify* if they are integral parts of districts that meet the criteria or if they fall within the following categories:

A. a religious property deriving primary significance from architectural or artistic distinction or historical importance; or

B. a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

C. a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his or her productive life; or

D. a cemetery which derives its primary significance from graves of persons of transcendent importance, from distinctive design features, or from association with historic events; or

E. a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

F. a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historical significance; or

G. a property achieving significance within the past 50 years if it is of exceptional importance.

Examples of historic mining properties that generally will not qualify for listing in the National Register include mining resources that are less than fifty years old, reconstructed mining towns that provide a contemporary portrayal of the frontier mining era, and collections of mining artifacts removed from their original locations and placed in museum collections. However, some of these properties may qualify for the National Register when they fall within categories A through G listed above. Examples include the following:

Moved Properties—Relocated properties generally do not qualify for the National Register. Under ordinary circumstances, this requirement places few constraints on the nomination of mining resources since they are not inherently moveable. However, certain components of mining properties are subject to relocation. For example, a shack used to store blasting powder may be small enough to have been moved from an inactive mining property to an active one. In addition, all manner of mining equipment is portable. Such equipment, classified as objects for National Register nomination purposes, would include ore carts, stamp mill batteries, drilling implements, tram cars, steam engines, water wheels, flotation tanks, and many other possibilities.

In general, if buildings, structures, or objects associated with mining activity are moved to other mining locations, these resources can be eligible as contributing features of a mining property provided that the most recent relocation occurred over fifty years ago. In addition, the moved resource must contribute to the significance of, and fall within the period of significance of, the mining property to which it was moved. If buildings, structures, and objects are more than fifty years old, but were moved less than fifty years ago, these resources will not contribute to the significance of the property. Although recently moved resources may not contribute to a property's significance, the mining property may still be eligible if it is predominately greater than fifty years old and retains integrity. Buildings, structures, and objects removed from their original locations and placed in museums for public display will not be eligible.

Resources Less than 50 Years Old—A historic mining resource achieving significance within the past 50 years can be listed in the National Register if it is exceptionally important. To qualify, a mining resource must be associated with important recent themes or developments (such as World War II) that scholarly or professional research has recognized as having a significant impact on the history of mining activity.

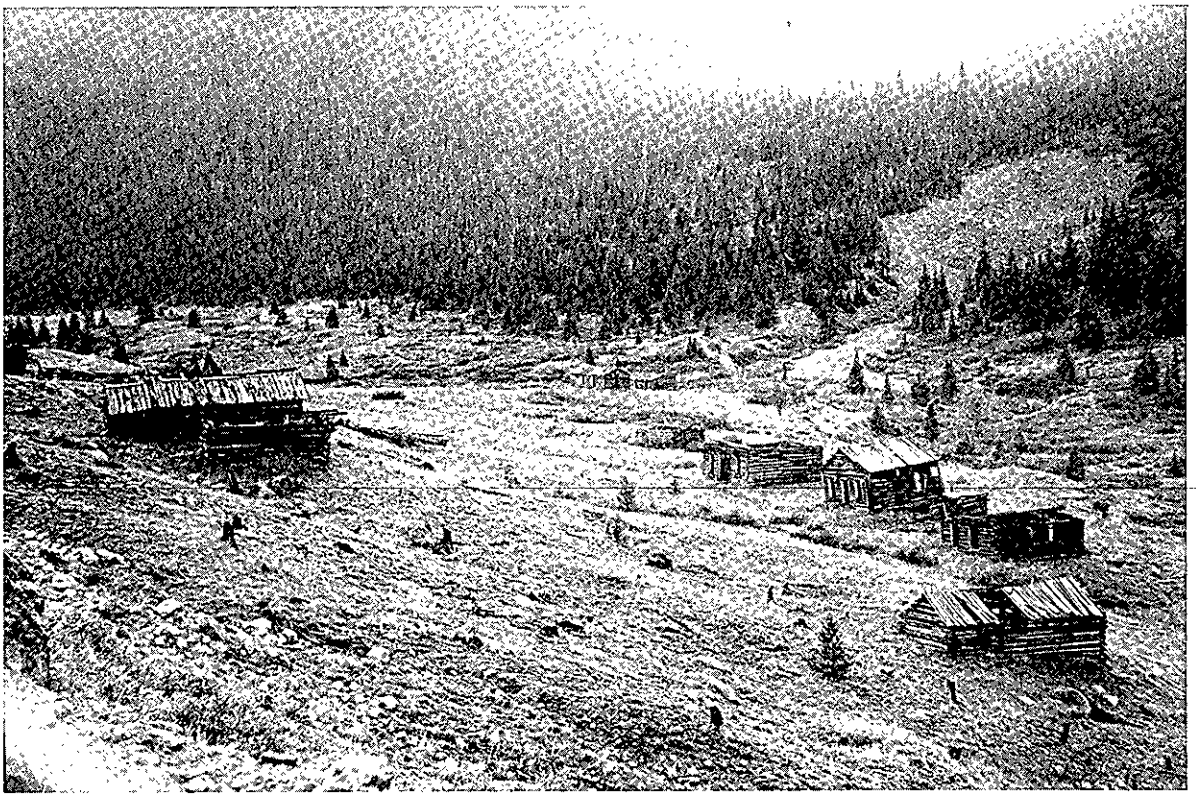
For example, certain less-than-50 year-old uranium mines may be eligible for the National Register. Congress created the Atomic Energy Commission (AEC) following the conclusion of World War II. Shortly afterwards, the AEC acted to stimulate uranium production by offering discovery and development bonuses. This practice fostered a uranium mining boom that continued until the bonus program experienced severe cutbacks in 1958. If sufficient scholarly documentation has been produced to demonstrate that particular uranium mines played exceptionally important roles in the development of the nation's nuclear capabilities, these mines may be eligible for listing in the National Register even though they are less than 50 years old. Establishing exceptional importance will require that such mines be compared with other uranium mines having similar associations and qualities in order to identify the strongest candidates for National Register listing.

INTEGRITY

Integrity is the ability of a property to convey its significance. To be listed in the National Register, a property must not only be shown to be significant under the criteria, but it also must have integrity. The National Register recognizes seven aspects or qualities that, in various combinations, define integrity. The seven aspects of integrity consist of the following: location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity, a property will always possess several, and usually most, of the aspects.

When assessing the integrity of a mining property, it is important to remember that the National Register will accept significant and distinguishable entities whose components may lack individual distinction. As discussed elsewhere in this bulletin, the passage of time, exposure to a harsh environment, abandonment, vandalism, and neglect often combine to cause the deterioration of individual mining property components. For example, buildings may have collapsed, machinery may have been removed, and railroad tracks may have been salvaged. However, the property may still exhibit a labyrinth of paths, roads, shaft openings, trash heaps, and fragments of industrial activity like standing headframes and large tailings piles. Although these individual components may appear to lack distinction, the combined impact of these separate components may enable the property to convey the collective image of a historically significant mining operation. In essence, the whole of this property will be greater than the sum of its parts. In such cases, a mining property may be judged to have integrity as a system even though individual components of the system have deteriorated over time.

Because most historic mining properties will be abandoned and in poor repair, special care must be taken when evaluating integrity. The integrity of a mining property can not be judged in the same fashion as the integrity of a building. In some cases, buildings and objects related to mining will have been relocated and many original construction materials will be gone. The following sections explain how the seven aspects of integrity relate to historic mining properties.



Numerous small mining camps sprang up during the boom years in the Mining West. Independence was founded during Colorado's silver rush, but was abandoned by 1900. Towns like Independence once dotted the West, but most have deteriorated because of neglect. In spite of its deterioration, Independence, and other mining properties like it, may retain integrity as a significant and distinguishable entity whose components lack individual distinction. (William E. Marshall)

LOCATION

Integrity of location means that a mine or mill remains in its original location. A place where mining once occurred is not inherently moveable, but components used to conduct mining or milling can be moved. Because machinery was often moved to several different mining properties during its lifespan, relocated historic mining equipment (i.e., equipment over fifty years old) can retain integrity under certain conditions. For example, 100-year-old mining equipment may have been moved to a newer mine that first went into operation seventy years ago. Although this equipment is not in its original location, it can contribute to the significance of the property since it has been in place for over fifty years.

In other cases, a mine may be historic (i.e., over fifty years old) and equipment at the mining location may be historic (i.e., over fifty years old), but the equipment may have been moved to the location less than fifty years ago. Historic equipment which has been at a mining property for less than fifty years will not contribute to a property's significance. However, this equipment will not necessarily detract from the property's integrity provided that the equipment generally serves to complement the setting.

Machinery moved explicitly for the purposes of display in a museum, park,

or other interpretive site completely divorced from the place of historic mining activity has lost integrity of location. Machinery moved to "artifact gardens" also lacks integrity.

DESIGN

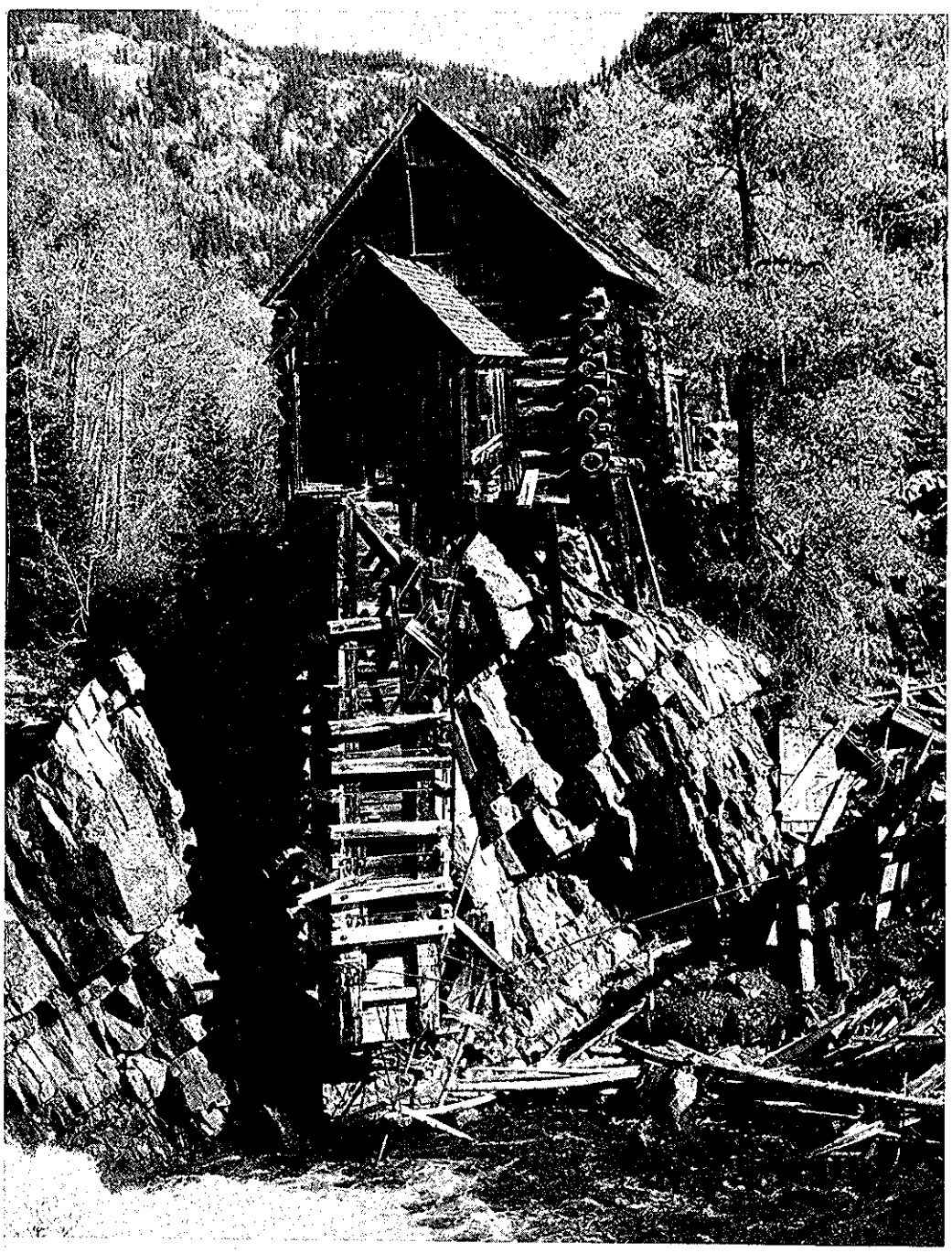
As mentioned earlier, mines and mills evolve through time with the introduction of new machinery or technology or the expansion of the mining operation. This evolution means that plants found in an unaltered state are rare. Thus, contemporary evaluation of a mill's integrity should not only be based on its conformance with an original construction plan, but also on its ability to illustrate the property's evolution through time. However, in cases where the property has undergone significant alterations during the past fifty years, the evolutionary process may result in a loss of integrity.

Mining operations were designed to follow established mine engineering practices that involved the flow of ore from the mine to the mill to the refinery. The engineering flow chart is essential in understanding the integrity of design. The lack of a minor feature in a system should not detract from its integrity, much in the same way that a missing cornice detail should not result in a loss of integrity for an entire house. However, the cumulative number of missing components must be taken into consideration.

When considering the cumulative loss of features, the evaluator must be sure to include buildings and machinery as well as the designed landscape, the moved earth, and piled stones or debris. For example, when evaluating a placer mine which has a historic hydraulic nozzle found in place but lacking any of the connecting system or evidence of canvas or metal pipes, take into consideration any earth works used to support the system. The pipe may be piled nearby to avoid being split by winter freeze or washed out by early spring flood. In this case, the hydraulic system may still have integrity of design because the machinery and earth works were found as they were meant to be in mid-winter.

Underground works were designed as part of the mine system and, under some conditions, may receive consideration when establishing integrity of design. However, the underground works may be inaccessible and need not be inspected for National Register integrity if the mine is unsafe. The majority of underground mines are extremely unstable and should never be entered unless a State mining inspection has certified their safety. Thus, design integrity will generally be limited to the ability to reconstruct the flow chart from the mine opening and beyond.

The original setting of the Crystal Plant near Marble, Colorado is an integral part of the significance of the property. (J. Heywood)



SETTING

Historic mines were industrial complexes that contained a multitude of functions. In many cases, the industrial features typical of a mining property are not pleasing to the eyes of contemporary viewers. For example, use of dredges may have left unsightly tailings piles that stretch for miles along stream beds. In other cases, a

historic mining area may be littered with abandoned machinery and dilapidated buildings and structures. The appearance created by these vestiges of bygone industrial activity represents important aspects of setting that can actually contribute to the integrity of a mining property.

Modern day instrusions can compromise the setting. Attempts to artificially empellish a mining property's setting can detract from the property's integrity. For example, the introduction of false-fronted boom-town structures can create an inappropriate setting that lacks historic authenticity. Other modern intrusions include recent mining activity that can compomise integrity of setting through the introduction of newer mass mining systems that destroy the historic mining property or leave it isolated. Also, recent settlement or development associated with gambling or other development initiatives in a historic mining location can have a negative impact on integrity of setting.

MATERIALS

Retaining integrity of materials requires evidence that sympathetic materials have been used during the course of previous repair or restoration of mining properties. Thus, a mine tramway with wooden supports should have been repaired with in-kind wooden materials. Because mine structures were often unpainted and expected to deteriorate, previous restoration efforts should have used untreated wood with the expectation that it would eventually need to be replaced too. However, inappropriate painting of mining properties will not automatically amount to a loss of integrity.

WORKMANSHIP

To the largest extent possible, mining properties should retain evidence of original workmanship. For example, the integrity of workmanship should be maintained in cases where an underground mine is open to the public. This would include preservation of such features as square-set timbering systems, the protection of pipe lines and track, and retaining the feel of the confined working space.

FEELING

As abandoned industrial properties generally located in isolated areas, the sites of historic mining activity often evoke a strong sense of feeling when viewed by contemporary observers. Since mineral resources are non-renewable, mines close when ore reserves are depleted. Structures and equipment are simply abandoned. The image of abandonment has attracted more popular attention than active industrial operations. The feeling of a deserted historic mine can help reflect the character of the boom and bust cycles of mining regions. The loss of this feeling of isolation and abandonment due to encroaching modern development can diminish the integrity of a mining property.

ASSOCIATION

Integrity of association will exist in cases where mine structures, machinery, and other visible features remain to convey a strong sense of connectedness between mining properties and a contemporary observer's ability to discern the historical activity which occurred at the location.

Three brief examples may help to summarize the process of applying integrity standards to mining properties. The first example involves those rare cases where a mining property consists of a complete mining system including shafts, transportation facilities, extant mill buildings, worker housing, and other aspects of the overall system. In such cases, the property would have integrity.

In the second, more typical, example, a mining property would lack visible buildings or contain only buildings that had been altered extensively. However, the property would have associated features like mine shafts, headframes, tramways, house and mill foundations, tailings piles, trash dumps, cemeteries, privies, and other isolated objects. Although buildings may be lacking or in a deteriorated state, this property would have integrity as long as key aspects of the mining system remain visible.

In a third case, visible buildings might remain extant, but the buildings may have been totally altered and the fundamental components of the mining system may have been destroyed by modern development. This property would have lost integrity.

The important principle inherent in each of these three examples is that the integrity of mining properties will frequently hinge not so much on the condition of the extent buildings, but rather on the degree to which the overall mining system remains intact and visible. This method of evaluating integrity requires a holistic outlook that comprehensively considers all the component parts of a **mining system**. If clear physical evidence of a complete system remains intact, deterioration of individual aspects of the system may not eliminate the overall integrity of the resource.

V. DOCUMENTATION AND REGISTRATION

National Register Bulletins 16A and *16B* contain specific instructions for completing individual and multiple property nominations. The following discussion will focus on special considerations related to the nomination of mining properties. This discussion begins with a brief overview of the different nomination formats and the circumstances under which one format may be employed instead of another.

The National Register lists individual properties, including districts, sites, buildings, structures, and objects. Multiple property submissions contain groups of properties, which are related by common historical associations or physical characteristics and which are nominated under a single "cover document."

The National Register Registration Form (NPS Form 10-900) should be used for the nomination of individual districts, sites, buildings, structures, and objects related to mining. This format is used in situations involving the nomination of an individual standing structure or building such as a single powder shack, mill, or headframe. However, individual mining resources generally do not exist in isolation. Based on the premise that individual mining resources will usually serve as single elements of larger mining systems, only a relatively small percentage of mining resources will be nominated as individual buildings or structures.

Given the prevalence of mining systems, the historic district is a common framework for nominating a concentrated assemblage of related mining resources to the National Register. The National Register defines a district as follows: "A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development." This definition aptly describes many mining properties. Most potentially eligible mining properties do not consist only of a single resource, but rather will include a discrete historical area containing a grouping of functionally related resources that all played a part in the extraction, refinement, and production of minerals. Historic districts are nominated on the National Register Registration Form.

A discontiguous district may be relevant to the nomination of mining properties. A discontiguous district is composed of two or more definable significant areas separated by nonsignificant areas. According to *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* A discontiguous district is most appropriate where

- elements are spatially discrete;
- space between the elements is not related to the significance of the district; and
- visual continuity is not a factor in the significance."

These three factors could apply to many mining properties. Given the large-scale nature of certain mining activities, elements of many mining systems will be separated by spaces unrelated to the significance of the district. Among many possibilities, discontiguous districts may be most appropriate for the nomination of mining properties involving linear systems like tramways, ditches, and flumes. Ditch and flume systems, for example, may have periodically terminated by dumping water into streams. Water may then be diverted back into the same system several miles downstream. In this case, the stream itself may not be included in the district, but the ditches and flumes would be elements of a discontiguous system.

In another example, an aerial tramway originally built to transport cooper ore to a smelter several miles away might be nominated as a discontiguous district containing both the tramway and the smelter. Although first built as a linear system, many elements of the system may have lost integrity today. All the tram towers may have been removed and the entire tram route may be covered with forest growth not present during the period of historic significance. However, the copper mine, the smelter, and several tram tower pads may remain clearly visible today. These elements of the original tram system could be nominated as a discontiguous district. A discontiguous district is nominated on a National Register Registration Form.

The Multiple Property Documentation Form (NPS Form 10-900-b) is used to document a group of significant properties linked by a common historic context. The Multiple Property Documentation Form is not used to nominate properties, but provides a historical overview, defines property types related to the overview, and outlines the significance and registration requirements for the property types. Individual properties associated with the historic context are nominated on a National Register Registration Form. An example might involve several gold mines dispersed across a given county, all of which produced ore for refinement at a mill located some distance away from each of the mines. The historic significance of the mines and the mill could be outlined in a historic context titled "Gold Production in Grand County, 1874-1893." In terms of property types, all the mines can be classified as an extraction property type and the mill could be categorized as a beneficiation property type. The registration requirements for property types establish a benchmark for defining eligibility for listing.

The historic context documentation pertaining to "Gold Production in Grand County" and related property type information is included on the Multiple Property Documentation Form. Within the multiple property

framework, separate nominations for each of the individual mines, the mill, and any historic districts must be prepared using registration forms (NPS Form 10-900). The advantage of this approach is that one "cover document" can be used to expedite the documentation and nomination of a number of separate properties.

Because mining properties are often large and complex resource types, several historic contexts may be required to convey the overall significance of a mining property. However, nominations can be submitted before all associated historic contexts have been documented. Once a single historic context has been documented on a Multiple Property Documentation Form, related property nominations can be prepared and are submitted to the National Register. When other historic contexts are documented and property nominations completed, these can be submitted to the National Register at a later date as amendments to the original Multiple Property Documentation Form. Thus, the multiple property format offers a flexible mechanism for nominating groups of mining properties over a period of time.

Situations will arise where individuals involved in the preparation of nominations will ask whether a historic district nomination is most appropriate for a given mining property or whether a multiple property nomination ought to be undertaken. A multiple property submission will usually be appropriate in cases where separate mining resources are related by a common historic context or theme, but are spatially separate. An example would involve several mine properties associated with a mill where all the ore within a mining region was brought for refinement. In spite of the obvious historic association between the mines and the mill, it may be that the transportation systems leading from the mines to the mill have lost their historic identity over the years. Another possible scenario would involve a case where the same hypothetical mill is located so far away from the mining property that creating a historic district is not justified. In these situations, nominators should adopt the multiple property format.

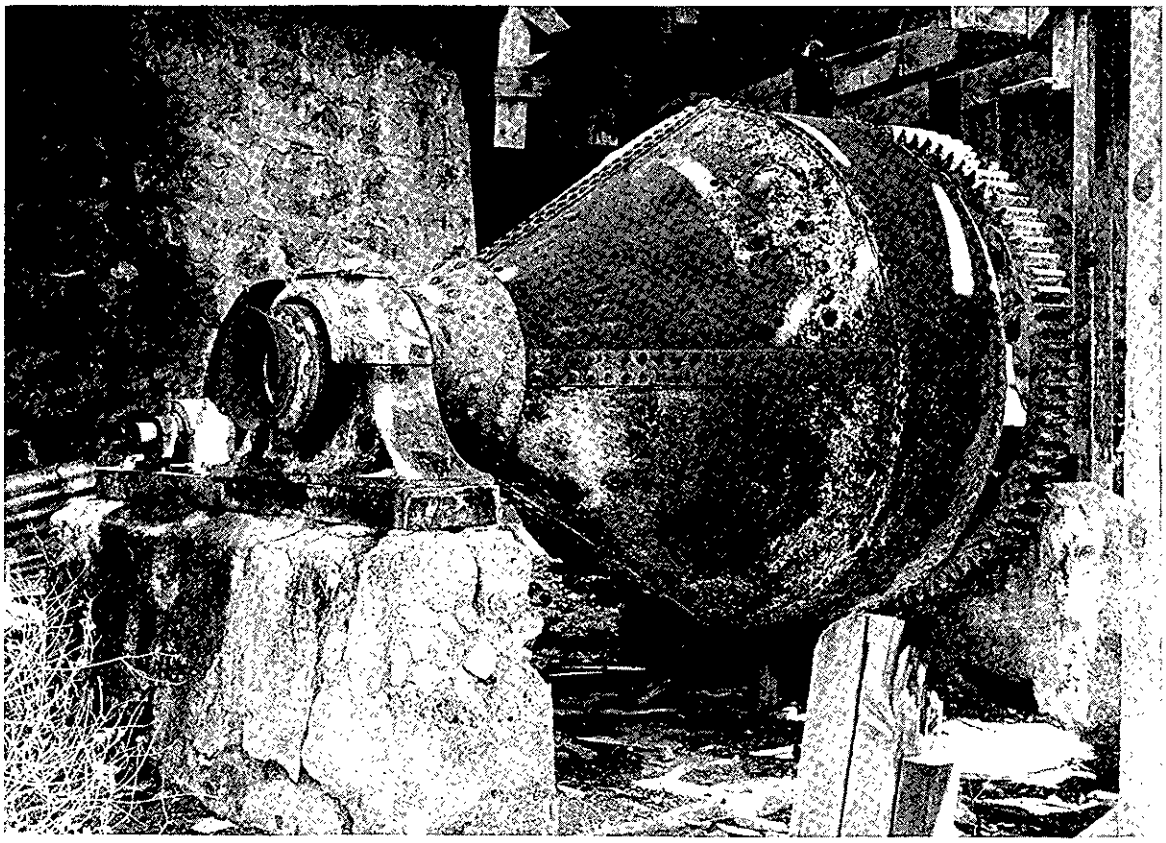
A district nomination generally will be appropriate in cases where all of the elements of an intact mining system are located within a contiguous geographic area. The size of such an area might vary from a small parcel of less than one acre, which includes a few buildings and a mine shaft opening, to a broad expanse extending over a thousand acres and including mines, mills, tramways, flumes, roads and other related pieces of machinery and equipment. In addition, all the elements of the district must retain their historic associations with one another.

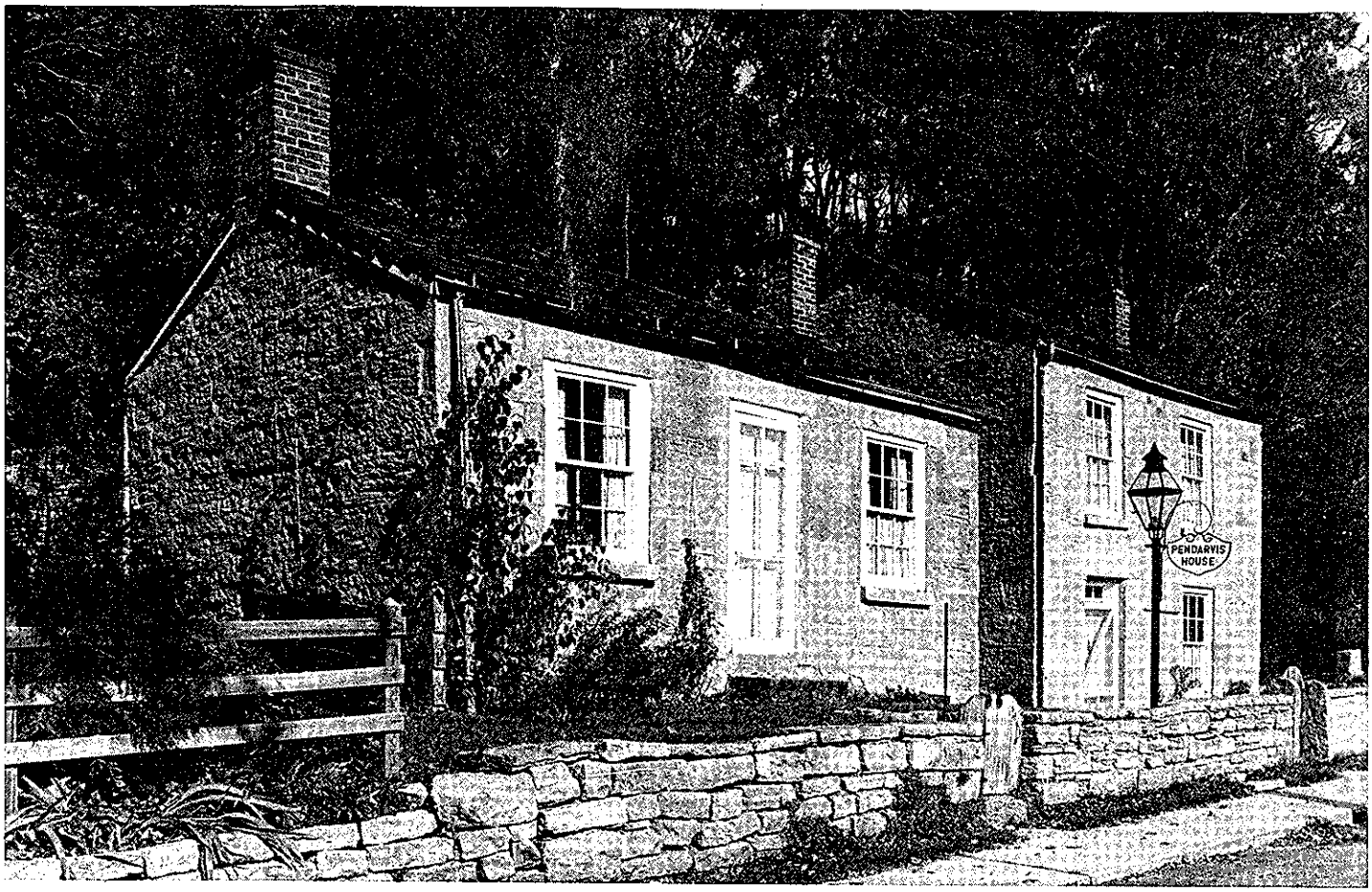
Whether preparing individual property nominations or multiple property nominations, the National Register Registration Form plays a role. Several sections of the registration form are of particular importance when nominating mining properties. These sections include #7 (description), #8 (significance), and #10 (boundaries). Each of these elements of the individual form will now be examined in greater detail.

SECTION 7: DESCRIPTION

The description section of an individual registration form should begin with an introductory paragraph that briefly describes the property, notes its major physical characteristics, and assesses its physical integrity. Additional paragraphs should support the introductory paragraph and provide a more detailed description of the property. This additional material should

As a potential source of information about technological innovation, mining machinery should be discussed in the description section of a National Register nomination. This ball mill at the Socorro Mines in Catron County, New Mexico was used in the cyanide processing of ore. (Chris Wilson)





During the nineteenth century immigrants from mining regions throughout the world arrived in the new mining fields of America. Among these immigrant groups were the Cornish, who used their homeland building techniques to establish communities such as the upper Mississippi River lead district town of Mineral Point, Wisconsin, shown here. Ethnic group contributions to the development of a mining area should be described in the significance section of a nomination. (State Historical Society of Wisconsin)

also discuss the property's historic and current condition, and identify and date of any alterations, additions, or other changes that have affected the historic evolution and integrity of the property.

Other specific issues that should be addressed in describing mining properties will include discussion of the following:

- Natural features that contributed to the original decision to conduct mining activity in the area.

- Any landscape modifications associated with historic mining activity (i.e., tailings piles, gob piles, etc.).

- Deterioration due to vandalism, neglect, lack of use, or severe weather, and the effect it has had on the property's historic integrity.

- Original and other historic machinery still in place.

- Linear systems within the property such as canals, ditches, railroads, railroad beds, roads, and tramways including their approximate length and width and the location of terminal points.

If the mining property is nominated as a historic district, the description section also should discuss whether or not all the individual components of the resource contribute to the significance of the historic district. In determining whether district resources are contributing or noncontributing, consider specific information about each resource including its period of significance, function, association, information potential, and physical characteristics. All resources should be keyed as contributing or noncontributing on a sketch map submitted with the form.

SECTION 8: SIGNIFICANCE

The statement of significance should begin with a paragraph summarizing the significance of the mining property. This paragraph should explicitly discuss how the property meets the National Register criteria, including the criteria considerations, and how it represents all periods and areas of significance indicated on the form. The opening paragraph should be followed by a discussion of the property's historic context. Additional facts directly pertaining to the property's eligibility may be included to establish a property's significance, integrity, or ability to meet one or more criteria considerations.

Questions tend to arise about the required length of the historic context

documentation. In general, the National Register does not mandate that a particular amount of documentation should accompany each nomination. Sufficient information should be provided to justify the significance and eligibility of the nominated properties. However, the length of the context statement will vary depending upon the nomination format.

The multiple property format requires that historic context material be included in the multiple property documentation form. This means that individual nominations submitted as part of a multiple property package need only include a description, a brief historic context statement pertinent to that property, and an indication of how the nominated resource meets the registration requirements established for measuring the significance of the property type. However, properties nominated without a multiple property cover form will have to contain sufficient context information within the nomination to support registration.

When explaining the significance of mining properties, the following types of questions should be addressed:

- How do the extant vestiges of mining functions or processes relate to the broader mining or technological development of the locality, region, State, or nation?

- How important were the entrepreneurs, engineers, laborers, ethnic groups, and others who contributed to the development of the mining operation?

- How do the remaining buildings, structures, sites, objects, and historic districts reflect significant mining production processes?

- How did the mining operation(s) impact or influence other activities within a region or locale, such as exploration, settlement, and/or other commercial development-related activities?

- How is evidence of historic mining activity reflected in the archeological record?

SECTION 10: BOUNDARIES

All mining property boundaries should be plotted on USGS topographic maps. These maps will be included with the nomination documentation. Because of the complexity of many mining properties, a separate sketch map (preferably drawn to a scale of 1 inch equals 200 feet) may help to clearly identify both the boundaries and the resources within those boundaries. Resources within sketch map boundaries should be labeled as contributing or non-contributing. These resources should also be cross-referenced to the description section (Section 7) of the nomination.

Mining property boundaries should be selected to encompass, but not exceed, the full extent of the resources making up the property. Boundaries for a single parcel of land should encompass the significant concentration of buildings, sites, structures, or objects which comprise the mining property. Byproducts of mining activity, such as tailings piles, should be included within property boundaries.

In nominations involving discontiguous historic districts, a separate boundary should encompass each discontiguous element of the district. Each discontiguous element should be plotted on a USGS map, even though several maps may sometimes have to accompany the nomination. If necessary, separate sketch maps may be submitted for each discontiguous element.

In some instances, legally recorded mineral patent applications will help to determine the appropriate boundaries for a mining property. Such material can help to develop verbal boundary descriptions and to accurately plot the location of mining properties on the USGS maps that must accompany each National Register nomination. If available, these patent applications may be found in county courthouses, state geological offices, or in Bureau of Land Management offices.

The above-ground portion of a mining property will often be considerably smaller than portions of the property located beneath the surface of the earth. Because of the potential dangers involved, field investigators should not attempt to verify this fact by exploring underground mines. Underground investigation should only be attempted in those very rare cases when a State mining inspector has certified that a mine is safe to enter. As a general rule, however, exploration of underground mines should be avoided.

In some cases, written records may contain information about the extent of an underground mine. If so, this knowledge should be utilized when determining the above-ground boundaries of the property. Such information should be used to define above-ground boundaries that encompass the extent of the underground reaches of the mine. This will help to protect the full extent of the mining property by assuring that development projects only occur outside the property boundaries. In addition, such measures will help to ensure that new development does not take place in areas where ground subsidence is likely to occur. In many cases, however, boundaries will relate only to the mining resources visible on the surface of the ground.

VI. SELECTED BIBLIOGRAPHY

SAMPLE PERIODICALS AND JOURNALS

The following are examples of periodicals and journals that were in print during the ninteenth and early twentieth centuries that discuss events, technology, and personalities involved with mining during that era. This list is by no means exhaustive, but will provide general guidance to researchers. The periodical and journal titles are commonly used but may have changed over time.

Coal Age; Engineering and Mining Journal, New York City; *Mining and Scientific Press*, San Francisco; *Los Angeles Mining Review; Iron Age*, Radnor, Pennsylvania; *Black Hills Mining Review*, Deadwood, South Dakota; *Mining Reporter*, Denver; *Salt Lake Mining Review*, Salt Lake City; *The School of Mines Quarterly*, New York City; *Transactions of the American Institute of Mining Engineers*, New York City.

BOOKS

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VII. GLOSSARY

This glossary provides a quick overview of terms used in the text. For a comprehensive glossary of mining terms see Albert H. Fay, *A Glossary of the Mining and Mineral Industry*, U.S. Bureau of Mines Bulletin 95, Washington, D.C.: Government Printing Office, 1920 edition and Paul W. Thrush, comp., *A Dictionary of Mining, Minerals and Related Terms*, US Bureau of Mines, Special Publication, Washington, D.C.: Government Printing Office, 1968.

Adit: A horizontal passage driven from the surface for working or unwatering a mine.

Amalgamation: The process of bringing particles of free gold or silver in contact with mercury. The most common practice was to pass a slurry of crushed gold ore over large copper plates that had been coated with mercury or, in the case of silver, mix a slurry of crushed silver ore in metal pans containing mercury.

Arrastra: A primitive mill using a circular path of cobblestones with retaining walls on either side. Heavy drag stones were drug over the mixture of ore and mercury using a horse, water wheel, or steam for power. As the ore was crushed the free gold was amalgamated. The amalgam was dug from between the cobblestones.

Assay: The content, type, or quality of metal in an ore was tested or "assayed" by an experienced assayer using various methods including fire assay or acid tests. Assay offices often purified precious metals prior to shipment to the mint.

Base Metal: Copper, lead, zinc, and other common industrial metals.

Beneficiation: The initial process of upgrading ore.

Blast Furnace: An upright shaft furnace in which solid fuel was burned with an air blast to melt the ore and fluxes, and obtain a separation between the metal and the slag.

Bucket: In mining, an enlarged metal or wooden bucket used to haul matter out of a mine shaft. Sometimes used to carry miners.

Breaker: A machine used to break coal, particularly anthracite, prior to shipment. In time, the entire surface crushing and separating plant at an anthracite coal mine was called a breaker.

Cage: A vehicle riding on guides in the shaft, that was moved up and down by the hoisting engine, and was used for hauling men, supplies, and ore.

Coke: The product obtained from fixed carbon and incombustible material after strongly heating bituminous coal out of contact with air, and driving off the volatile constituents.

Concentrator/Concentration: A device or process for reducing the values in an ore into a smaller bulk in order to diminish the expense of shipping and further treatment. Sluicing of placer ground was the earliest form. Hand-sorting of ore to obtain a higher grade was probably the most commonly used. In concentrating mills the ore was crushed, screened to the proper size, and then passed over vibrating tables to separate the heavier metals from the gangue. Concentrator was the name given to the surface plants which concentrated ore into a concentrate prior to shipment to smelters.

Cornish Steam Pump: A very early mine pump that was invented by Watt for the Cornish tin mines in England. The pump consisted of a steam engine that operated a walking beam. The other end of the beam was connected to a wooden timber that extended to the bottom of the shaft. The end of the timber was connected to a piston with check valves so the water was lifted on top of the piston. If the shaft was greater than 300 feet deep, an additional pump had to be installed, and the water in the lower section was pumped up into a sump. The top section then pumped the water from the sump to the surface. Additional walking beams were installed to act as counterweights to overcome the weight of the timber and the water column.

Cyanide Process/Cyanidation: The dissolving of gold and silver by the use of a solution of alkaline cyanide. The process was invented in Scotland in 1887, first successfully used in South Africa and New Zealand in 1890, and in the United States at Mercur, Utah in 1892. The practice consisted of fine grinding of the entire tonnage in a roller, tube, rod, or ball mill. The crushed ore passed to leaching tanks. A solution of sodium or potassium cyanide was placed in the tank with the ore. The ore then gave up the silver or gold mineral into the solution. The gold was retrieved in zinc boxes (or other methods of precipitation) where the precious metals were precipitated. The precipitate was smelted and refined into gold and silver bullion.

Dredge: A floating placer mine operation where buckets scooped up gravels that were then screened, sorted, and sluiced. Gold stayed onboard in the sluice boxes while waste gravels and sand were washed back into the creek or sent by conveyer to stacks in the creekbed behind. The dredge was developed in New Zealand in the 1880s and first successfully worked in the United States at the Bannack District, Montana in 1895.

Flotation: The separation of minerals from each other and from waste matter by inducing (through the use of reagents) relative differences in their abilities to float in a liquid medium. The process will separate all metallic sulphides or elemental metals. If necessary, differential flotation can be used on complex ores. In such an ore, each sulphide mineral, such as copper, lead, and zinc, can be separated from the others. First patented by Carrie Jane Everson of Denver on August 4, 1886, the process was ignored until perfected in Australia at the turn of the century. The first successful plants in the United States were at Butte where in 1911 the process was introduced at the Butte & Superior zinc-lead mine and at the Inspiration Copper Mine at Miami, Arizona in 1915.

Flume: An inclined channel, usually made of wood, for conveying water.

Grubstake: An agreement between the miner and a business owner whereby food, clothing, ammunition, and mining supplies would be furnished in exchange for a negotiated percent of return on the miner's earnings.

Headframe: A timber or steel structure over the shaft that supports the sheave and hoisting rope and is braced to withstand the pull of the hoisting engine.

Hoist: Any engine with a drum on which the hoisting rope is wound.

Hydraulic mining: The excavating of a bank of gold-bearing gravel by a jet of water that was discharged through a nozzle under great pressure. The nozzle was known as a "monitor" or a "giant." The gravel was carried away by the water and transported through sluices with riffles to catch the gold. Hydraulic mining was perfected in California by 1853.

Long Tom: An open box 12 feet long that is 15 inches wide at the upper end and 30 inches wide at the lower, or discharge, end. The lower end is closed, but has a screen in the bottom of the last two feet. The holes in the screen are one-half inch wide. Under the screen is another inclined box at least 36 inches wide and 6 feet long with riffles in the bottom. Both boxes are usually 12 inches deep. Water enters at the upper end and washes the gravel through the screen. The slurry drops into the lower box and the heavy metal is collected in the riffles.

Matte: The metallic mixture that results from smelting sulphide ores.

Mill tailing: See tailing.

Mine Face: The end of a tunnel, drift or exposed ore body.

Open cut; open pit: A method of mining the ore in which the workings are open to the surface.

Ore: The portion of a deposit containing valuable minerals that can be mined at a profit.

Ore bin: A metal or wooden structure used to store ore prior to shipment.

Placer mining: The extraction of heavy minerals from alluvial gravel by removing the detrital material with running water and trapping the values in riffles.

Precious metals: Usually designated as gold, silver, and platinum.

Prospect: A mineral property, the value of which has not been proven.

Raise: A vertical or inclined opening or passageway connecting one mine working area with another at a higher level.

Russell Process: A metallurgical process perfected in the mid-1880s at Park City, Utah for the extraction of silver via lixiviation.

Shaft: A vertical or steeply inclined access passage from the surface into a mine. It is usually sunk from the surface by mining in a downward direction. The interior is timbered so that each entity has its own passageway or compartment—cage, skip, manway, or pipe.

Sluice: A series of inclined troughs, each of which are about 12 feet long and 12 inches square, called sluice boxes. These were coupled together to form a continuous trough 24 to 72 feet long. Devices known as riffles were placed in the bottom of the sluice. As the gravel was washed through the trough, the heavier metals were retained by the riffles.

Smelting: The chemical reduction of a metal from its ore and certain fluxes by melting at high temperatures. The non-metallic material floated on top of the heavier metallic constituents in the molten state and remained in that position when it cooled and hardened.

Stamp Mill: The ore to be treated by amalgamation is usually ground in a stamp mill. A stamp consists of a vertical steel stem with an iron foot or shoe that is lifted by a cam and dropped onto previously crushed ore. Five stamps in a row are usually included in one battery.

In the case of gold ore, the discharge from the battery flows over amalgamating plates. These are copper plates usually about the width of the battery (approximately 5 feet) and 10 to 12 feet long. The copper sheets have a silver plating and are coated with a thin film of mercury which adheres to the silver. This allows them to catch the particles of gold. Silver ore passes from stamps to pans for amalgamation.

Stamp milling was developed in Europe during the Middle Ages and improved in California in the 1850s. The process was used throughout the precious metal mining regions of the United States until amalgamation was replaced by the cyanide process in the early twentieth century.

Stope: An opening in the underground workings of a mine from which ore is mined. The width and height of the stope are determined by the size of the ore body.

Strip Mine: See open cut; open pit.

Tailing: The gangue and other refuse material resulting from washing, concentrating, or treating ground ore that is discharged from a mill.

Timbering: The operation of setting timber supports in a mine.

Tipple: The tracks, trestles, and screens at a coal mine where the coal is processed and loaded.

Tramway: An established system of roads, rails, or cables over which ore is moved from the mine to the mill.

Waste Rock Dump: The uneconomical rock that was mined and disposed of in the vicinity of a mining operation.

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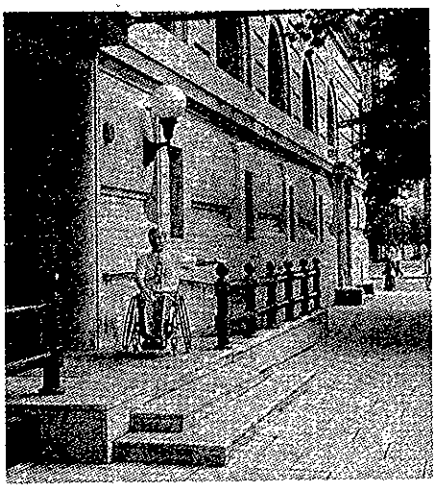
32 PRESERVATION BRIEFS



Making Historic Properties Accessible

Thomas C. Jester and Sharon C. Park, AIA

U.S. Department of the Interior
National Park Service
Cultural Resources

Heritage Preservation Services

Historically, most buildings and landscapes were not designed to be readily accessible for people with disabilities. In recent years, however, emphasis has been placed on preserving historically significant properties, and on making these properties—and the activities within them—more accessible to people with disabilities. With the passage of the Americans with Disabilities Act in 1990, access to properties open to the public is now a civil right.

This Preservation Brief introduces the complex issue of providing accessibility at historic properties, and underscores the need to balance accessibility and historic preservation. It provides guidance on making historic properties accessible while preserving their historic character; the Brief also provides examples to show that independent physical accessibility at historic properties can be achieved with careful planning, consultation, and sensitive design. While the Brief focuses primarily on making buildings and their sites accessible, it also includes a section on historic landscapes. The Brief will assist historic property owners, design professionals, and administrators in evaluating their historic properties so that the highest level of accessibility can be provided while minimizing changes to historic materials and features. Because many projects encompassing accessibility work are complex, it is advisable to consult with experts in the fields of historic preservation and accessibility before proceeding with permanent physical changes to historic properties.

Modifications to historic properties to increase accessibility may be as simple as a small, inexpensive ramp to overcome one entrance step, or may involve changes to exterior and interior features. The Brief does not provide a detailed explanation of local or State accessibility laws as they vary from jurisdiction to jurisdiction. A concise explanation of several federal accessibility laws is included on page 13.

Planning Accessibility Modifications

Historic properties are distinguished by features, materials, spaces, and spatial relationships that contribute to their historic character. Often these elements, such as steep terrain, monumental steps, narrow or heavy doors, decorative ornamental hardware, and narrow pathways and corridors, pose barriers to persons with disabilities, particularly to wheelchair users (See Figure 1).

A three-step approach is recommended to identify and implement accessibility modifications that will protect the integrity and historic character of historic properties:

1) Review the historical significance of the property and identify character-defining features;
2) Assess the property's existing and required level of accessibility; and
3) Evaluate accessibility options within a preservation context.

1) Review the Historical Significance of the Property

If the property has been designated as historic (properties that are listed in, or eligible for listing in the National Register of Historic Places, or designated under State or local law), the property's nomination file should be reviewed to learn about its significance. Local preservation commissions and State Historic Preservation Offices can usually provide

Figure 1. It is important to identify the materials, features, and spaces that should be preserved when planning accessibility modifications. These may include stairs, railings, doors, and door surrounds. Photo: National Park Service files.

copies of the nomination file and are also resources for additional information and assistance. Review of the written documentation should always be supplemented with a physical investigation to identify which character-defining features and spaces must be protected whenever any changes are anticipated. If the level of documentation for a property's significance is limited, it may be necessary to have a preservation professional identify specific historic features, materials, and spaces that should be protected.

For most historic properties, the construction materials, the form and style of the property, the principal elevations, the major architectural or landscape features, and the principal public spaces constitute some of the elements that should be preserved. Every effort should be made to minimize damage to the materials and features that convey a property's historical significance when making modifications for accessibility. Very small or highly significant properties that have never been altered may be extremely difficult to modify.

Secondary spaces and finishes and features that may be less important to the historic character should also be identified; these may generally be altered without jeopardizing the historical significance of a property. Non-significant spaces, secondary pathways, later additions, previously altered areas, utilitarian spaces, and service areas can usually be modified without threatening or destroying a property's historical significance.

2) Assess the Property's Existing and Required Level of Accessibility

A building survey or assessment will provide a thorough evaluation of a property's accessibility. Most surveys identify accessibility barriers in the following areas: building and site entrances; surface textures, widths and slopes of walkways; parking; grade changes; size, weight and configuration of doorways; interior corridors and path of travel restrictions; elevators; and public toilets and amenities (See Figure 2). Simple audits can be completed by property owners using readily available checklists (See Further Reading). Accessibility specialists can be hired to assess barriers in more complex properties, especially those with multiple buildings, steep terrain, or interpretive programs. Persons with disabilities can be particularly helpful in assessing specific barriers.

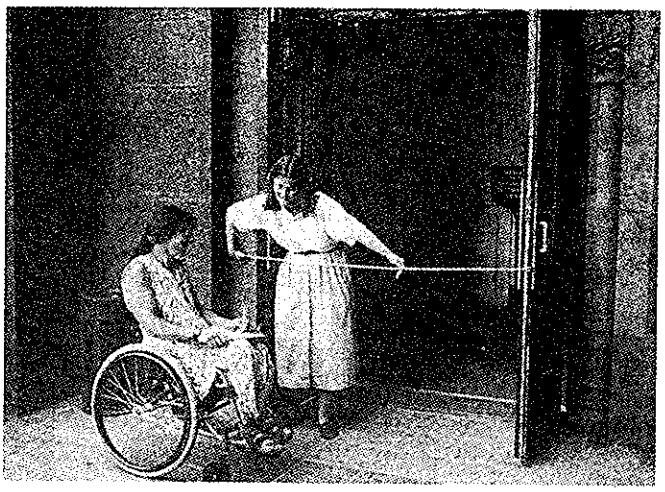


Figure 2. Surveys of historic properties can identify accessibility barriers. Persons with disabilities and accessibility consultants should participate whenever possible. Photo: Thomas Jester.

All applicable accessibility requirements—local codes, State codes and federal laws— should be reviewed carefully before undertaking any accessibility modification. Since many States and localities have their own accessibility regulations and codes (each with their own requirements for dimensions and technical requirements), owners should use the most stringent accessibility requirements when implementing modifications. The Americans with Disability Act Accessibility Guidelines (ADAAG) is the document that should be consulted when complying with the Americans with Disabilities Act (ADA) requirements.

3) Identify and Evaluate Accessibility Options within a Preservation Context

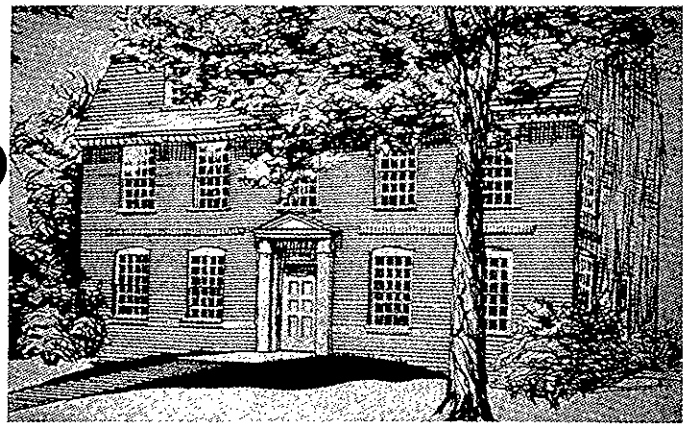
Once a property's significant materials and features have been identified, and existing and required levels of accessibility have been established, solutions can be developed (See Figure 3). Solutions should provide the greatest amount of accessibility without threatening or destroying those materials and features that make a property significant. Modifications may usually be phased over time as funds are available, and interim solutions can be considered until more permanent solutions are implemented. A team comprised of persons with disabilities, accessibility and historic preservation professionals, and building inspectors should be consulted as accessibility solutions are developed.

Modifications to improve accessibility should generally be based on the following priorities:

1) Making the main or a prominent public entrance and primary public spaces accessible, including a path to the entrance;
2) Providing access to goods, services, and programs;
3) Providing accessible restroom facilities; and,
4) Creating access to amenities and secondary spaces.

All proposed changes should be evaluated for conformance with the Secretary of the Interior's "Standards for the Treatment of Historic Properties," which were created for property owners to guide preservation work. These Standards stress the importance of retaining and protecting the materials and features that convey a property's historical significance. Thus, when new features are incorporated for accessibility, historic materials and features should be retained whenever possible. Accessibility modifications should be in scale with the historic property, visually compatible, and, whenever possible, reversible. Reversible means that if the new feature were removed at a later date, the essential form and integrity of the property would be unimpaired. The design of new features should also be differentiated from the design of the historic property so that the evolution of the property is evident. See Making Historic Buildings Accessible on page 9.

In general, when historic properties are altered, they should be made as accessible as possible. However, if an owner or a project team believes that certain modifications would threaten or destroy the significance of the property, the State Historic Preservation Officer should be consulted to determine whether or not any special accessibility provisions may be used. Special accessibility provisions for historic properties will vary depending on the applicable accessibility requirements.



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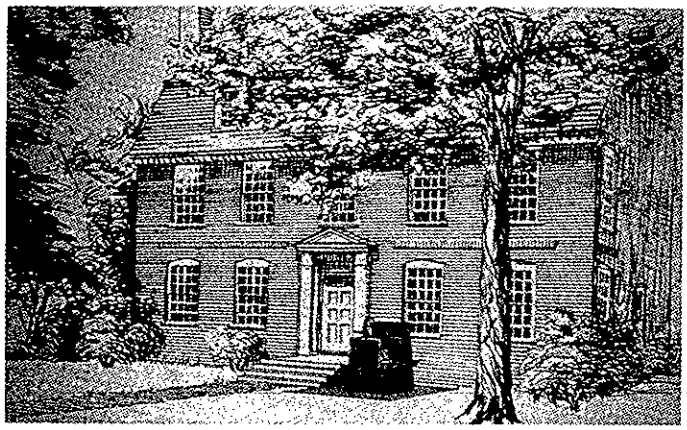

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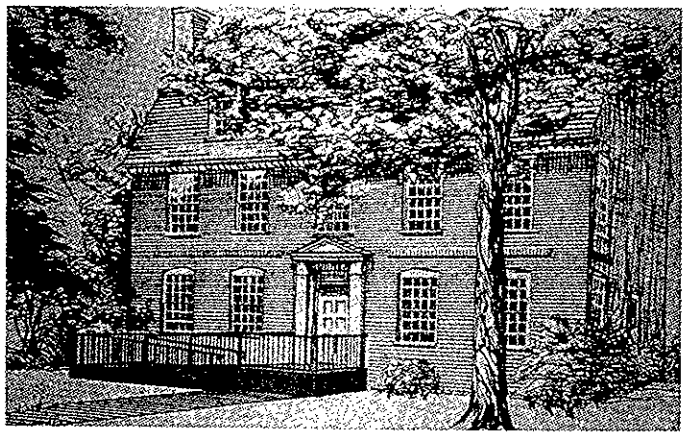


C.

Figure 3. Before implementing accessibility modifications, owners should consider the potential effect on their historic property. At the Derby House in Salem, Massachusetts, several solutions to make the entrance accessible were considered, including regrading (a); a lift (b); and a ramp (c). The solution, an entrance on a secondary elevation, preserves the building's architectural significance and is convenient to designated parking. Drawings: National Park Service Files..

In some cases, programmatic access may be the only option for extremely small or unaltered historic properties, such as a two-story house museum with no internal elevator. Programmatic access for historic properties refers to alternative methods of providing services, information, and experiences when physical access cannot be provided. It may mean offering an audio-visual program showing an inaccessible upper floor of a historic house museum, providing interpretive panels from a vista at an inaccessible terraced garden, or creating a tactile model of a historic monument for people with visual impairments.

Accessibility Solutions

The goal in selecting appropriate solutions for specific historic properties is to provide a high level of accessibility without compromising significant features or the overall character of the property. The following sections describe accessibility solutions and offer guidance on specific historic property components, namely the building site, entrances, interiors, landscapes, amenities, and new additions. Several solutions are discussed in each section, referencing dimensions and technical requirements from the ADA's accessibility guidelines, ADAAG. State and local requirements, however, may differ from the ADA requirements. Before making any modification owners should be aware of all applicable accessibility requirements.

The Building Site

An accessible route from a parking lot, sidewalk, and public street to the entrance of a historic building or facility is essential. An accessible route, to the maximum extent possible, should be the circulation route used by the general public. Critical elements of accessible routes are their widths, slopes, cross slopes, and surface texture. Each of these route elements must be appropriately designed so that the route can be used by everyone, including people with disabilities. The distance between the arrival and destination points should also be as short as possible. Sites containing designed landscapes should be carefully evaluated before making accessibility modifications. Historic landscapes are described in greater detail on pages 10 and 11.

Providing Convenient Parking. If parking is provided, it should be as convenient as possible for people with disabilities. Specially designated parking can often be created to improve accessibility (See Figure 4). Modifications to parking configurations and pathways should not alter significant landscape features.

Creating an Accessible Route. The route or path through a site to a historic building's entrance should be wide enough, generally at least 3 feet (91 cm), to accommodate visitors

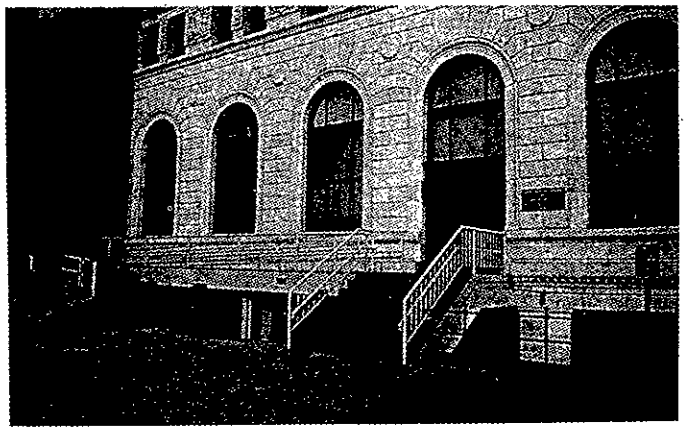


Figure 4. Parking designated for people with disabilities is provided near an accessible entrance to the Springfield Library in Springfield, Massachusetts. Photo: William Smith.

with disabilities and must be appropriately graded with a stable, firm, and slip-resistant surface. Existing paths should be modified to meet these requirements whenever possible as long as doing so would not threaten or destroy significant materials and features.

Existing surfaces can often be stabilized by providing a new base and resetting the paving materials, or by modifying the path surface. In some situations it may be appropriate to create a new path through an inaccessible area. At large properties, it may be possible to regrade a slope to less than 1:20 (5%), or to introduce one or more carefully planned ramps. Clear directional signs should mark the path from arrival to destination.

Entrances

Whenever possible, access to historic buildings should be through a primary public entrance. In historic buildings, if this cannot be achieved without permanent damage to character-defining features, at least one entrance used by the public should be made accessible. If the accessible entrance is not the primary public entrance, directional signs should direct visitors to the accessible entrance (See Figure 5). A rear or service entrance should be avoided as the only mean of entering a building.

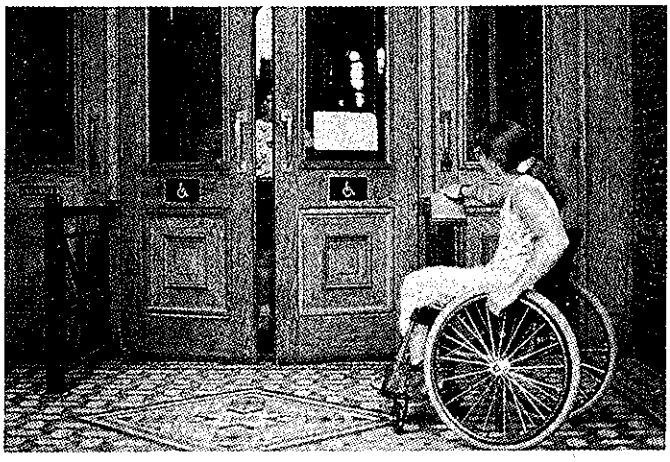


Figure 5. A universal access symbol clearly marks the Arts and Industries Building in Washington, D.C., and a push plate (right) engages the automatic door-opener. Photo: Thomas Jester.

Creating an accessible entrance usually involves overcoming a change in elevation. Steps, landings, doors, and thresholds, all part of the entrance, often pose barriers for persons with disabilities. To preserve the integrity of these features, a number of solutions are available to increase accessibility. Typical solutions include regrading, incorporating ramps, installing wheelchair lifts, creating new entrances, and modifying doors, hardware, and thresholds.

Regrading an Entrance. In some cases, when the entrance steps and landscape features are not highly significant, it may be possible to regrade to provide a smooth entrance into a building. If the existing steps are historic masonry, they should be buried, whenever possible, and not removed (See Figure 6).

Incorporating Ramps. Permanent ramps are perhaps the most common means to make an entrance accessible. As a new feature, ramps should be carefully designed and appropriately located to preserve a property's historic character (See Figure 7). Ramps should be located at public

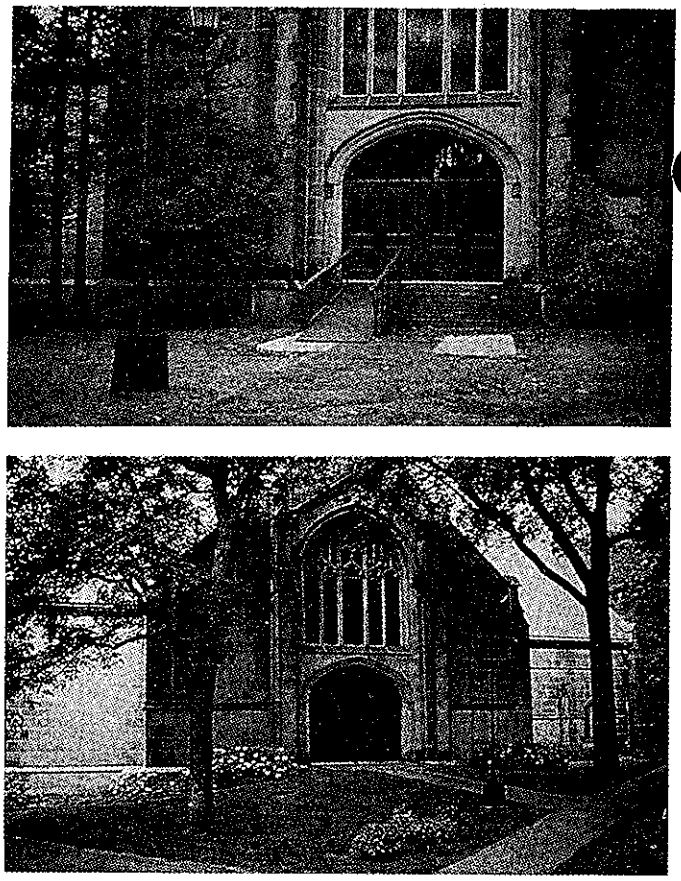


Figure 6. Entrances can be regraded to make a building accessible as long as no significant landscape features will be destroyed and as long as the building's historic character is preserved. The Houghton Chapel (a) in Wellesley, Massachusetts, was made accessible by regrading over the historic steps (b). Photos: Carol R. Johnson & Associates.

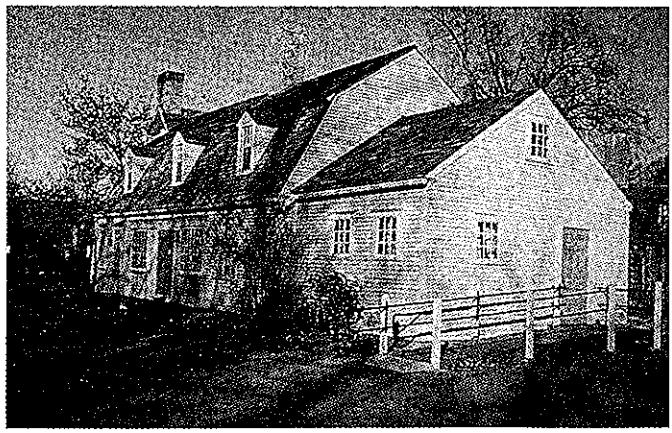


Figure 7. This ramp is convenient for visitors with disabilities and preserves the building's historic character. The design is also compatible in scale with the building. Photo: William Smith.

entrances used by everyone whenever possible, preferably where there is minimal change in grade. Ramps should also be located to minimize the loss of historic features at the connection points—porch railings, steps, and windows—and should preserve the overall historic setting and character of the property. Larger buildings may have below grade areas that can accommodate a ramp down to an entrance (See Figure 8). Below grade entrances can be considered if the ramp leads to a publicly used interior, such as an auditorium, or if the building is serviced by a public elevator. Ramps can often be incorporated behind

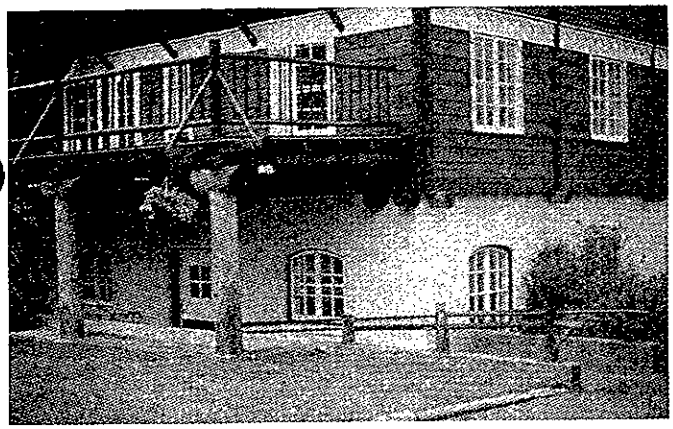


Figure 8. A new below-grade ramp provides access to Lake MacDonald Lodge in Glacier National Park. Photo: Thomas Jester

historic features, such as cheek-walls or railings, to minimize the visual effect (See Figure 9).

The steepest allowable slope for a ramp is usually 1:12 (8%), but gentler slopes should be used whenever possible to accommodate people with limited strength. Greater changes in elevation require larger and longer ramps to meet accessibility scoping provisions and may require an intermediate landing. Most codes allow a slightly steeper ramp for historic buildings to overcome one step.

Ramps can be faced with a variety of materials, including wood, brick, and stone. Often the type and quality of the materials determines how compatible a ramp design will be with a historic property (See Figure 10). Unpainted pressure-treated wood should not be used to construct ramps because it usually appears temporary and is not visually compatible with most historic properties. Railings

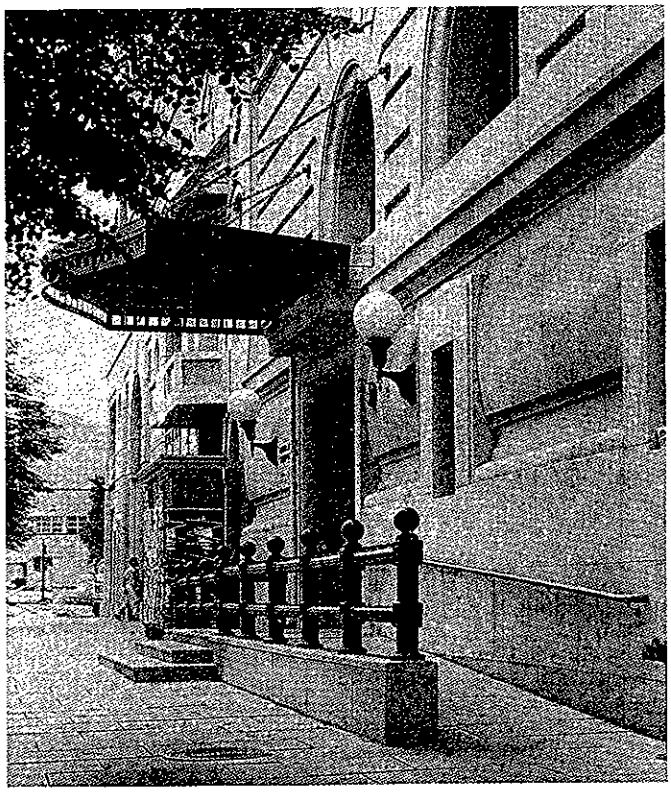


Figure 9. This ramp was created by infilling the window-well and slightly modifying the historic railing. The ramp preserves this building's historic character. Photo: Thomas Jester.

Figure 10. This brick ramp provides access to St. Anne's Episcopal Church in Annapolis, Maryland. Its design is compatible with the historic building. Photo: Charity V. Davidson.

should be simple in design, distinguishable from other historic features, and should extend one foot beyond the sloped area (See Figure 11).

Ramp landings must be large enough for wheelchair users, usually at least 5 feet by 5 feet (152.5 cm by 152.5 cm), and the top landing must be at the level of the door threshold. It may be possible to reset steps by creating a ramp to accommodate minor level changes and to meet the threshold without significantly altering a property's historic character. If a building's existing landing is not wide or deep enough to accommodate a ramp, it may be

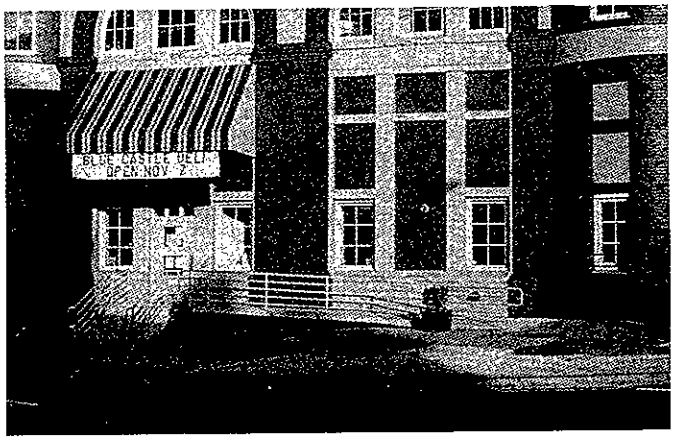


Figure 11. Simple, contemporary railings that extend beyond the ramp slope make this ramp compatible with the industrial character of this building. Photo: Thomas Jester.

necessary to modify the entry to create a wider landing. Long ramps, such as switchbacks, require intermediate landings, and all ramps should be detailed with an appropriate edge and railing for wheelchair users and visually impaired individuals.

Temporary or portable ramps are usually constructed of light-weight materials and, thus, are rarely safe or visually compatible with historic properties. Moreover, portable ramps are often stored until needed and, therefore, do not meet accessibility requirements for independent access. Temporary and portable ramps, however, may be an acceptable interim solution to improve accessibility until a permanent solution can be implemented (See Figure 12).

Figure 12. The Smithsonian Institution installed a temporary ramp on its visitor's center to allow adequate time to design an appropriate permanent ramp. Photo: Thomas Jester.

Installing Wheelchair Lifts. Platforms lifts and inclined stair lifts, both of which accommodate only one person, can be used to overcome changes of elevation ranging from three to 10 feet (.9 m-3 m) in height. However, many States have restrictions on the use of wheelchair lifts, so all applicable codes should be reviewed carefully before installing one. Inclined stair lifts, which carry a wheelchair on a platform up a flight of stairs, may be employed selectively. They tend to be visually intrusive, although they are relatively reversible. Platform lifts can be used when there is inadequate space for a ramp. However, such lifts should be installed in unobtrusive locations and under cover to minimize maintenance if at all possible (See Figure 13). A similar, but more expensive platform lift has a retracting railing that lowers into the ground, minimizing the visual effect to historic properties (See Figure 14). Mechanical lifts have drawbacks at historic properties with high public visitation because their capacity is limited, they sometimes cannot be operated independently, and they require frequent maintenance.

Considering a New Entrance. When it is not possible to modify an existing entrance, it may be possible to develop a new entrance by creating an entirely new opening in an appropriate location, or by using a secondary window for an opening. This solution should only be considered after exhausting all possibilities for modifying existing entrances (See Figure 15).

Retrofitting Doors. Historic doors generally should not be replaced, nor should door frames on the primary elevation be widened, as this may alter an important feature of a historic design. However, if a building's historic doors have been removed, there may be greater latitude in designing a compatible new entrance. Most accessibility standards require at least a 32" (82 cm) clear opening with manageable door opening pressures. The most desirable preservation solution to improve accessibility is retaining historic doors and upgrading the door pressure with one of several devices. Automatic door openers

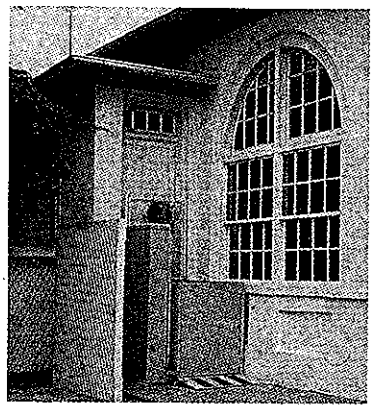
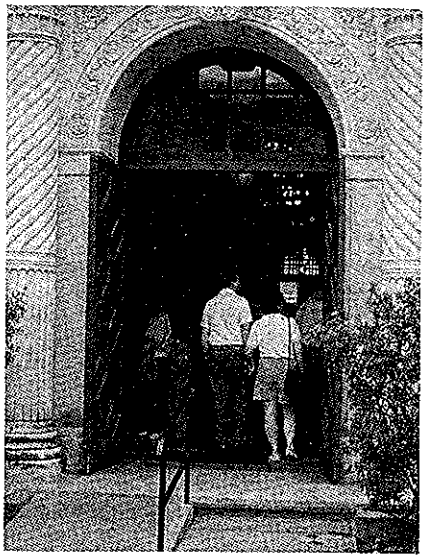


Figure 13. Platform lifts like the one used on this building require minimal space and can be removed without damaging historic materials. Shielded with lattice work, this lift is also protected by the roof eaves. Approach path should be stable, firm, and slip resistant. Photo: Sharon Park.

Readily Achievable Accessibility Modifications



Many accessibility solutions can be implemented easily and inexpensively without destroying the significance of historic properties. While it may not be possible to undertake all of the modifications listed below, each change will improve accessibility.

Sites and Entrances

- Creating a designated parking space.
- Installing ramps.
- Making curb cuts.

Interiors

- Repositioning shelves.
- Rearranging tables, displays, and furniture.
- Repositioning telephones.
- Adding raised markings on elevator control buttons.
- Installing flashing alarm lights.
- Installing offset hinges to widen doorways.
- Installing or adding accessible door hardware.
- Adding an accessible water fountain, or providing a paper cup dispenser at an inaccessible water fountain.

Restrooms

- Installing grab bars in toilet stalls.
- Rearranging toilet partitions to increase maneuvering space.
- Insulating lavatory pipes under sinks to prevent burns.
- Installing a higher toilet seat.
- Installing a full-length bathroom mirror.
- Repositioning the paper towel dispenser.

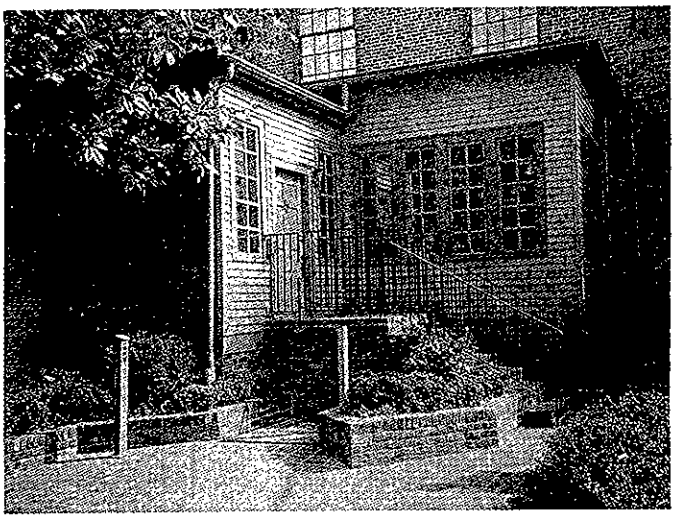


Figure 14. At the Lieutenant Governor's Mansion in Frankfort, Kentucky, a retracting lift (b) was installed to minimize the visual effect on this historic building when not in use (a). Photos: Aging Technology Incorporated.

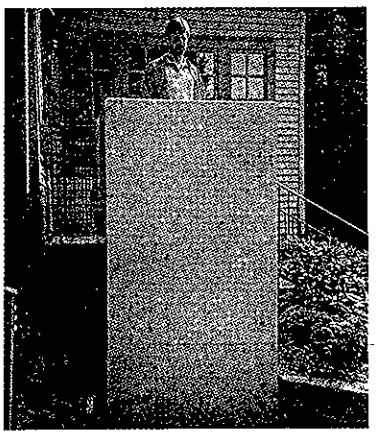


Figure 15. A new entrance to the elevator lobby replaces a window at Faneuil Hall in Boston, Massachusetts. The new entrance is appropriately differentiated from the historic design. Photo: Paul Holtz.

(operated by push buttons, mats, or electronic eyes) and power-assisted door openers can eliminate or reduce door pressures that are accessibility barriers, and make single or double-leaf doors fully operational (See Figure 16).

Adapting Door Hardware. If a door opening is within an inch or two of meeting the 32" (81 cm) clear opening requirement, it may be possible to replace the standard hinges with off-set hinges to increase the size of the door opening as much as 1 1/2" (3.8 cm). Historic hardware can be retained in place, or adapted with the addition of an automatic opener, of which there are several types. Door hardware can also be retrofitted to reduce door pressures. For example, friction hinges can be retrofitted with ball-bearing inserts, and door closers can be rethreaded to reduce the door pressure.

Altering Door Thresholds. A door threshold that exceeds the allowable height, generally 1/2" (1.3 cm), can be altered or removed with one that meets applicable accessibility

Figure 16. During the rehabilitation of the Rookery in Chicago, the original entrance was modified to create an accessible entrance. Two revolving doors were replaced with a new one flanked by new doors, one of which is operated with a push-plate door opener. Photo: Thomas Jester.

requirements. If the threshold is deemed to be significant, a bevel can be added on each side to reduce its height (See Figure 17). Another solution is to replace the threshold with one that meets applicable accessibility requirements and is visually compatible with the historic entrance.

Moving Through Historic Interiors

Persons with disabilities should have independent access to all public areas and facilities inside historic buildings. The extent to which a historic interior can be modified depends on the significance of its materials, plan, spaces, features, and finishes. Primary spaces are often more difficult to modify without changing their character. Secondary spaces may generally be changed without compromising a building's historic character. Signs should clearly mark the route to accessible restrooms, telephones, and other accessible areas.

Installing Ramps and Wheelchair Lifts. If space permits, ramps and wheelchair lifts can also be used to increase accessibility inside buildings (See Figures 18 & 19). However, some States and localities restrict interior uses of wheelchair lifts for life-safety reasons. Care should be taken to install these new features where they can be readily accessed. Ramps and wheelchair lifts are described in detail on pages 4–6.

Upgrading Elevators. Elevators are an efficient means of providing accessibility between floors. Some buildings have existing historic elevators that are not adequately accessible for persons with disabilities because of their size, location, or detailing, but they may also contribute to the historical significance of a building. Significant historic elevators can usually be upgraded to improve accessibility. Control panels can be modified with a "wand" on a cord to make the control panel accessible, and timing devices can usually be adjusted.

Retrofitting Door Knobs. Historic door knobs and other hardware may be difficult to grip and turn. In recent years, lever-handles have been developed to replace door knobs. Other lever-handle devices can be added to existing hardware. If it is not possible or appropriate to retrofit existing door knobs, doors can be left open during operating hours (unless doing so would violate life safety codes), and power-assisted door openers can be installed. It may only be necessary to retrofit specific doorknobs to create an accessible path of travel and accessible restrooms.

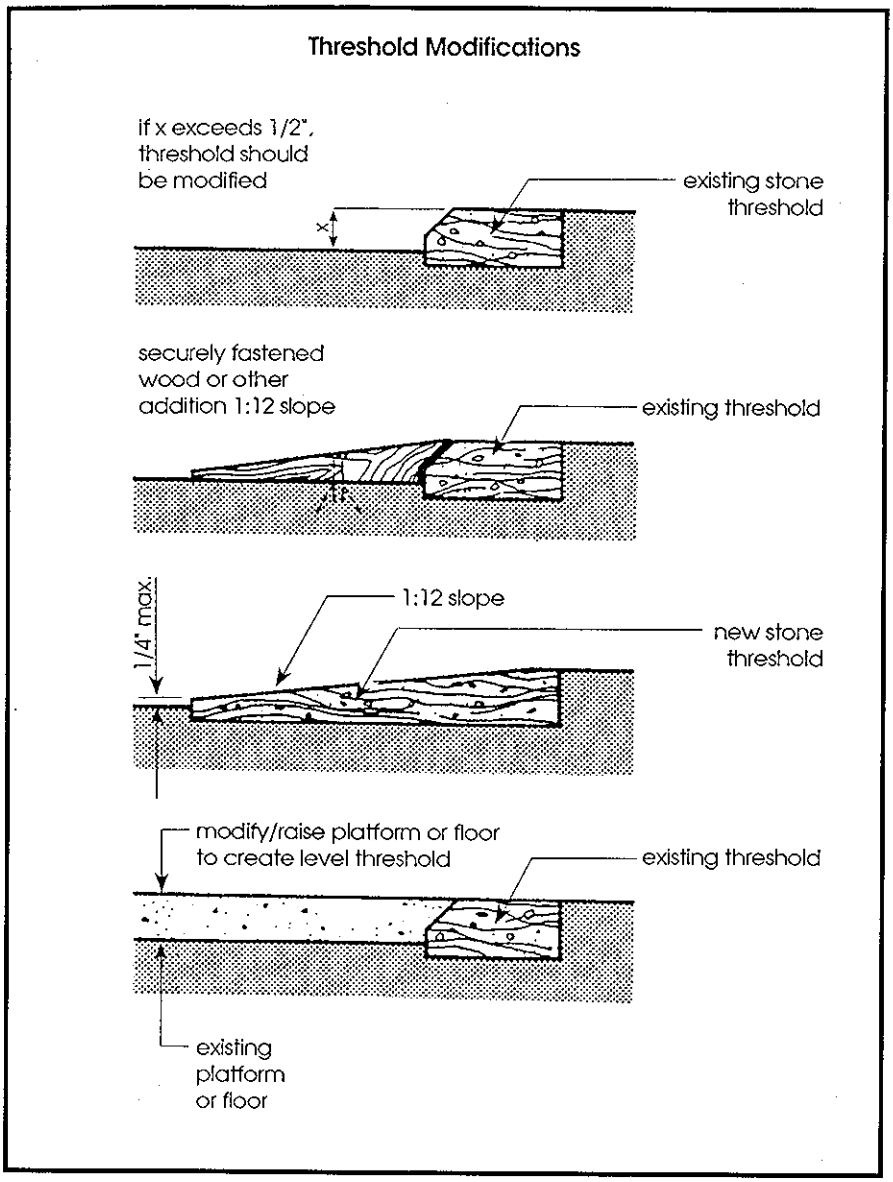


Figure 17. Thresholds that exceed allowable heights can be modified several ways to increase accessibility. Source: Uniform Federal Accessibility Standard (UFAS) Retrofit Manual.

Modifying Interior Stairs. Stairs are the primary barriers for many people with disabilities. However, there are some ways to modify stairs to assist people who are able to navigate them. It may be appropriate to add hand railings if none exist. Railings should be 1 1/4" (3.8 cm) in diameter and return to the wall so straps and bags do not catch. Color-contrasting, slip-resistant strips will help people with visual impairments. Finally, beveled or closed risers are recommended unless the stairs are highly significant, because open risers catch feet (See Figure 20).

Building Amenities

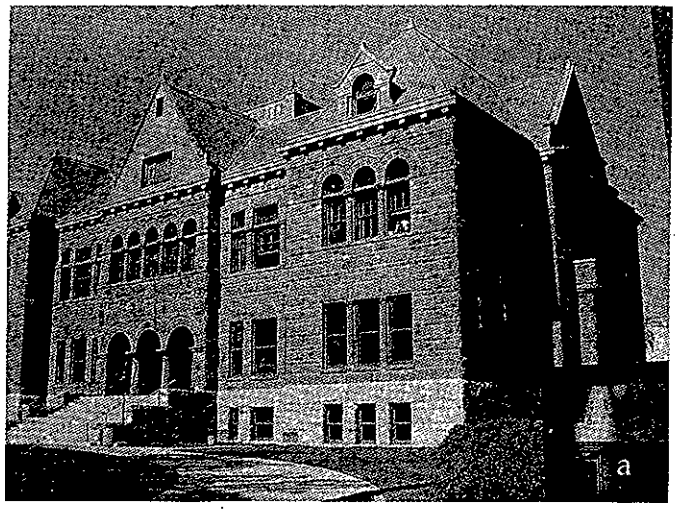
Some amenities in historic buildings, such as restrooms, seating, telephones, drinking fountains, counters, may contribute to a building's historic character. They will often require modification to improve their use by persons with disabilities. In many cases, supplementing existing amenities, rather than changing or removing them, will increase access and minimize changes to historic features and materials.

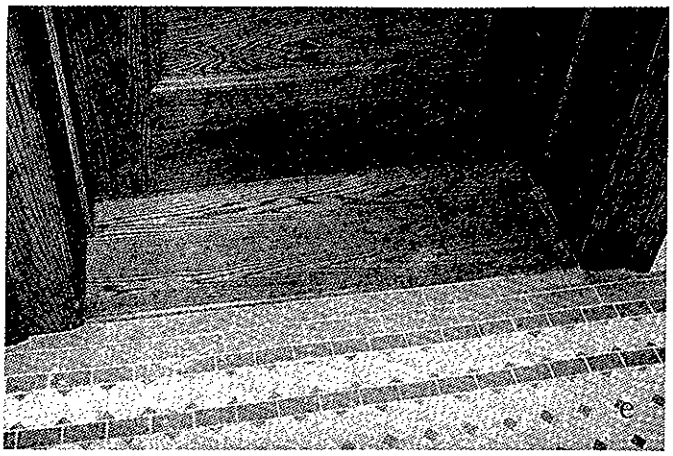
Upgrading Restrooms. Restrooms may have historic fixtures such as sinks, urinals, or marble partitions that can be retained in the process of making modifications. For example, larger restrooms can sometimes be reconfigured by relocating or combining partitions to create an accessible toilet stall. Other changes to consider are adding grab bars around toilets, covering hot water pipes under sinks with insulation to prevent burns, and providing a sink, mirror, and paper dispenser at a height suitable for wheelchair users. A unisex restroom may be created if it is technically infeasible to create two fully accessible restrooms, or if doing so would threaten or destroy the significance of the building. It is important to remember that restroom fixtures, such as sinks, urinals, and partitions, may be historic, and therefore, should be preserved whenever possible.

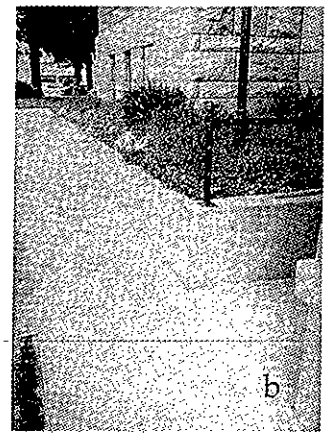
Modifying Other Amenities. Other amenities inside historic buildings may require modification. Seating in a theater, for example, can be made accessible by removing some seats in several areas (See Figure 21). New seating that is accessible can also be added at the end of existing rows, either with or without a level floor surface. Readily removable seats may be installed in wheelchair spaces when the spaces are not required to accommodate wheelchair users. Historic water fountains can be retained and new, two-tiered fountains installed if space permits. If public telephones are provided, it may be necessary to install at least a Text Telephone (TT), also known as a Telecommunication Device for the Deaf (TDD) (See Figure 22). Historic service counters commonly found in banks, theaters, and hotels generally should not be altered. It is preferable to add an accessible counter on the end of a historic counter if feasible. Modified or new counters should not exceed 36" (91.5 cm) in height.

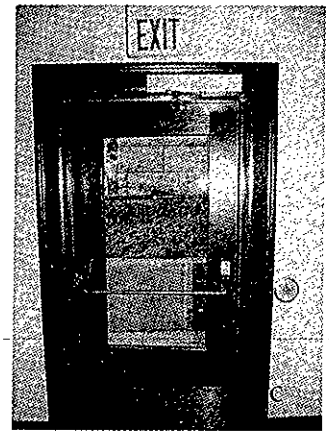
Figure 18. Symmetrical ramps at the Mayflower Hotel in Washington, D.C., provide access to the hotel's lower level. The design for the ramps respects the historic character of this landmark building. Photo: Thomas Jester.

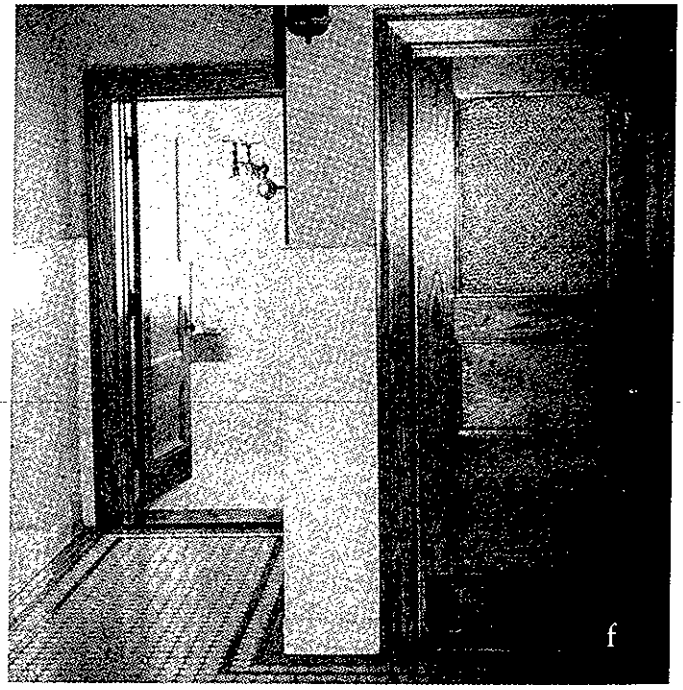
MAKING A HISTORIC BUILDING ACCESSIBLE

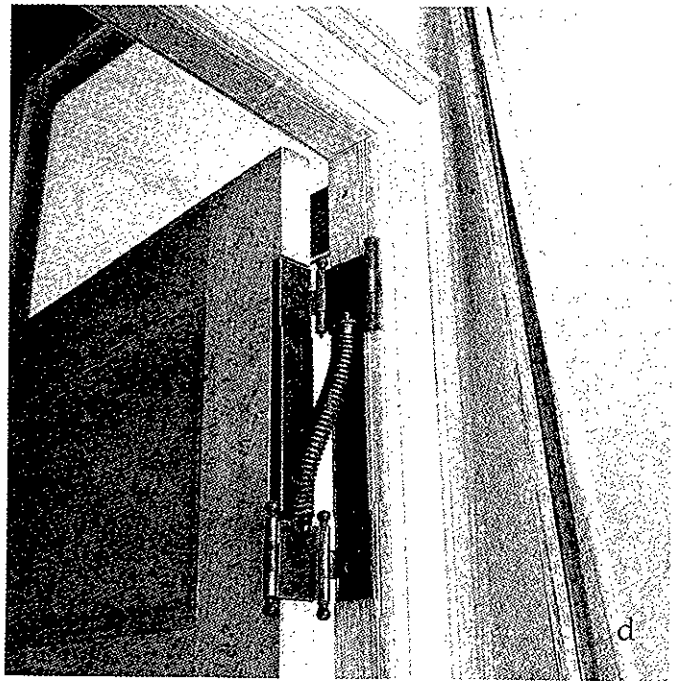


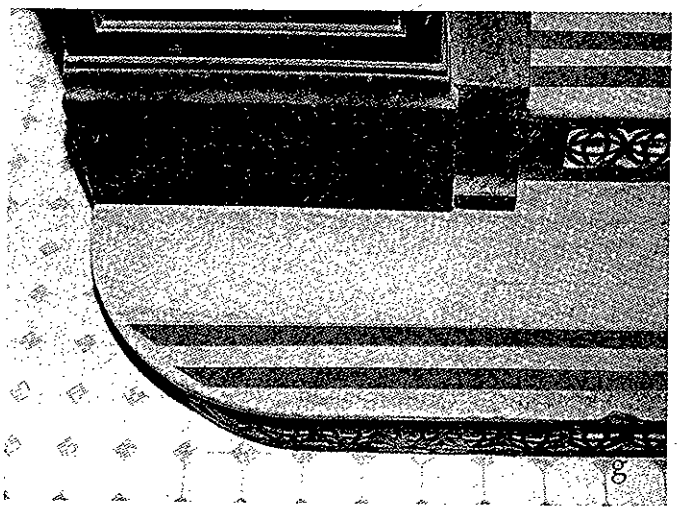












The Orange County Courthouse (a), located in Santa Ana, California, was rehabilitated in the late 1980s as a county museum. As part of the rehabilitation, the architect sensitively integrated numerous modifications to increase accessibility. To preserve the building's primary elevation, a new public entrance was created on the rear elevation where parking spaces are located. A ramp (b) leads to the accessible entrance that can be opened with a push-plate automatic door-opener (c). Modifications to interior features also increased accessibility. To create an accessible path of travel, offset hinges (d) were installed on doors that were narrower than 32 inches (81.3 cm). Other doors were rethreaded to reduce the door pressure. Beveling the 1" high thresholds (e) reduced their height to approximately 1/4 inch (.64 cm). The project architect also converted a storeroom into an accessible restroom (f). The original stairway, which has open grillwork, was made more accessible by applying slip-resistant pressure tape to the marble steps (g). And the original elevator was upgraded with raised markings, alarm lights, and voice floor indicators. Photos: Milford Wayne Donaldson, FAIA.

MAKING HISTORIC LANDSCAPES ACCESSIBLE

To successfully incorporate access into historic landscapes, the planning process is similar to that of other historic properties. Careful research and inventory should be undertaken to determine which materials and features convey the landscape's historical significance. As part of this evaluation, those features that are character-defining (topographical variation, vegetation, circulation, structures, furnishings, objects) should be identified. Historic finishes, details, and materials that also contribute to a landscape's significance should also be documented and evaluated prior to determining an approach to landscape accessibility. For example, aspects of the pedestrian circulation system that need to be understood include walk width, aggregate size, pavement pattern, texture, relief, and joint details. The context of the walk should be understood including its edges and surrounding area. Modifications to surface textures or widths of pathways can often be made with minimal effect on significant landscape features (a) and (b).

Additionally, areas of secondary importance such as altered paths should be identified -- especially those where the accessibility modifications will not destroy a landscape's significance. By identifying those features that are contributing or non-contributing, a sympathetic circulation experience can then be developed.

After assessing a landscape's integrity, accessibility solutions can be considered. Full access throughout a historic landscape may not always be possible. Generally, it is easier to provide accessibility to larger, more open sites where there is a greater variety of public experiences. However, when a landscape is uniformly steep, it may only be possible to make discrete portions of a historic landscape accessible, and viewers may only be able to experience the landscape from selected vantage points along a prescribed pedestrian or vehicular access route. When defining such a route, the interpretive value of the user experience should be considered; in other words, does the route provide physical or visual access to those areas that are critical to understand the meaning of the landscape?

The following accessibility solutions address three common landscape situations: 1) structures with low integrity landscapes; 2) structures and landscapes of equal significance; and, 3) landscapes of primary significance with inaccessible terrain.

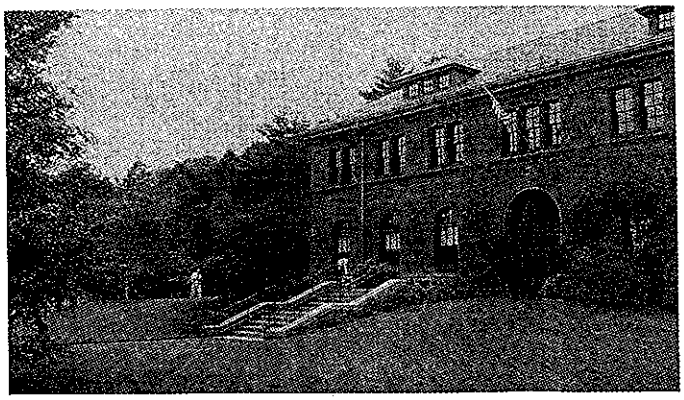
1. The Hunnewell Visitors Center at the Arnold Arboretum in Jamaica Plain, Massachusetts, was constructed in 1892. Its immediate setting has changed considerably over time (c). Since the existing landscape immediately surrounding this structure has little remaining integrity, the new accessibility solution has the latitude to integrate a broad program including site orientation, circulation, interpretation, and maintenance.

   The new design, which has few ornamental plants, references the original planting design principles, with a strong emphasis on form, color, and texture. In contrast with the earlier designs, the new plantings were set away from the facade of this historic building,

(a.) To improve accessibility in Boston's Emerald Necklace Parks, standard asphalt paving was replaced in selected areas with an imbedded aggregate surface that is more in keeping with the landscape's historic appearance. Photo: Charles Birnbaum.

(b.) The Friendly Garden at Ranchos Los Alamitos, a historic estate with designed gardens in southern California, was made accessible with limited widening of its existing approach path. Photo: Ranchos Los Alamitos Foundation.

(c.) Hunnewell Visitor's Center before rehabilitation, revealing the altered landscapes. Photo: Jennifer Jones, Carol R. Johnson and associates.



(d.) Hunnewell Visitors Center's entrance following rehabilitation, integrating an accessible path (left), platform, and new steps. Photo: Charles Birnbaum.

allowing the visitor to enjoy its architectural detail. A new walk winds up the gentle earthen berm and is vegetated with plantings that enhance the interpretive experience from the point of orientation (d). The new curvilinear walks also provide a connection to the larger arboretum landscape for everyone.

2. The Eugene O'Neill National Historic Site overlooks the San Ramon Valley, twenty-seven miles east of San Francisco, California. The thirteen-acre site includes a walled courtyard garden on the southeast side of the Tao House, which served as the O'Neill residence from 1937-44 (e). Within this courtyard are character-defining walks that are too narrow by today's accessibility standards, yet are a character-defining element of the historic design. To preserve the garden's integrity, the scale and the characteristics of the original circulation were maintained by creating a wheelchair route which, in part, utilizes reinforced turf. This route allows visitors with disabilities to experience the main courtyard as well.

3. Morningside Park in New York City, New York, designed by Frederick Olmstead, Sr., and Calvert Vaux in 1879, is sited on generally steep, rocky terrain (f). Respecting these dramatic grade changes, which are only accessible by extensive flights of stone stairs, physical access cannot be provided without destroying the park's integrity. In order to provide some accessibility, scenic overlooks were created that provide broad visual access to the park.

(e.) This view shows the new reinforced turf path at the Eugene O'Neill National Historic Site that preserved the narrow Historic Path. Photo: Patricia M. O'Donnell.

(f.) Steep terrain at Morningside Park in New York City cannot be made accessible without threating or destroying this landscape's integrity. Photo: Quennell Rothschild Associates.

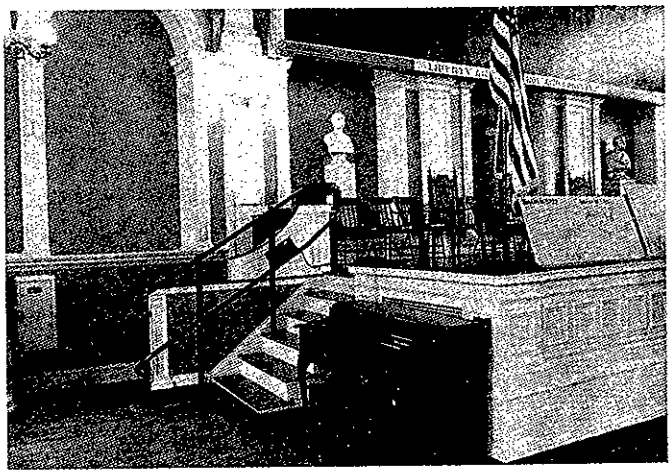


Figure 19. Inclined lifts can sometimes overcome interior changes of elevation where space is limited. This lift in Boston's Faneuil Hall created access to the floor and stage level of the State Room. Photo: Paul Holtz.

Considering a New Addition as an Accessibility Solution

Many new additions are constructed specifically to incorporate modern amenities such as elevators, restrooms, fire stairs, and new mechanical equipment. These new additions often create opportunities to incorporate access for people with disabilities. It may be possible, for example, to create an accessible entrance, path to public levels via a ramp, lift, or elevator (See Figure 23). However, a new addition has the potential to change a historic property's appearance and destroy significant building and landscape features. Thus, all new additions should be compatible with the size, scale, and proportions of historic features and materials that characterize a property (See Figure 24).

New additions should be carefully located to minimize connection points with the historic building, such that if the addition were to be removed in the future, the essential form and integrity of the building would remain intact. On the other hand, new additions should also be conveniently located near parking that is connected to an accessible route for people with disabilities. As new additions are incorporated, care should be taken to protect significant landscape features and archeological resources. Finally, the design for any new addition should be differentiated from the historic design so that the property's evolution over time is clear. New additions frequently make it possible to increase accessibility, while simultaneously reducing the level of change to historic features, materials, and spaces.

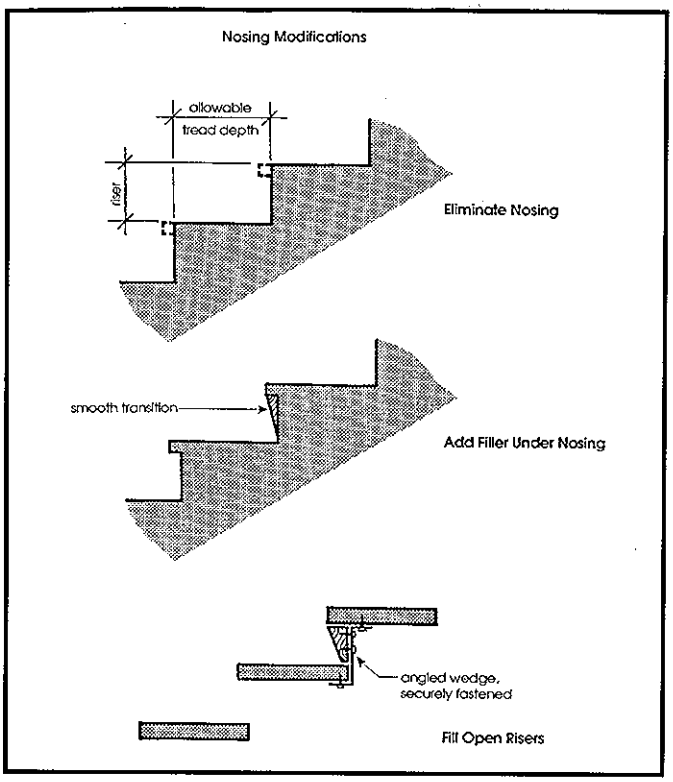


Figure 20. In certain situations it may be appropriate to modify stair nosings for persons with mobility impairments. Whenever possible, stairs should be modified by adding new materials rather than removing historic materials. Source: UFAS Retrofit Manual.

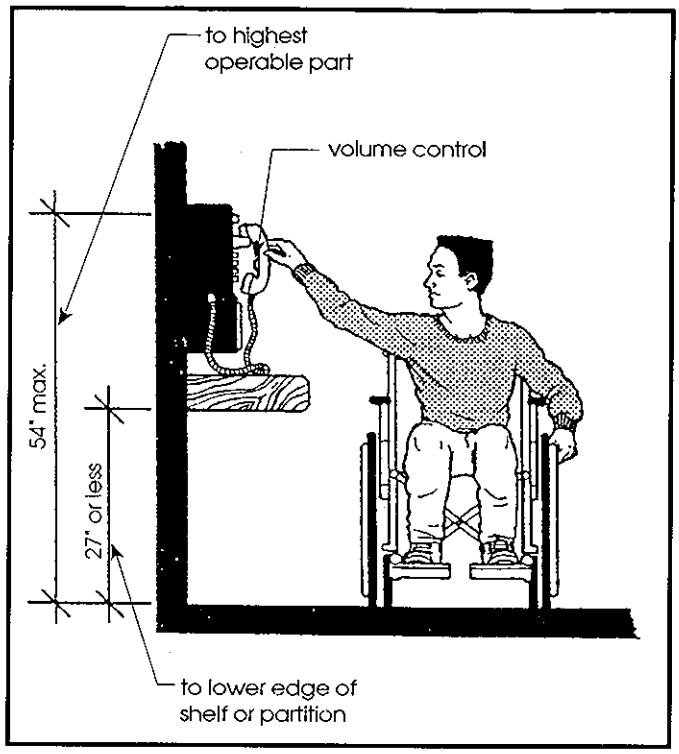


Figure 22. Amenities such as telephones should be at height that wheelchair users can reach. Changes to many amenities can be adapted with minimal effect on historic materials, features, and spaces. Source: UFAS Retrofit Manual.

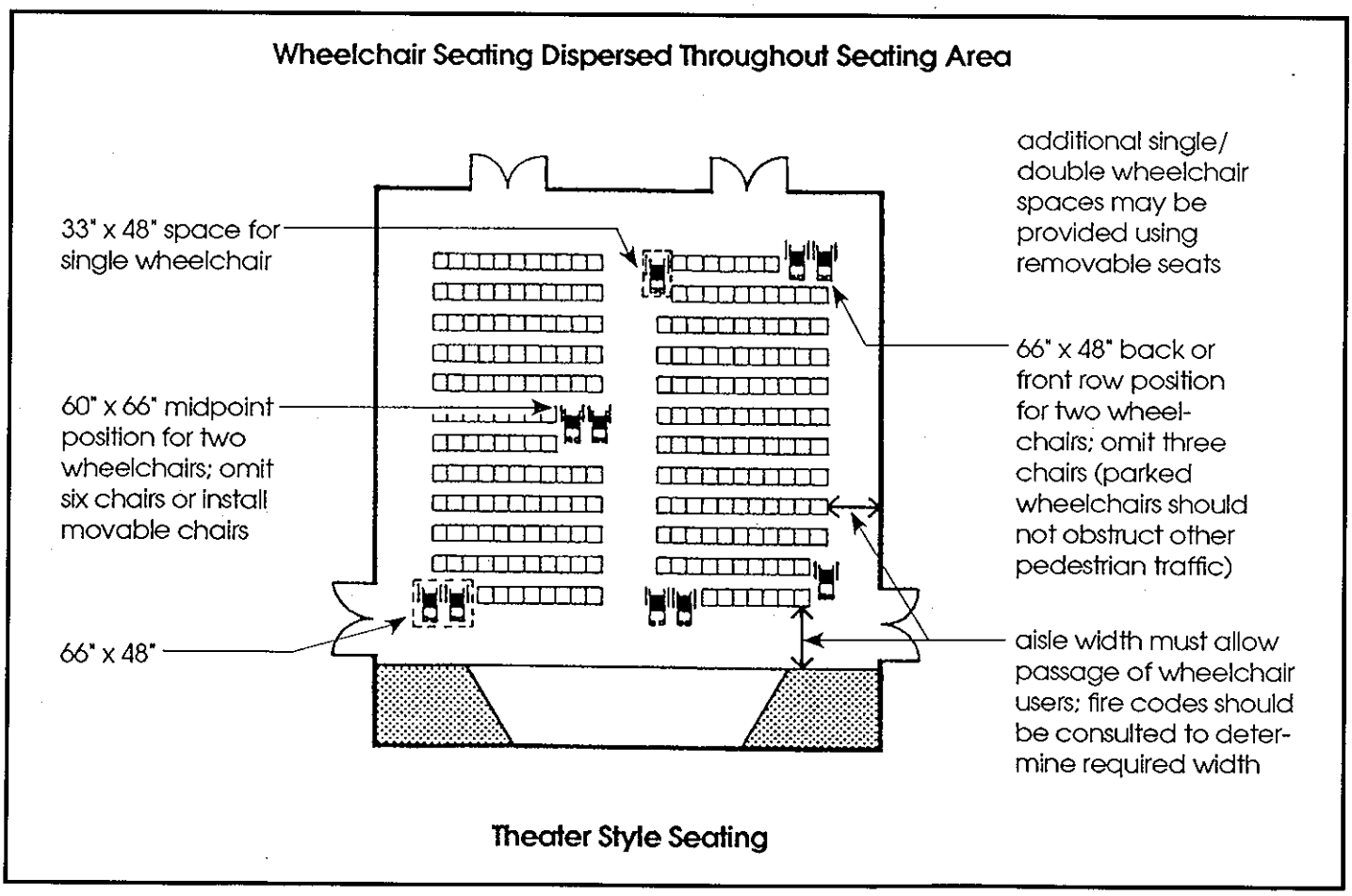


Figure 21. Seating in historic theaters and auditoriums can be changed to accommodate wheelchair users. Accessible seating areas should be connected to an accessible route from the building entrance. Source: UFAS Retrofit Manual.

Federal Accessibility Laws

Today, few building owners are exempt from providing accessibility for people with disabilities. Before making any accessibility modification, it is imperative to determine which laws and codes are applicable. In addition to local and State accessibility codes, the following federal accessibility laws are currently in effect:

Architectural Barriers Act (1968)

The Architectural Barriers Act stipulates that all buildings designed, constructed, and altered by the Federal Government, or with federal assistance, must be accessible. Changes made to federal buildings must meet the Uniform Federal Accessibility Standards (UFAS). Special provisions are included in UFAS for historic buildings that would be threatened or destroyed by meeting full accessibility requirements.

Rehabilitation Act (1973)

The Rehabilitation Act requires recipients of federal financial assistance to make their programs and activities accessible to everyone. Recipients are allowed to make their properties accessible by altering their building, by moving programs and activities to accessible spaces, or by making other accommodations.

Americans with Disabilities Act (1990)

Historic properties are not exempt from the Americans with Disabilities Act (ADA) requirements. To the greatest extent possible, historic buildings must be as accessible as non-historic buildings. However, it may not be possible for some historic properties to meet the general accessibility requirements.

Under Title II of the ADA, State and local governments must remove accessibility barriers either by shifting services and programs to accessible buildings, or by making alterations to existing buildings. For instance, a licensing office may be moved from a second floor to an accessible first floor space, or if this is not feasible, a mail service might be provided. However, State and local government facilities that have historic preservation as their main purpose—State-owned historic museums, historic State capitols that offer tours—must give priority to physical accessibility.

Under Title III of the ADA, owners of "public accommodations" (theaters, restaurants, retail shops, private museums) must make "readily achievable" changes; that is, changes that can be easily accomplished without much expense. This might mean installing a ramp, creating accessible parking, adding grab bars in bathrooms, or modifying door hardware. The requirement to remove barriers when it is "readily achievable" is an ongoing responsibility. When alterations, including restoration and rehabilitation work, are made, specific accessibility requirements are triggered.

Recognizing the national interest in preserving historic properties, Congress established alternative requirements for properties that cannot be made accessible without "threatening or destroying" their significance. A consultation process is outlined in the ADA's Accessibility Guidelines for owners of historic properties who believe that making specific accessibility modifications would "threaten or destroy" the significance of their property. In these situations, after consulting with persons with disabilities and disability organizations, building owners should contact the State Historic Preservation Officer (SHPO) to determine if the special accessibility provisions for historic properties may be used. Further, if it is determined in consultation with the SHPO that compliance with the minimum requirements would also "threaten or destroy" the significance of the property, alternative methods of access, such as home delivery and audio-visual programs, may be used.

Figure 23. New additions to historic buildings can be designed to increase accessibility. A new addition links two adjacent buildings used for the Albany, New York, Visitor's Center, and incorporates an accessible entrance, restrooms, and signage. Photo: Clare Adams.

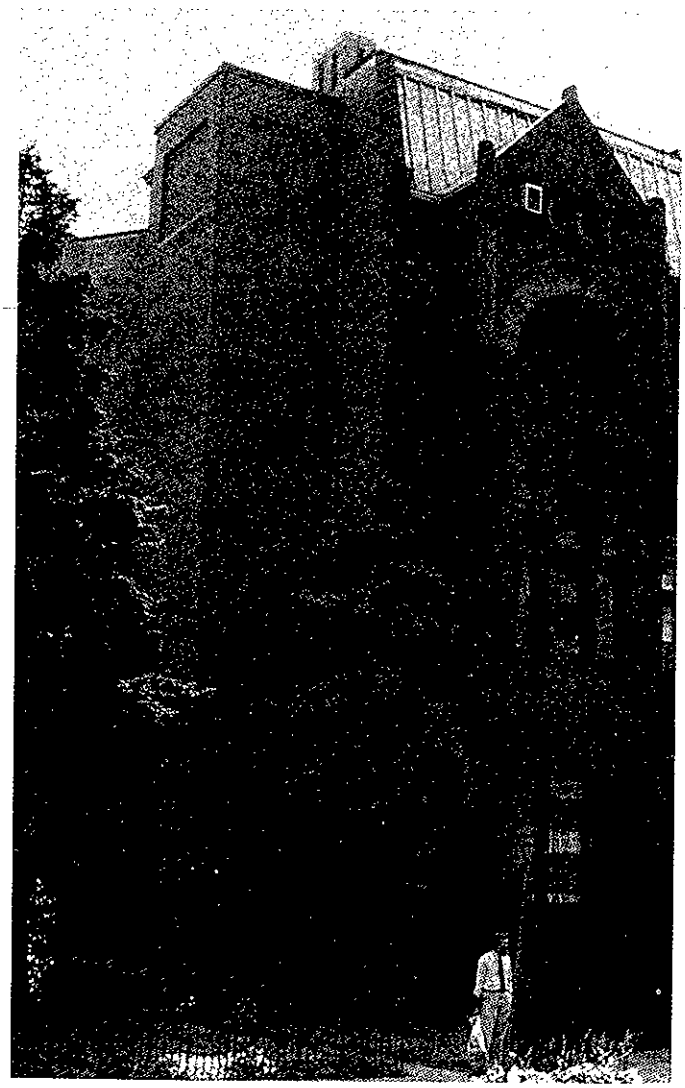


Figure 24. Creating an accessible entrance with a new elevator tower requires a compatible design. This elevator addition blends in with the historic building's materials and provides access to all public levels. Photo: Sharon Park.

Conclusion

Historic properties are irreplaceable and require special care to ensure their preservation for future generations. With the passage of the Americans with Disabilities Act, access to historic properties open to the public is a now civil right, and owners of historic properties must evaluate existing buildings and determine how they can be made more accessible. It is a challenge to evaluate properties thoroughly, to identify the applicable accessibility requirements, to explore alternatives and to implement solutions that provide independent access and are consistent with accepted historic preservation standards. Solutions for accessibility should not destroy a property's significant materials, features and spaces, but should increase accessibility as much as possible. Most historic buildings are not exempt from providing accessibility, and with careful planning, historic properties can be made more accessible, so that all citizens can enjoy our Nation's diverse heritage.

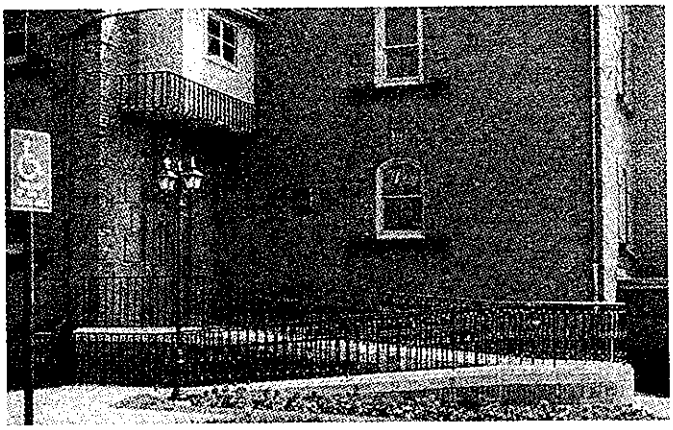


Photo: Massachusetts Historical Commission.

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Acknowledgements

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This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Comments about this publication should be directed to H. Ward Jandl, Deputy Chief, Preservation Assistance Division, National Park Service, P.O. Box 37127, Washington, D.C. 20013-7127.

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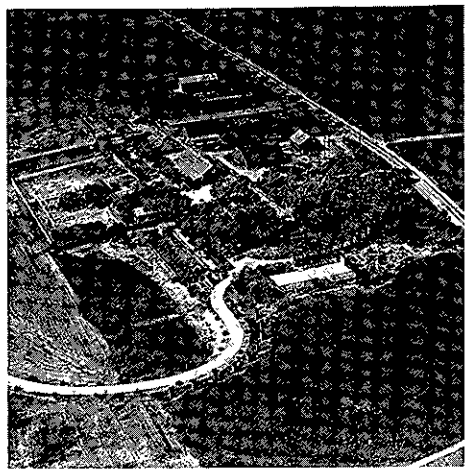


Protecting Cultural Landscapes:
Planning, Treatment and Management of Historic Landscapes

Charles A. Birnbaum, ASLA

U.S. Department of the Interior
National Park Service
Cultural Resources
Heritage Preservation Services

Cultural landscapes can range from thousands of acres of rural tracts of land to a small homestead with a front yard of less than one acre. Like historic buildings and districts, these special places reveal aspects of our country's origins and development through their form and features and the ways they were used. Cultural landscapes also reveal much about our evolving relationship with the natural world.

A ***cultural landscape*** is defined as "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.* These are defined on the Table on page 2.[1]

Historic landscapes include residential gardens and community parks, scenic highways, rural communities, institutional grounds, cemeteries, battlefields and zoological gardens. They are composed of a number of character-defining features which individually or collectively contribute to the landscape's physical appearance as they have evolved over time. In addition to vegetation and topography, cultural landscapes may include water features such as ponds, streams, and fountains; circulation features such as roads, paths, steps, and walls; buildings; and furnishings, including fences, benches, lights and sculptural objects.

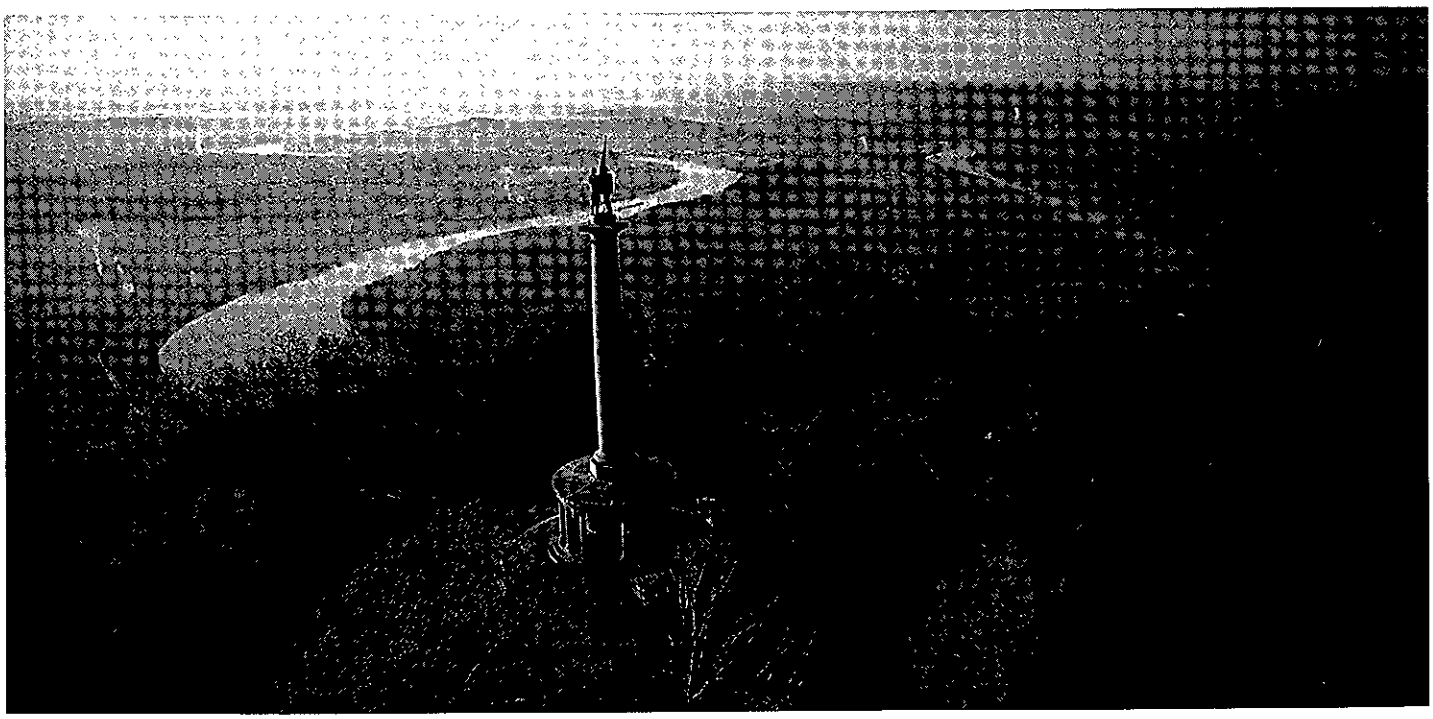


Figure 1: The New York Peace Monument atop Lookout Mountain in the 8,100 acre Chickamauga and Chattanooga National Military Park, Chattanooga, Tennessee, commemorates the reconciliation of the Civil War between the North and South. The strategic high point provides panoramic views to the City of Chattanooga and the Moccasin Bend. Today, it is recognized for its cultural and natural resource value. The memorial, which was added in 1910 is part of this landscape's historic continuum. (courtesy Sam Abell and National Geographic).

DEFINITIONS

Historic Designed Landscape - a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, 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(s), 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 that landscape. Through social or cultural attitudes of an individual, family or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives. Function plays a significant role in vernacular landscapes. They can be a single property such as a farm or a collection of properties such as a district of historic farms along a river valley. Examples include rural villages, industrial complexes, and agricultural landscapes.

Historic Site - a landscape significant for its association with a historic event, activity, or person. Examples include battlefields and president's house properties.

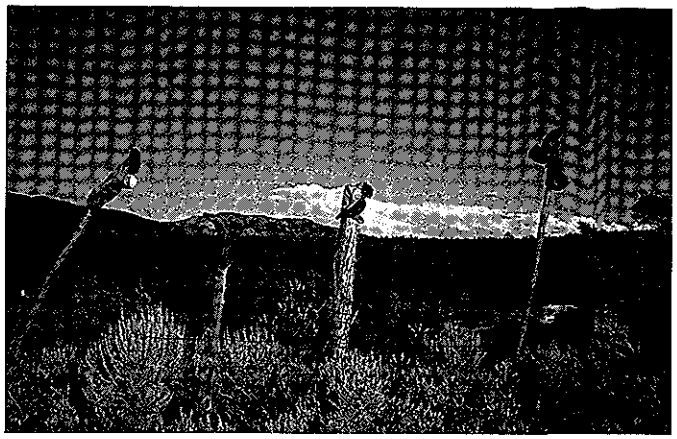
Ethnographic Landscape - a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites and massive geological structures. Small plant communities, animals, subsistence and ceremonial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

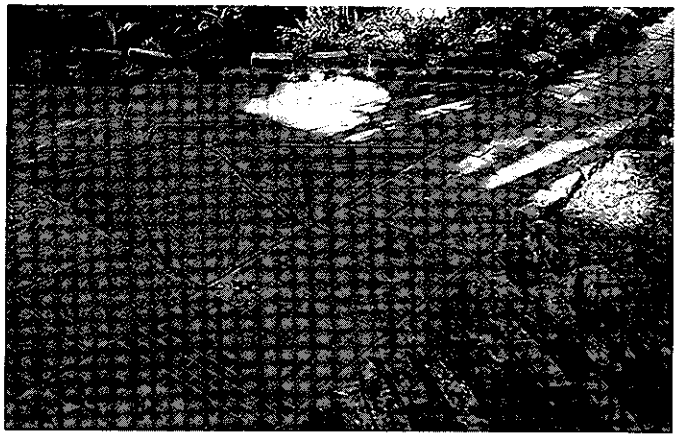
Most historic properties have a cultural landscape component that is integral to the significance of the resource. Imagine a residential district without sidewalks, lawns and trees or a plantation with buildings but no adjacent lands. A historic property consists of all its cultural resources — landscapes, buildings, archeological sites and collections. In some cultural landscapes, there may be a total absence of buildings.

This Preservation Brief provides preservation professionals, cultural resource managers, and historic property owners a step-by-step process for preserving historic designed and vernacular landscapes, two types of cultural landscapes. While this process is ideally applied to an entire landscape, it can address a single feature such as a perennial garden, family burial plot, or a sentinel oak in an open meadow. This Brief provides a framework and guidance for undertaking projects to ensure a successful balance between historic preservation and change.

Developing a Strategy and Seeking Assistance

Nearly all designed and vernacular landscapes evolve from, or are often dependent on, natural resources. It is these interconnected systems of land, air and water,





Figures 2-4: Character-defining landscape features (top to bottom): "Boot Fence" near D. H. Lawrence Ranch, Questa, New Mexico, 1991 (courtesy Cheryl Wagner); paving detail at Ernest Hemingway House National Historic Site, Key West, Florida, 1994 (courtesy author); and, tree planting detail for Jefferson Memorial Park, St. Louis, Missouri (courtesy Office of Dan Kiley)

vegetation and wildlife which have dynamic qualities that differentiate cultural landscapes from other cultural resources, such as historic structures. Thus, their documentation, treatment, and ongoing management require a comprehensive, multi-disciplinary approach.

Today, those involved in preservation planning and management for cultural landscapes represent a broad array of academic backgrounds, training, and related

project experience. Professionals may have expertise in landscape architecture, history, landscape archeology, forestry, agriculture, horticulture, pomology, pollen analysis, planning, architecture, engineering (civil, structural, mechanical, traffic), cultural geography, wildlife, ecology, ethnography, interpretation, material and object conservation, landscape maintenance and management. Historians and historic preservation professionals can bring expertise in the history of the landscape, architecture, art, industry, agriculture, society and other subjects. Landscape preservation teams, including on-site management teams and independent consultants, are often directed by a landscape architect with specific expertise in landscape preservation. It is highly recommended that disciplines relevant to the landscapes' inherent features be represented as well.

Additional guidance may be obtained from State Historic Preservation Offices, local preservation commissions, the National Park Service, local and state park agencies, national and state chapters of the American Society of Landscape Architects, the Alliance for Historic Landscape Preservation, the National Association of Olmsted Parks, and the Catalog of Landscape Records in the United States at Wave Hill among others.[2]

A range of issues may need to be addressed when considering how a particular cultural landscape should be treated. This may include the in-kind replacement of declining vegetation, reproduction of furnishings, rehabilitation of structures, accessibility provisions for people with disabilities, or the treatment of industrial properties that are rehabilitated for new uses.

Preservation Planning for Cultural Landscapes

Careful planning prior to undertaking work can help prevent irrevocable damage to a cultural landscape. Professional techniques for identifying, documenting, evaluating and preserving cultural landscapes have advanced during the past 25 years and are continually being refined. Preservation planning generally involves the following steps: 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; the development of a strategy for ongoing maintenance; and preparation of a record of treatment and future research recommendations.

The steps in this process are not independent of each other, nor are they always sequential. In fact, information gathered in one step may lead to a re-examination or refinement of previous steps. For example, field inventory and historical research are likely to occur simultaneously, and may reveal unnoticed cultural resources that should be protected.

The treatment and management of cultural landscape should also be considered in concert with the management of an entire historic property. As a result, many other studies may be relevant. They include management plans, interpretive plans, exhibit design, historic structures reports, and other.

CULTURAL LANDSCAPE REPORTS

A Cultural Landscape Report (CLR) is the primary report that documents the history, significance and treatment of a cultural landscape. A CLR evaluates the history and integrity of the landscape including any changes to its geographical context, features, materials, and use.

CLR's are often prepared when a change (e.g. a new visitor's center or parking area to a landscape) is proposed. In such instances, a CLR can be a useful tool to protect the landscape's character-defining features from undue wear, alteration or loss. A CLR can provide managers, curators and others with information needed to make management decisions.

A CLR will often yield new information about a landscape's historic significance and integrity, even for those already listed on the National Register. Where appropriate, National Register files should be amended to reflect the new findings.

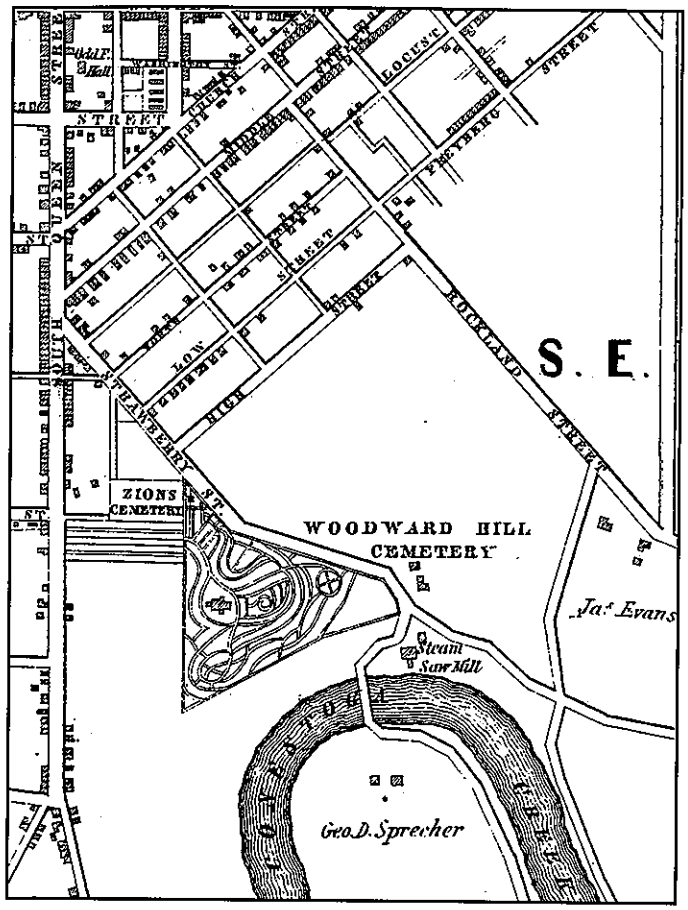
These steps can result in several products including a Cultural Landscape Report (also known as a Historic Landscape Report), statements for management, interpretive guide, maintenance guide and maintenance records.

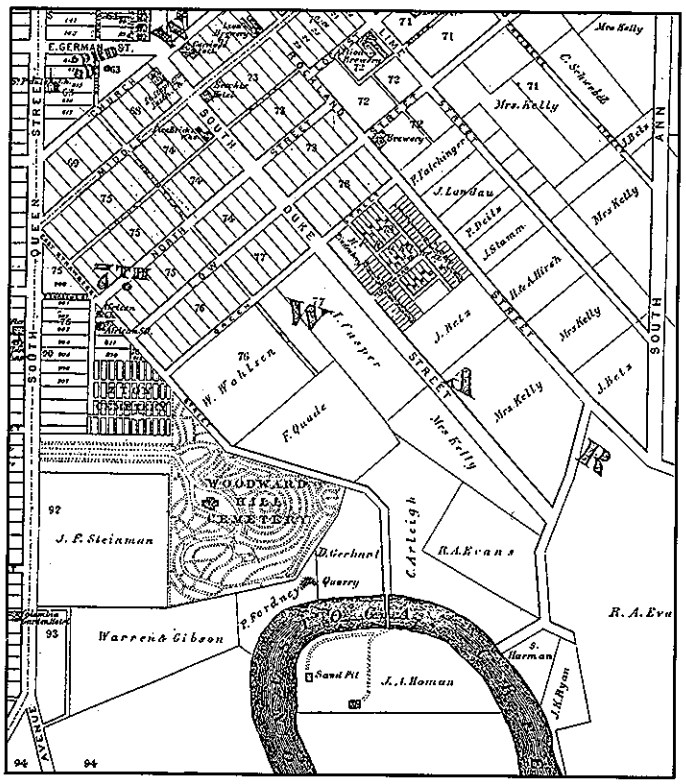
Historical Research

Research is essential before undertaking any treatment. Findings will help identify a landscape's historic period(s) of ownership, occupancy and development, and bring greater understanding of the associations and characteristics that make the landscape or history significant. Research findings provide a foundation to make educated decisions for work, and can also facilitate ongoing maintenance and management operations, interpretation and eventual compliance requirements.

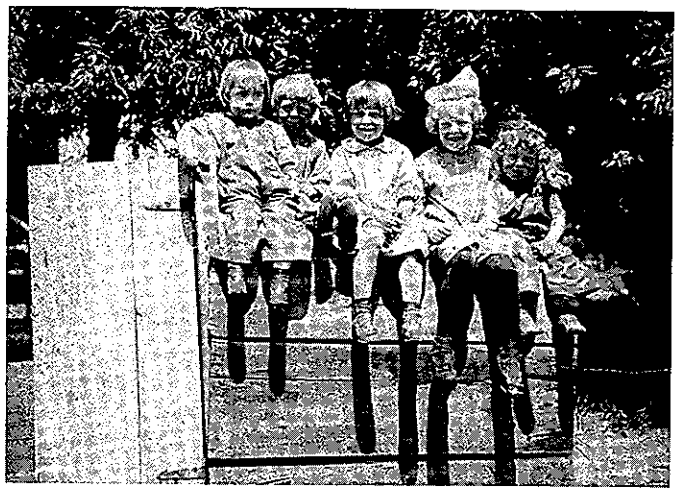
A variety of primary and secondary sources may be consulted. Primary archival sources can include historic plans, surveys, plats, tax maps, atlases, U. S. Geological Survey maps, soil profiles, aerial photographs, photographs, stereoscopic views, glass lantern slides, postcards, engravings, paintings, newspapers, journals, construction drawings, specifications, plant lists, nursery catalogs, household records, account books and personal correspondence. Secondary sources include monographs, published histories, theses, National Register forms, survey data, local preservation plans, state contexts and scholarly articles. (See Figures 5–7, page 4.)

Contemporary documentary resources should also be consulted. This may include recent studies, plans, surveys, aerial and infrared photographs, Soil Conservation Service soil maps, inventories, investigations and interviews. Oral histories of residents, managers, and maintenance personnel with a long tenure or historical association can be valuable sources of information about changes to a landscape over many years. (Figures 8–9, page 4) For properties listed in the National Register, nomination forms should be consulted.





Figures 5-7: Atlases and aerial photographs were useful for understanding the evolution of burial grounds in Lancaster County, Pennsylvania. Comparing the plans from the 1864 and 1875 atlases (courtesy Lancaster County Historical Society) with a 1980 aerial photograph (courtesy Lancaster County Planning Commission) revealed the growth and development of Woodward Hill Cemetery and its geographic context for over a century.



Figures 8, 9: Mary Smith Nelson spent her childhood at the Zane Grey family compound in Lackawaxen, Pennsylvania. Recently, her recollections of nearly eighty years ago helped landscape architects to document the evolution of this cultural landscape. These oral memoirs have since been confirmed by archeological and archival findings. (courtesy National Park Service, Zane Grey House Archives and LANDSCAPES)

Figure 10: Traditional land uses are often the key to long term preservation. Therefore, a knowledge of prior landscape management practices is essential as part of the research phase. Land use patterns were often the result of traditional activities such as agriculture, fishing or mining. In Hanalei, Hawaii for example, taro fields are important because they reflect the continuity of use of the land over time. (courtesy Land and Community Associates)

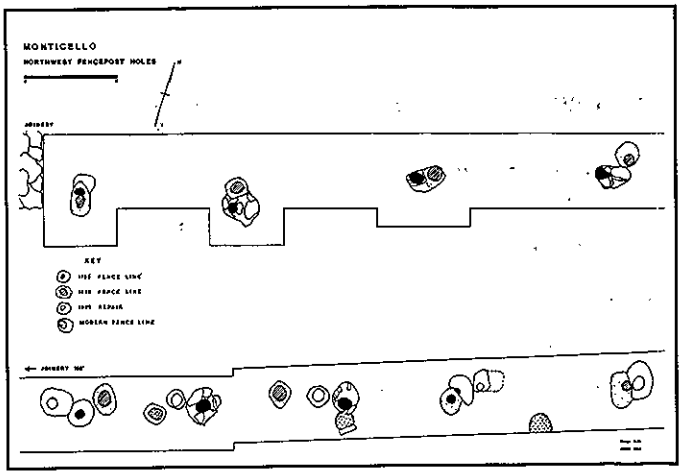


Figure 11: Landscape archeology is an important research tool that can provide location, dating and detail verification for landscape features. At Monticello, the estate of Thomas Jefferson in Charlottesville, Virginia, archeological research has employed both excavational and non-invasive methods. This has included aerial photography, soil resistivity, transect and stratified sampling and photogrammetric recording. As illustrated in the plan above, fence post spacing and alignment can be confirmed with a transect trenching technique.[3] (courtesy Thomas Jefferson Memorial Foundation)

Preparing Period Plans

In the case of designed landscapes, even though a historic design plan exists, it does not necessarily mean that it was realized fully, or even in part. Based on a review of the archival resources outlined above, and the extant landscape today, an *as-built period plan* may be delineated. For all successive tenures of ownership, occupancy and landscape change, *period plans* should be generated (see Figure 13, page 6). Period plans can document to the greatest extent possible the historic appearance during a particular period of ownership, occupancy, or development. Period plans should be based on primary archival sources and should avoid conjecture. Features that are based on secondary or less accurate sources should be graphically differentiated. Ideally, all referenced archival sources should be annotated and footnoted directly on *period plans*.

Where historical data is missing, period plans should reflect any gaps in the CLR narrative text and these limitations considered in future treatment decisions (See Treatments for Cultural Landscapes on page 13.)

Inventorying and Documenting Existing Conditions

Both physical evidence in the landscape and historic documentation guide the historic preservation plan and treatments. To document existing conditions, intensive field investigation and reconnaissance should be conducted at the same time that documentary research is being gathered. Information should be exchanged among preservation professionals, historians, technicians, local residents, managers and visitors.

To assist in the survey process, National Register Bulletins have been published by the National Park Service to aid in identifying, nominating and evaluating designed and rural historic landscapes. Additionally, Bulletins are available for specific landscape types such as battlefields, mining sites, and cemeteries.[6]

Although there are several ways to inventory and document a landscape, the goal is to create a baseline from a detailed record of the landscape and its features as they exist at the present (considering seasonal variations).[7] Each landscape inventory should address issues of boundary delineation, documentation methodologies and techniques, the limitations of the inventory, and the scope of inventory efforts. These are most often influenced by the timetable, budget, project scope, and the purpose of the inventory and, depending on the physical qualities of the property, its scale, detail, and the interrelationship between natural and cultural resources. For example, inventory objectives to develop a treatment plan may differ considerably compared to those needed to develop an ongoing maintenance plan. Once the criteria for a landscape inventory are developed and tested, the methodology should be explained.

Preparing Existing Condition Plans

Inventory and documentation may be recorded in plans, sections, photographs, aerial photographs, axonometric perspectives, narratives, video—or any combination of techniques. Existing conditions should generally be documented to scale, drawn by hand or generated by computer. The scale of the drawings is often determined by the size and complexity of the landscape. Some landscapes may require documentation at more than one scale. For example, a large estate may be documented at a small scale to depict its spatial and visual relationships, while the discrete area around an estate mansion may require a larger scale to illustrate individual plant materials, pavement patterns and other details. The same may apply to an entire rural historic district and a fenced vegetable garden contained within. (See Figures 14-15, page 8).

When landscapes are documented in photographs, *registration points* can be set to indicate the precise location and orientation of features. Registration points should correspond to significant forms, features and spatial relationships within the landscape and its surrounds (see

HISTORIC LANDSCAPE FEATURES	DEGREE OF DOCUMENTATION					
	SITE EVIDENCE	MANNING PLAN	HISTORIC PHOTOS	LETTERS 1914-1946	1955-1993 RECORDS	SECONDARY SOURCES
NATURAL SYSTEMS/TOPOGRAPHY	▲	▲	▲	▲	▲	?
Bedrock (Quarry)	●	●	●	●		
Land Contour	●	●	●	●	●	
Rockwork	●	●	●	●	●	
WATER FEATURES	▲	▲	▲	▲	▲	?
Alignment—Cascade	●		●	●	●	
Alignment—Pools & Streams	●	●	●	●	●	
Materials—Cascade	●		●	●	●	
Materials—Pools & Streams	●		●	●	●	
CIRCULATION	▲	▲	▲	▲	▲	?
Alignment—Upland Area		●	●		●	
Alignment—Perimeter Paths	●	●	●	●	●	
Alignment—Internal Paths		●	●		●	
Materials—Upland Area		●	●		●	
Materials—Perimeter Paths	●	●	●	●		
Materials—Internal Paths		●	●	●	●	
SPATIAL RELATIONSHIPS	▲	▲	▲	▲	▲	?
Garden Site (Quarry)	●	●	●	●		
Viewshed (Cuyahoga Valley)	●		●	●		
Vista over Garden from Terrace			●	●		
Views within Garden		●	●	●	●	
Views within Upland		●	●	●		
Views from Croquet Lawn		●	●			
VEGETATION	▲	▲	▲	▲	▲	?
Native Forest Trees	●	●	●	●	●	
Ornamental Shrubs in Garden	●		●	●	●	
Groundcovers in Garden	●		●	●	●	
Herbaceous Plants in Garden			●	●	●	
SITE FURNISHINGS	▲	▲	▲	▲	▲	?
Lanterns	●		●	●	●	
Seats	●		●	●		
STRUCTURES	▲	▲	▲	▲	▲	?
Torii Gate	●		●		●	
Cistern	●	●		●	●	
Stone Wall Concealing Cistern	●		●	●	●	
Lagon Bridges			●	●	●	
Umbrella House			●	●		
Trellis/Lattice			●	●		

Figure 12: This chart measures available documentation for character-defining features in the Japanese Garden at Stan Hywet Hall, Akron, Ohio designed by Warren Manning. Areas with little or no historic documentation are noted, thus identifying areas where future treatment options may be restricted. As illustrated, restoration or reconstruction are viable alternatives based on the rich research findings. (courtesy Stan Hywet Hall Foundation, Inc. and Doell and Doell)

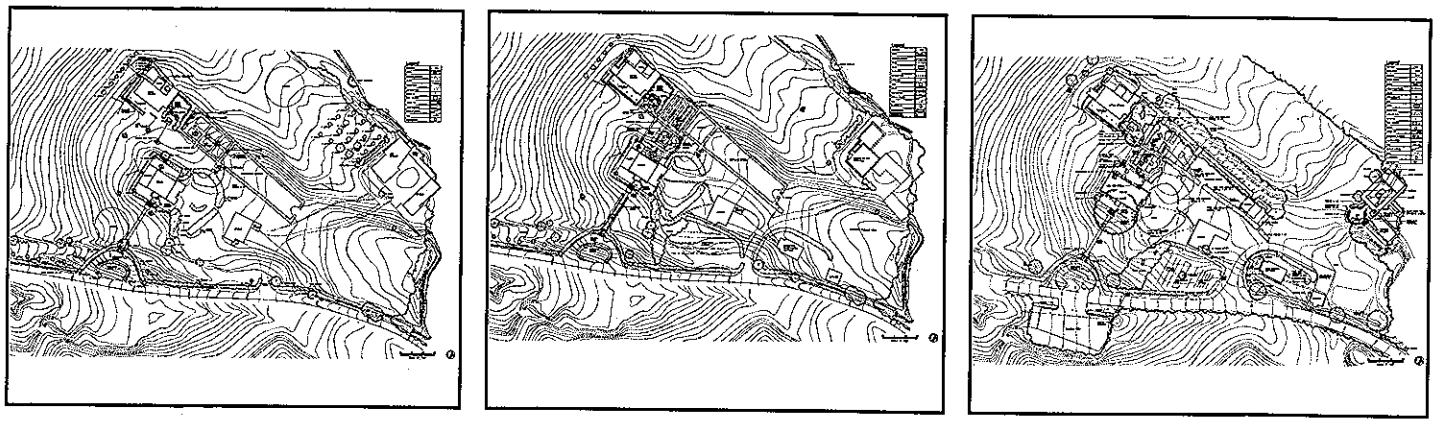


Figure 13: Period plans show the evolution of Aspet, the home of Augustus St. Gaudens, Cornish, New Hampshire. Plans were developed at two scales: first for the entire estate's development, and second for the core area around the house, studio and gardens. For both, plans were generated for five time periods: 1885-1903, 1903-1907, 1907-1926, 1926-1965 and 1965-1992. Illustrated above are the 1885-1903, 1907-1926, and the 1926-1965 plans for the core area. (courtesy National Park Service, North Atlantic Region and Pressley Associates)

READING THE LANDSCAPE

A noted geographer stated, "The attempt to derive meaning from landscapes possesses overwhelming virtue. It keeps us constantly alert to the world around us, demanding that we pay attention not just to some of the things around us but to all of them—the whole visible world in all of its rich, glorious, messy, confusing, ugly, and beautiful complexity."[4]

Landscapes can be read on many levels—landscape as nature, habitat, artifact, system, problem, wealth, ideology, history, place and aesthetic.[5] When developing a strategy to document a cultural landscape, it is important to attempt to read the landscape in its context of place and time. (See Figures 16-17, page 8)

Reading the landscape, like engaging in archival research, requires a knowledge of the resource and subject area as well as a willingness to be skeptical. As with archival research, it may involve serendipitous discoveries. Evidence gained from reading the landscape may confirm or contradict other findings and may encourage the observer and the historian to revisit both primary and secondary sources with a fresh outlook. Landscape investigation may also stimulate other forms of research and survey, such as oral histories or archeological investigations, to supplement what appeared on-site.

There are many ways to read a landscape—whatever approach is taken should provide a broad overview. This may be achieved by combining on-the-ground observations with a bird's-eye perspective.To begin this process, aerial photographs should be reviewed to gain an orientation to the landscape and its setting. Aerial photographs come in different sizes and scales, and can thus portray different levels of detail in the landscape. Aerial photographs taken at a high altitude, for example, may help to reveal remnant field patterns or traces of an abandoned circulation system; or, portions of axial relationships that were part of the original design, since obscured by encroaching woodland areas. Low altitude aerial photographs can point out individual features such as the arrangement of shrub and herbaceous borders, and the exact locations of furnishings, lighting, and fence alignments. This knowledge can prove beneficial before an on-site visit.

Aerial photographs provide clues that can help orient the viewer to the landscape. The next step may be to view the landscape from a high point such as a knoll or an upper floor window. Such a vantage point may provide an excellent transition before physically entering the cultural landscape.

On ground, evidence should then be studied, including character-defining features, visual and spatial relationships. By reviewing supporting materials from historic research, individual features can be understood in a systematic fashion that show the continuum that exists on the ground today. By classifying these features and relationships, the landscape can be understood as an artifact, possessing evidence of evolving natural systems and human interventions over time.

For example, the on-site investigation of an abandoned turn-of-the-century farm complex reveals the remnant of a native oak and pine forest which was cut and burned in the mid-nineteenth century. This previous use is confirmed by a small stand of mature oaks and the presence of these plants in the emerging secondary woodland growth that is overtaking this farm complex in decline. A ring count of the trees can establish a more accurate age. By *reading* other character-defining features—such as the traces of old roads, remnant hedgerows, ornamental trees along boundary roads, foundation plantings, the terracing of grades and remnant fences —the visual, spatial and contextual relationships of the property as it existed a century ago may be understood and its present condition and integrity evaluated.

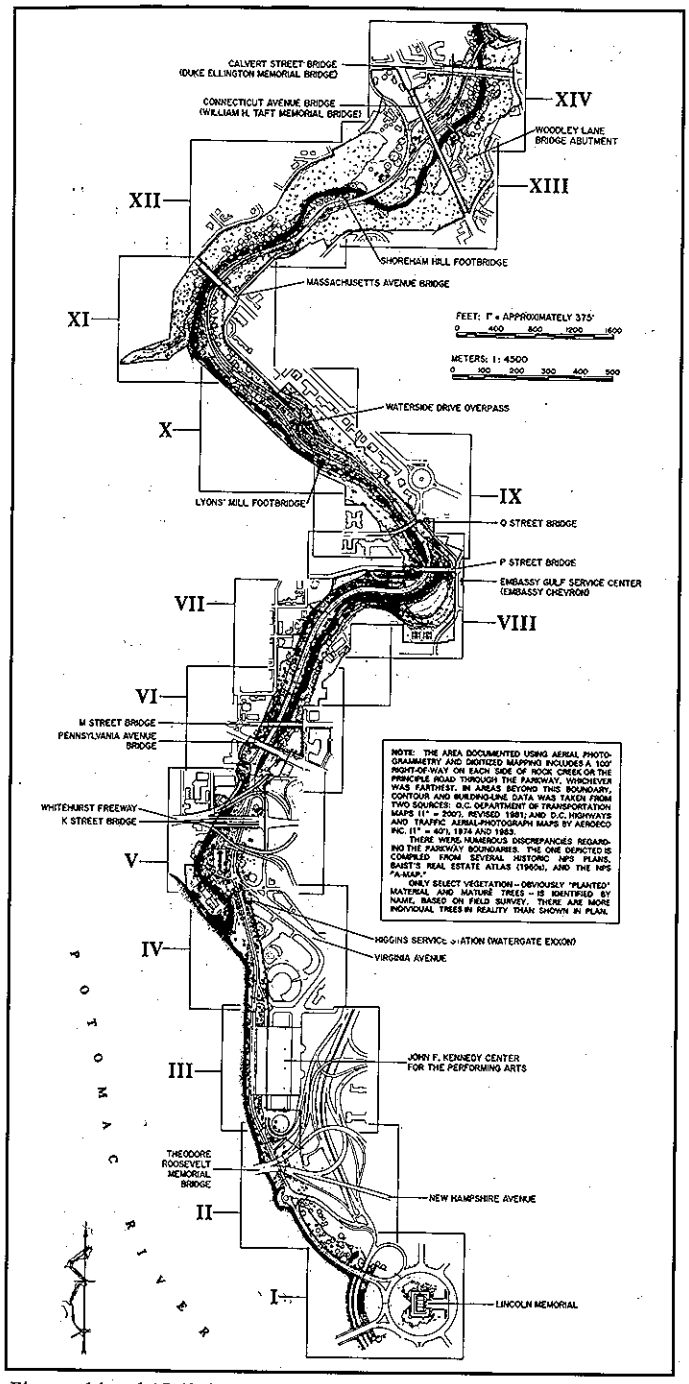
The findings of on-site reconnaissance, such as materials uncovered during archival research, may be considered primary data. These findings make it possible to inventory and evaluate the landscape's features in the context of the property's current condition. Character-defining features are located in situ, in relationship to each other and the greater cultural and geographic contexts.

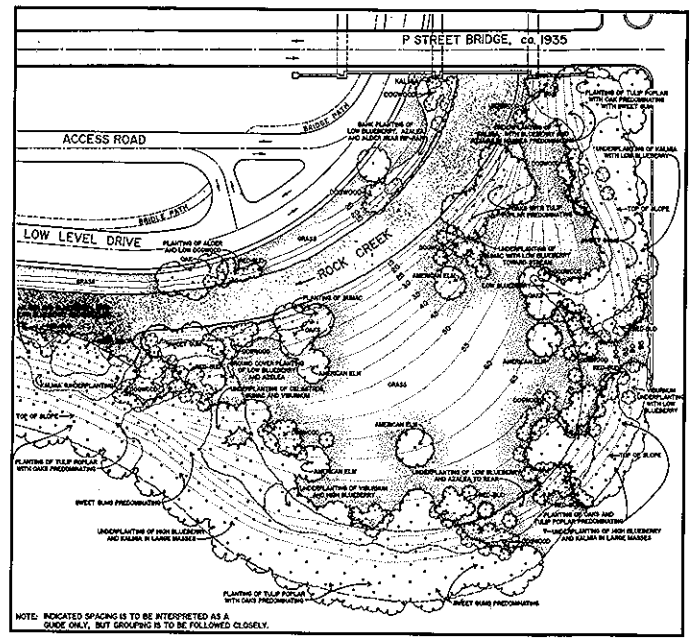
Figure 22, page 11 for an example.) The points may also correspond to historic views to illustrate the change in the landscape to date. These locations may also be used as a management tool to document the landscape's evolution, and to ensure that its character-defining features are preserved over time through informed maintenance operations and later treatment and management decisions.

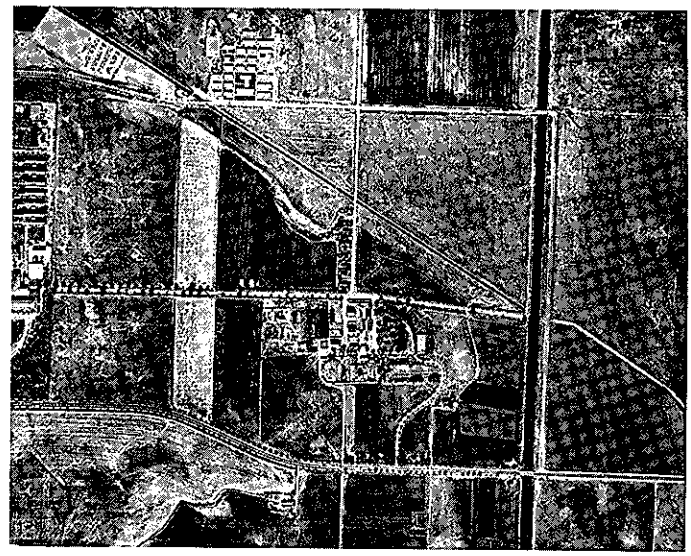
All features that contribute to the landscape's historic character should be recorded. These include the physical features described on page 1 (e.g. topography, circulation), and the visual and spatial relationships that are character-defining. The identification of existing plants, should be specific, including genus, species, common name, age (if known) and size. The woody, and if appropriate, herbaceous plant material should be accurately located on the existing conditions map. To ensure full representation of successional herbaceous plants, care should be taken to document the landscape in different seasons, if possible.

Treating living plant materials as a curatorial collection has also been undertaken at some cultural landscapes. This process, either done manually or by computer, can track the condition and maintenance operations on individual plants. Some sites, such as the Frederick Law Olmsted National Historic Site, in Brookline, Massachusetts have developed a field investigation numbering system to track all woody plants. (See Table, page 9) Due to concern for the preservation of genetic diversity and the need to replace significant plant materials, a number of properties are beginning to propagate historically important rare plants that are no longer commercially available, unique, or possess significant historic associations. Such herbarium collections become a part of a site's natural history collection.

Once the research and the documentation of existing conditions have been completed, a foundation is in place to analyze the landscape's continuity and change, determine its significance, assess its integrity, and place it within the historic context of similar landscapes.







Figures 14 and 15: Existing conditions plans for large corridor landscapes can employ a variety of documentation methodologies. For the 2 -1/2 mile Rock Creek and Potomac Parkway, Washington, D.C., the Historic American Buildings Survey (HABS) used aerial photogrammetric photographs as the basis for digitized mapping and delineated drawings. Overall documentation was done at a scale of 1" = 40' with a 100' either side geographic context. Contours were shown at 2' intervals, tree canopy with trunk placement for specimen species, bridges (also drawn in detail), roads, and the creek itself. In all, there are 36 drawings measuring 34" x 44" for the project. These two sample drawings include the index to plans (above) and an area of existing conditions documentation (opposite top). (courtesy Historic American Buildings Survey)

Figures 16 and 17: Landscapes cannot be inventoried in a vacuum. Therefore, an understanding of its geographic context or setting should be part of inventory process. At Rancho Los Alamitos, Long Beach, California (middle and bottom opposite), a comparison between the 1936 aerial view with a present day aerial photograph illustrates the encroachments and adjacent developments that will affect the future treatment of visual and spatial relationships. (courtesy Rancho Los Alamitos Foundation)

HISTORIC PLANT INVENTORY

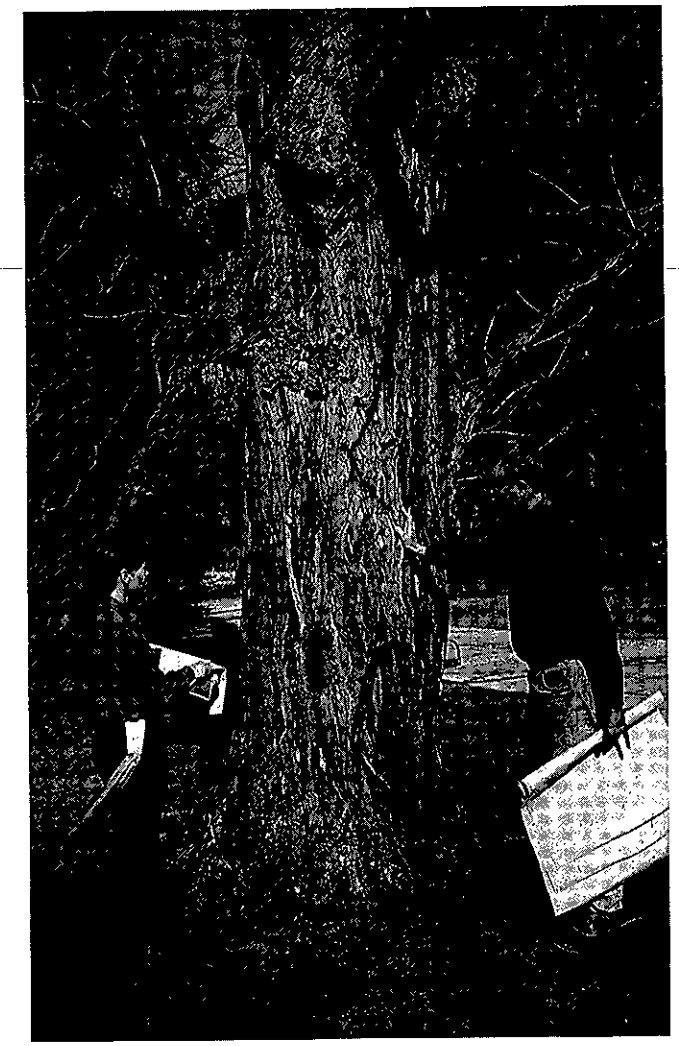
Within cultural landscapes, plants may have historical or botanical significance. A plant may have been associated with a historic figure or event or be part of a notable landscape design. A plant may be an uncommon cultivar, exceptional in size, age, rare and commercially/ unavailable. If such plants are lost, there would be a loss of historic integrity and biological diversity of the cultural landscape.To ensure that significant plants are preserved, an inventory of historic plants is being conducted at the North Atlantic Region of the National Park Service.[8] Historical landscape architects work with landscape managers and historians to gather oral and documented history on the plant's origin and potential significance. Each plant is then examined in the field by an expert horticulturist who records its name, condition, age, size, distribution, and, any notable botanic characteristics.

Plants that are difficult to identify or are of potential historical significance are further examined in the laboratory by a plant taxonomist who compares leaf, fruit, and flower characteristics with herbarium specimens for named species, cultivars and varieties. For plants species with many cultivars, such as apples, roses, and grapes, specimens may be sent to specialists for identification.

If a plant cannot be identified, is dying or in decline, and unavailable from commercial nurseries, it may be propagated. Propagation ensures that when rare and significant plants decline, they can be replaced with genetically-identical plants. Cuttings are propagated and grown to replacement size in a North Atlantic Region Historic Plant Nursery.

1. The Arnold Arboretum's preservation technician, lilac specialist, and horticulturist compare lilacs from the Vanderbilt Mansion National Historic Site in Hyde Park, New York with lilac specimens in the Arboretum's living collection. (courtesy Olmsted Center)

3. The Arnold Arboretum's horticulturist, landscape historian, and preservation technician examine shrubs at the Longfellow National Historic Site in Cambridge, MA. (courtesy Olmsted Center)



2. The Arnold Arboretum's horticulturist and preservation technician examine an enormous black locust tree at the Home of F.D. Roosevelt National Historic Site in Hyde Park, NY. (courtesy Olmsted Center)

Site Analysis: Evaluating Integrity and Significance

By analyzing the landscape, its change over time can be understood. This may be accomplished by overlaying the various period plans with the existing conditions plan. Based on these findings, individual features may be attributed to the particular period when they were introduced, and the various periods when they were present.

It is during this step that the *historic significance* of the landscape component of a historic property and its integrity are determined. Historic significance is the recognized importance a property displays when it has been evaluated, including when it has been found to meet National Register Criteria.[9] A landscape may have several areas of historical significance. An understanding of the landscape as a continuum through history is critical in assessing its cultural and historic value. In order for the landscape to have integrity, these character-defining features or qualities that contribute to its significance must be present.

While National Register nominations document the significance and integrity of historic properties, in general, they may not acknowledge the significance of the landscape's design or historic land uses, and may not contain an inventory of landscape features or characteristics. Additional research is often necessary to provide the detailed information about a landscape's evolution and significance useful in making decision for the treatment and maintenance of a historic landscape. Existing National Register forms may be amended to recognize additional areas of significance and to include more complete descriptions of historic properties that have significant land areas and landscape features.

Integrity is a property's historic identity evidenced by the survival of physical characteristics from the property's historic or prehistoric period. The seven qualities of integrity are location, setting, feeling, association, design, workmanship and materials.[10] When evaluating these qualities, care should be taken to consider change itself. For example, when a second-generation woodland overtakes an open pasture in a battlefield landscape, or a woodland edge encloses a scenic vista. For situations such as these, the reversibility and/or compatibility of those features should be considered, both individually, and in the context of the overall landscape. Together, evaluations of significance and integrity, when combined with historic research, documentation of existing conditions, and analysis findings, influence later treatment and interpretation decisions. (See Figure 21-23)

Developing a Historic Preservation Approach and Treatment Plan

Treatment may be defined as work carried out to achieve a historic preservation goal—it cannot be considered in a vacuum. There are many practical and philosophical factors that may influence the selection of a treatment for a landscape. These include the relative historic value of the property, the level of historic documentation, existing physical conditions, its historic significance and integrity, historic and proposed use (e.g. educational, interpretive, passive, active public, institutional or private), long- and short-term objectives, operational and code requirements (e.g. accessibility, fire, security) and costs for anticipated capital improvement, staffing and maintenance. The value of any significant archeological and natural resources

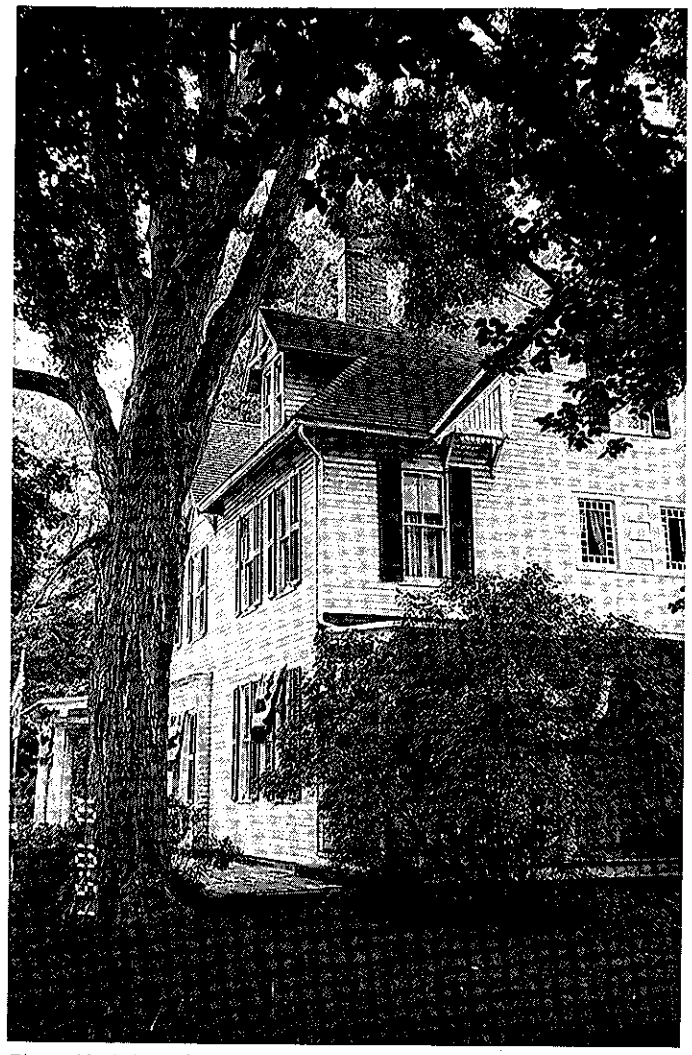


Figure 18: At Lawnfield, the home of President James A. Garfield near Cleveland, Ohio, the Sugar Maple that shadowed the porch during Garfield's 1880 "Front Porch Campaign" is in decline. Cuttings were taken from the historically significant tree by the Holden Arboretum and the National Park Service for eventual in-kind replacement. (courtesy NPS, Midwest Region)

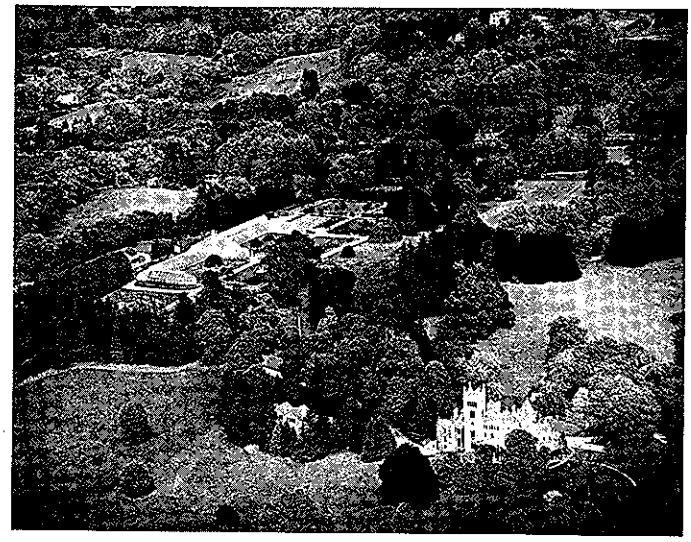


Figure 19: The landscape of Lyndhurst, Tarrytown, New York is significant in American culture and meets Criterion C of the National Register because it embodies the distinctive character of a type and period in American landscape architecture, known as early Picturesque; it possesses high artistic value; and it is the work of a recognized master gardener, Ferdinand Mangold. (courtesy National Trust for Historic Preservation)

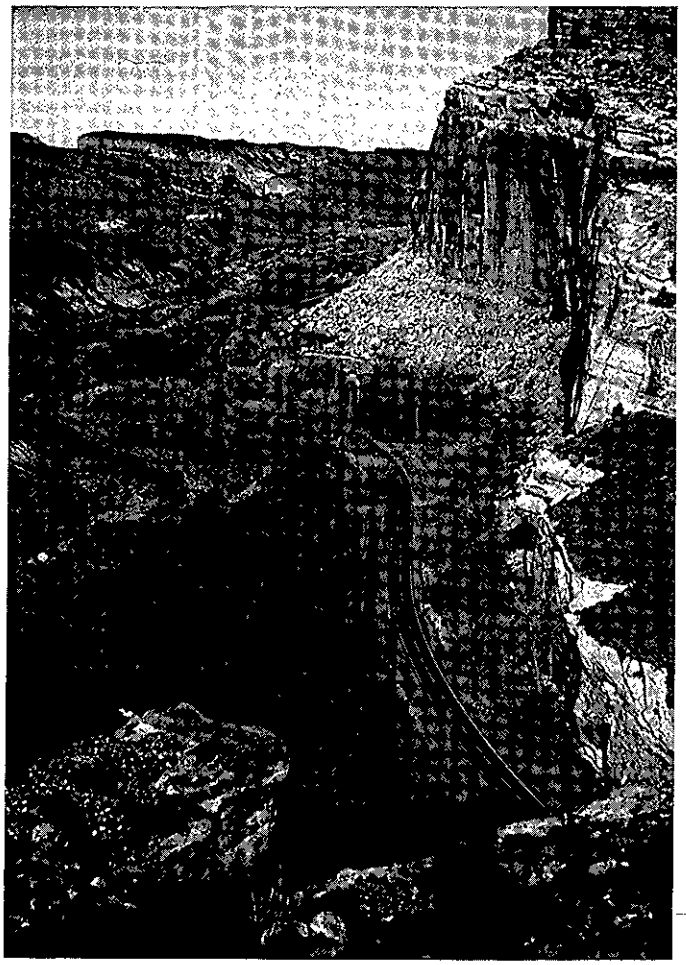
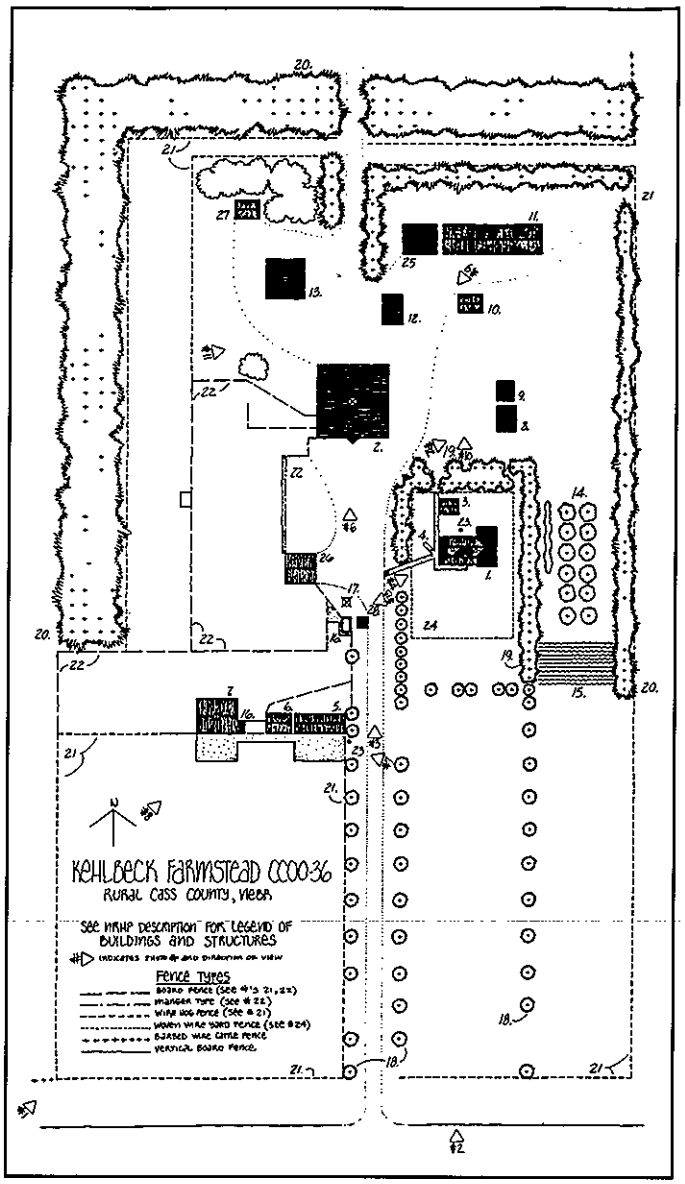


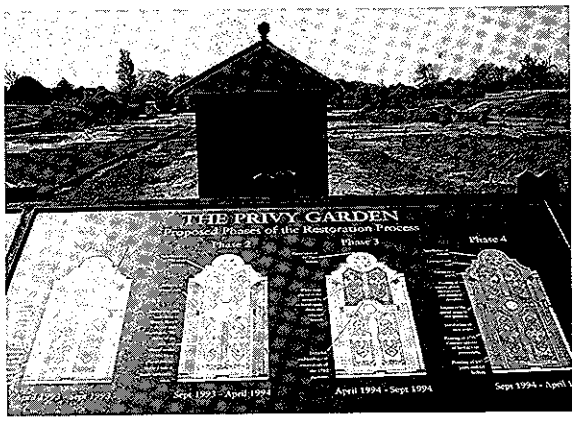
Figure 20: Cultural landscapes often contain plant communities such as orchards or meadows—both of which may or may not require a management intervention. When analyzing a landscape, it is important to recognize the present-day biodiversity of these resources—for example at the Fruita Rural Historic District in Capitol Reef National Park in Utah, the landscape contains 2,500 fruit trees associated with settlement and agriculture on the Colorado Plateau (courtesy D. White).

Figure 21: Integrity can involve both continuity and change. This can be evidenced by a detailed review of materials. Although the surface material has changed on some roads through the Port Oneida (near Empire, Michigan) community, the character-defining alignment, width and rows of Sugar Maple trees remain intact. (courtesy NPS, Midwest Region).



Figures 22 and 23: The plan for the Kehlbeck Farmstead, located in Cass County in Southeastern Nebraska, illustrates a well-planned, and aesthetically arranged general farm complex of the twentieth century. The farmstead is composed of 23 contributing and 5 non-contributing resources. Integrity was judged uniformly high because many character-defining resources were present and the visual and spatial relationships intact. Note the varied graphic techniques used to document a variety of fence types, and, the key to photographs illustrating the various landscape features and spatial relationships. The photograph above, labeled #3 on the farmstead, is looking north along the farm lane allee. (courtesy National Register Files)

LANDSCAPE INTERPRETATION



Figures A and B: Archeology and restoration of the Privy Garden at Hampton Court Palace gardens, England. The project is being interpreted to the public in the garden, an indoor exhibition and a multimedia show. The outdoor interpretive display, (above left) includes period plans, aerial photographs and historic images that detail the history of the garden and current work, 1994. (courtesy the author)

Landscape interpretation is the process of providing the visitor with tools to experience the landscape as it existed during its period of significance, or as it evolved to its present state. These tools may vary widely, from a focus on existing features to the addition of interpretive elements. These could include exhibits, self-guided brochures, or a new representation of a lost feature. The nature of the cultural landscape, especially its level of significance, integrity, and the type of visitation anticipated may frame the interpretive approach. Landscape interpretation may be closely linked to the integrity and condition of the landscape, and therefore, its ability to convey the historic character and character-defining features of the past. If a landscape has high integrity, the interpretive approach may be to direct visitors to surviving historic features without introducing obtrusive interpretive devices such as free-standing signs. For landscapes with a diminished integrity, where limited or no fabric remains, the interpretive emphasis may be on using extant features and visual aids (e.g. markers, photographs, etc.) to help visitors visualize the resource as it existed in the past. The primary goal in these situations is to educate the visitor about the landscape's historic themes, associations and lost character-defining features or broader historical, social and physical landscape contexts.

should also be considered in the decision-making process. Therefore, a cultural landscape's preservation plan and the treatment selected will consider a broad array of dynamic and interrelated considerations. It will often take the form of a plan with detailed guidelines or specifications.

Adopting such a plan, in concert with a preservation maintenance plan (page 18-19), acknowledges a cultural landscape's ever-changing existence and the interrelationship of treatment and ongoing maintenance. Performance standards, scheduling and record keeping of maintenance activities on a day-to-day or month-to-month basis, may then be planned for. Treatment, management, and maintenance proposals can be developed by a broad range of professionals and with expertise in such fields as landscape preservation, horticulture, ecology, and landscape maintenance.

The selection of a primary treatment for the landscape, utilizing the Secretary of the Interior's Standards for the Treatment of Historic Properties, establishes an overall historic preservation approach, as well as a philosophical framework from which to operate. Selecting a treatment is based on many factors. They include management and interpretation objectives for the property as a whole, the period(s) of significance, integrity, and condition of individual landscape features.

For all treatments, the landscape's existing conditions and its ability to convey historic significance should be carefully considered. For example, the life work, design philosophy and extant legacy of an individual designer should all be understood for a designed landscape such as an estate, prior to treatment selection. For a vernacular landscape, such as a battlefield containing a largely intact mid-nineteenth century family farm, the uniqueness of that agrarian complex within a local, regional, state, and national context should be considered in selecting a treatment.

The overall historic preservation approach and treatment approach can ensure the proper retention, care, and repair of landscapes and their inherent features.[11] In short, the Standards act as a preservation and management tool for cultural landscapes. The four potential treatments are described in the box opposite.

Landscape treatments can range from simple, inexpensive preservation actions, to complex major restoration or reconstruction projects. The progressive framework is inverse in proportion to the retention of historic features and materials. Generally, preservation involves the least change, and is the most respectful of historic materials. It maintains the form and material of the existing landscape. Rehabilitation usually accommodates contemporary

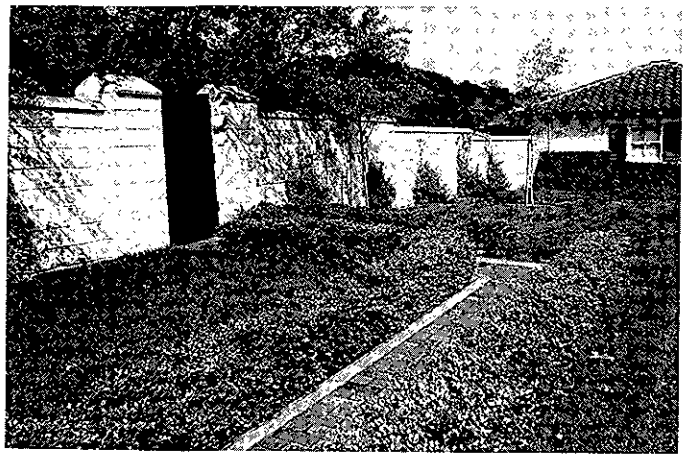


Figure 24: On some occasions, especially larger landscapes, it is possible to have a primary treatment, with discrete, or secondary areas of another treatment. This is most common for an individual feature in a larger landscape. At the Eugene and Carlotta O'Neill Historic Site, Danville, California the primary treatment selected for the courtyard was restoration. When accommodating universal accessibility requirements, the introduction of a grass paver walk was installed which warranted the removal of a few historic shrubs. This discrete project would be considered a rehabilitation treatment. (courtesy Patricia M. O'Donnell)

TREATMENTS FOR CULTURAL LANDSCAPES

Prior to undertaking work on a landscape, a treatment plan or similar document should be developed. The four primary treatments identified in the Secretary of the Interior's Standards for the Treatment of Historic Properties[12], are:

***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 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.*

***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 or cultural values.*

***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.*

***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.*

Figures 25 and 26: When the American Elm (Ulmus americana) was plagued with Dutch Elm Disease many historic properties relied on the Japanese Zelkova (Zelkova serrata) as a substitute plant. As illustrated, the overall form and scale of these trees is really quite different, and would therefore not be an appropriate substitute plant material under a restoration or reconstruction treatment.

alterations or additions without altering significant historic features or materials, with successful projects involving minor to major change. Restoration or reconstruction attempts to recapture the appearance of a property, or an individual feature at a particular point in time, as confirmed by detailed historic documentation. These last two treatments most often require the greatest degree of intervention and thus, the highest level of documentation.

In all cases, treatment should be executed at the appropriate level reflecting the condition of the landscape, with repair work identifiable upon close inspection and/or indicated in supplemental interpretative information. When repairing or replacing a feature, every effort should be made to achieve visual and physical compatibility. Historic materials should be matched in design, scale, color and texture.

A landscape with a high level of integrity and authenticity may suggest preservation as the primary treatment. Such a treatment may emphasize protection, stabilization, cyclical maintenance, and repair of character-defining landscape features. Changes over time that are part of the landscape's continuum and are significant in their own right may be

Figure 27: The historic birch allee at Stan Hywet Hall, Akron, Ohio was suffering from borer infestation and leaf miner. Dying trees were topped and basal sprout growth encouraged. Next, trees were selectively thinned, and ultimately, when the new growth matured, older trunks were removed. Original rootstock and genetic material were preserved. As illustrated, this preservation treatment took fifteen years to realize. (courtesy Child Associates)

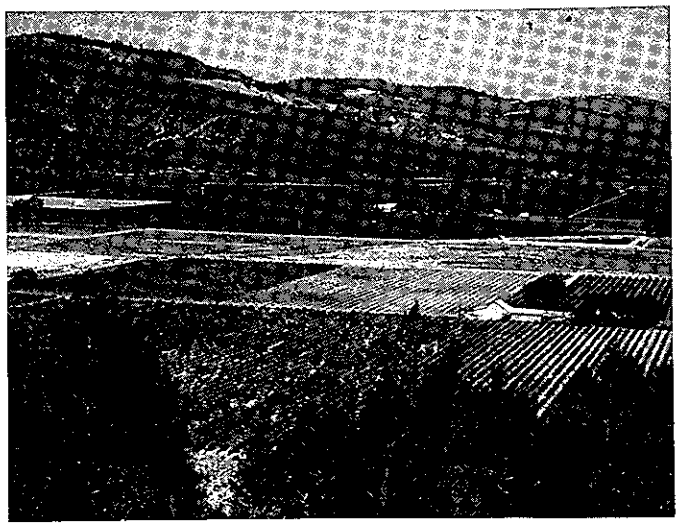


Figure 28: Patterns on the land have been preserved through the continuation of traditional uses such as the grape fields at the Sterling Vineyards in Calistoga, California. (courtesy author)

Figures 29: Rehabilitation was selected as the primary treatment for Columbus Park, Chicago, Illinois. Originally designed and executed between 1917 and 1920 by Jens Jensen, the waterfall, cascades, rocky brook and associated landscape, are well documented and possesses a high level of integrity. (courtesy author)

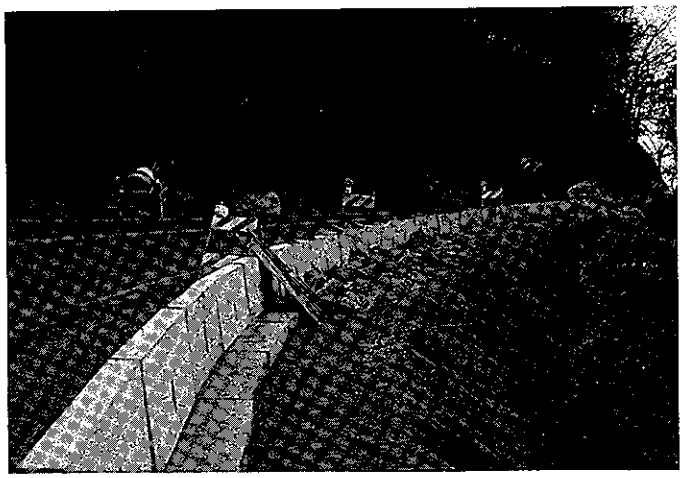
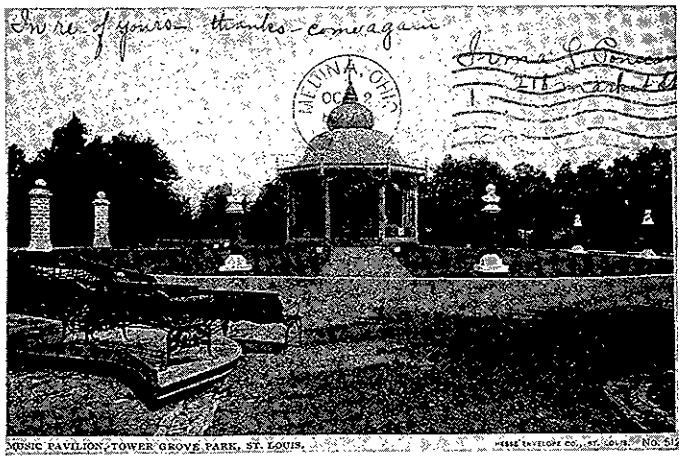
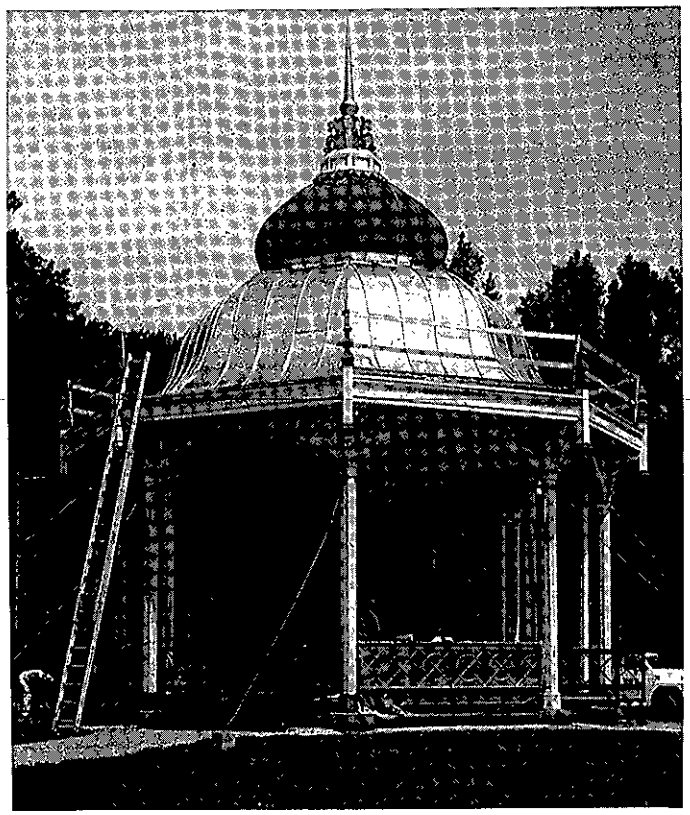
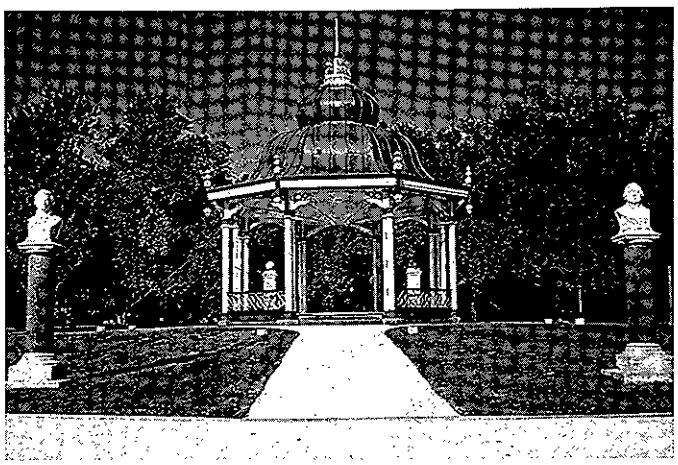


Figure 30, 31: A 75-mile portion of Skyline Drive at Shenandoah National Park overlooking the Blue Ridge Mountains of Virginia required the rehabilitation of a 22"-high, dry-laid stone wall. The new wall was built to a height of 27" – code normally requires a height of 36". The wall was constructed of percast concrete, clad with split stone and mortar joints. To achieve visual compatibility recessed mortar joints were arranged in a random pattern (courtesy Robert R. Page)







retained, while changes that are not significant, yet do not encroach upon or erode character may also be maintained. Preservation entails the essential operations to safeguard existing resources. (Figures 27-28)

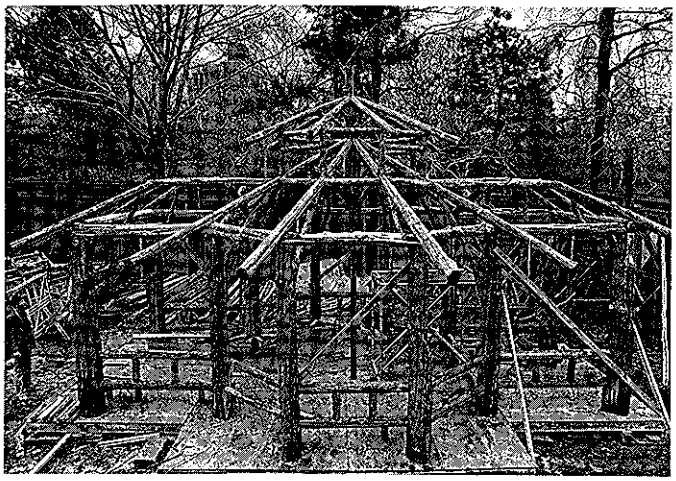
Rehabilitation is often selected in response to a contemporary use or need—ideally such an approach is compatible with the landscape's historic character and historic use. Rehabilitation may preserve existing fabric along with introducing some compatible changes, new additions and alterations. Rehabilitation may be desirable at a private residence in a historic district where the homeowner's goal is to develop an appropriate landscape treatment for a front yard, or in a public park where a support area is needed for its maintenance operations. (Figures 29-31)

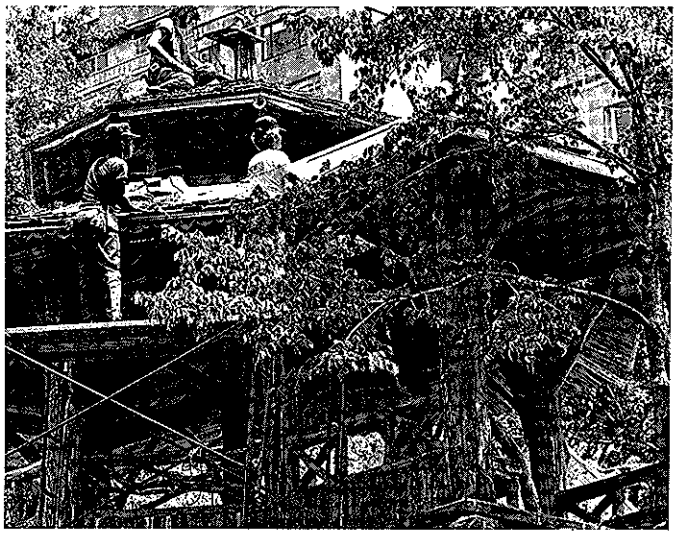
When the most important goal is to portray a landscape and its character-defining features at an exact period of time, restoration is selected as the primary treatment. Unlike preservation and rehabilitation, interpreting the landscape's continuum or evolution is not the objective. Restoration may include the removal of features from other periods and/or the construction of missing or lost features and materials from the reconstruction period. In all cases, treatment should be substantiated by the historic research findings and existing conditions documentation. Restoration and reconstruction treatment work should avoid the creation of a landscape whose features did not exist historically. For example, if features from an earlier period did not co-exist with extant features from a later period that are being retained, their restoration would not be appropriate. (Figures 32-34)

In rare cases, when evidence is sufficient to avoid conjecture, and no other property exists that can adequately explain a certain period of history, reconstruction may be utilized to depict a vanished landscape. The accuracy of this work is critical. In cases where topography and the subsurface of soil have not been disturbed, research and existing conditions findings may be confirmed by thorough archeological investigations. Here too, those features that are intact should be repaired as necessary, retaining the original historic features to the greatest extent possible. The greatest danger in reconstruction is creating a false picture of history.

False historicism in every treatment should be avoided. This applies to individual features as well as the entire landscape. Examples of inappropriate work include the introduction of historic-looking benches that are actually a new design, a fanciful gazebo placed in what was once an open meadow, executing an unrealized historic design, or designing a historic-looking landscape for a relocated historic structure within "restoration."

Figure 32-34: Tower Grove Park in St. Louis, Missouri, is a National Historic Landmark. The music pavilion, just north of the main drive is a circular lawn area with radiating walks, white marble busts of eminent composers, walks, and curb. The area was in general decline, especially the marble busts which were suffering from acid rain damage. Based on the excellent documentation in nineteenth century annual reports, postcards and photographic images, this area was recently restored. Illustrated above are a sample historic view, work in progress and the completed restoration project. (courtesy Tower Grove Park)





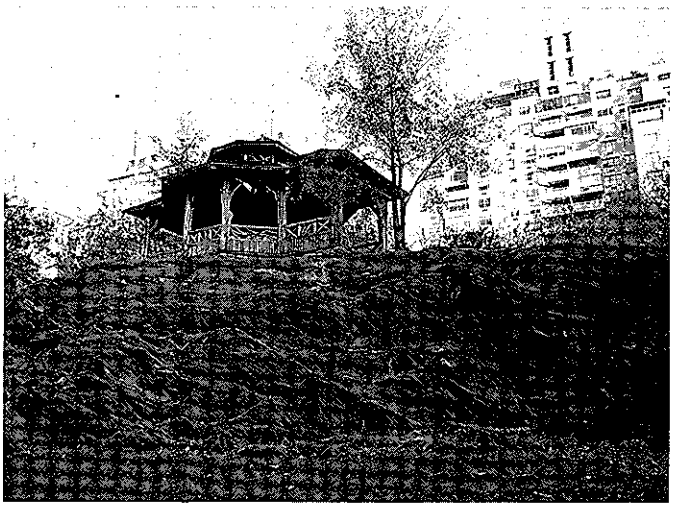


Figure 35-37: Central Park has developed an in-house historic preservation crew to undertake small projects. A specialized crew has been trained to specifically repair and rebuild rustic furnishings. As illustrated, the restoration of the Dene rustic shelter was achieved by constructing it in the Ramble compound, moving in-place opposite 67th street and completed. (courtesy Central Park Conservancy)

Developing a Preservation Maintenance Plan and Implementation Strategy

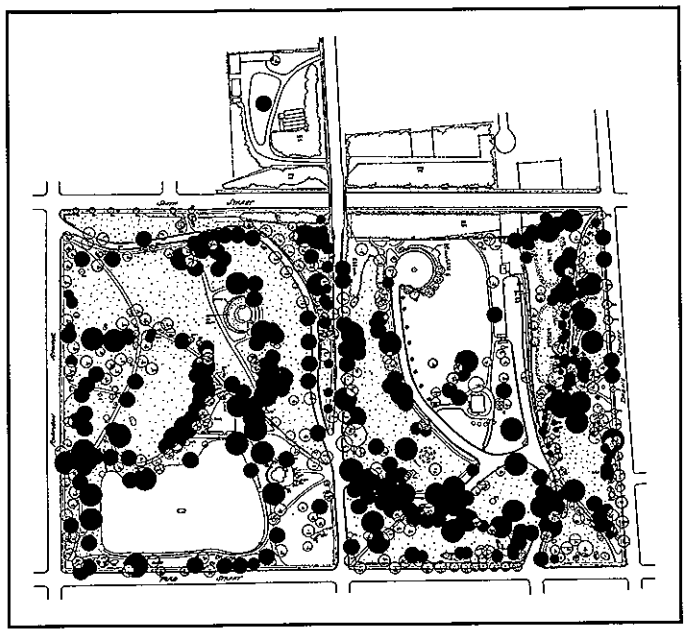
Throughout the preservation planning process, it is important to ensure that existing landscape features are retained. Preservation maintenance is the practice of monitoring and controlling change in the landscape to ensure that its historic integrity is not altered and features are not lost. This is particularly important during the research and long-term treatment planning process. To be effective, the maintenance program must have a guiding philosophy, approach or strategy; an understanding of preservation maintenance techniques; and a system for documenting changes in the landscape.

The philosophical approach to maintenance should coincide with the landscape's current stage in the preservation planning process. A Cultural Landscape Report and Treatment Plan can take several years to complete, yet during this time managers and property owners will likely need to address immediate issues related to the decline, wear, decay, or damage of landscape features. Therefore, initial maintenance operations may focus on the stabilization and protection of all landscape features to provide temporary, often emergency measures to prevent deterioration, failure, or loss, without altering the site's existing character.

After a Treatment Plan is implemented, the approach to preservation maintenance may be modified to reflect the objectives defined by this plan. The detailed specifications prepared in the Treatment Plan relating to the retention, repair, removal, or replacement of features in the landscape should guide and inform a comprehensive preservation maintenance program. This would include schedules for monitoring and routine maintenance, appropriate preservation maintenance procedures, as well as ongoing record keeping of work performed. For vegetation, the preservation maintenance program would also include thresholds for growth or change in character, appropriate pruning methods, propagation and replacement procedures.

To facilitate operations, a property may be divided into discrete management zones (Figure 41). These zones are sometimes defined during the Cultural Landscape Report process and are typically based on historically defined areas. Alternatively, zones created for maintenance practices and priorities could be used. Examples of maintenance zones would include woodlands, lawns, meadow, specimen trees, and hedges.

Training of maintenance staff in preservation maintenance skills is essential. Preservation maintenance practices differ from standard maintenance practices because of the focus on perpetuating the historic character or use of the landscape rather than beautification. For example, introducing new varieties of turf, roses or trees is likely to be inappropriate. Substantial earth moving (or movement of soil) may be inappropriate where there are potential archeological resources. An old hedge or shrub should be rejuvenated, or propagated, rather than removed and replaced. A mature specimen tree may require cabling and careful monitoring to ensure that it is not a threat to visitor safety. Through training programs and with the assistance of preservation maintenance specialists, each property could develop maintenance specifications for the care of landscape features.



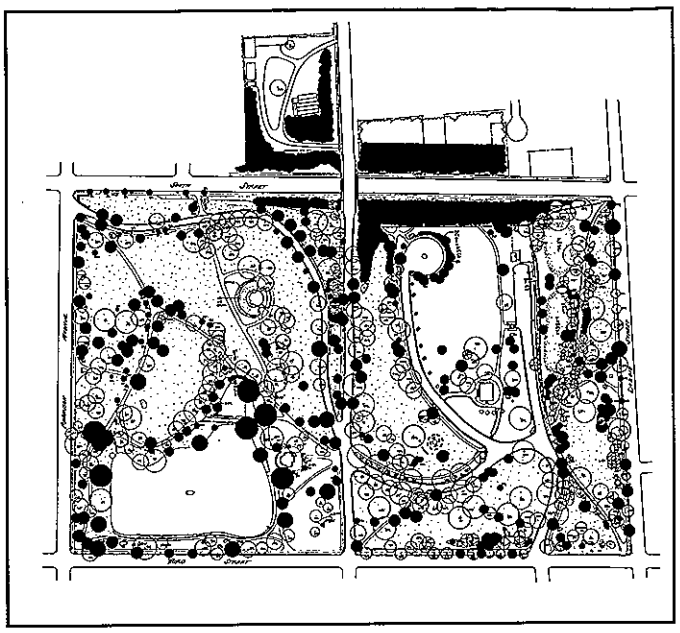


Figure 38 and 39 (above, left and right): The importance of landscape analysis and its ability to inform treatment and maintenance decisions is reflected in these two plans for Downing Park, Newburgh, New York. The plan, rendered in black, top left, illustrates all extant historic plants, while the plan, top right, depicts plantings which are non-historic or invasive for removal or relocation outside of the historic park. (courtesy LANDSCAPES)

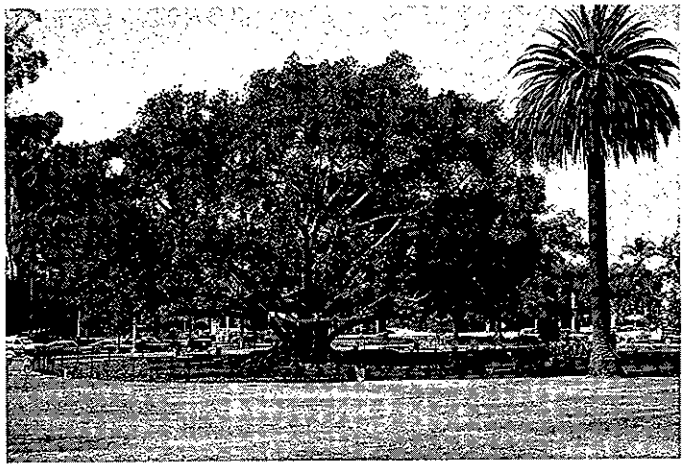
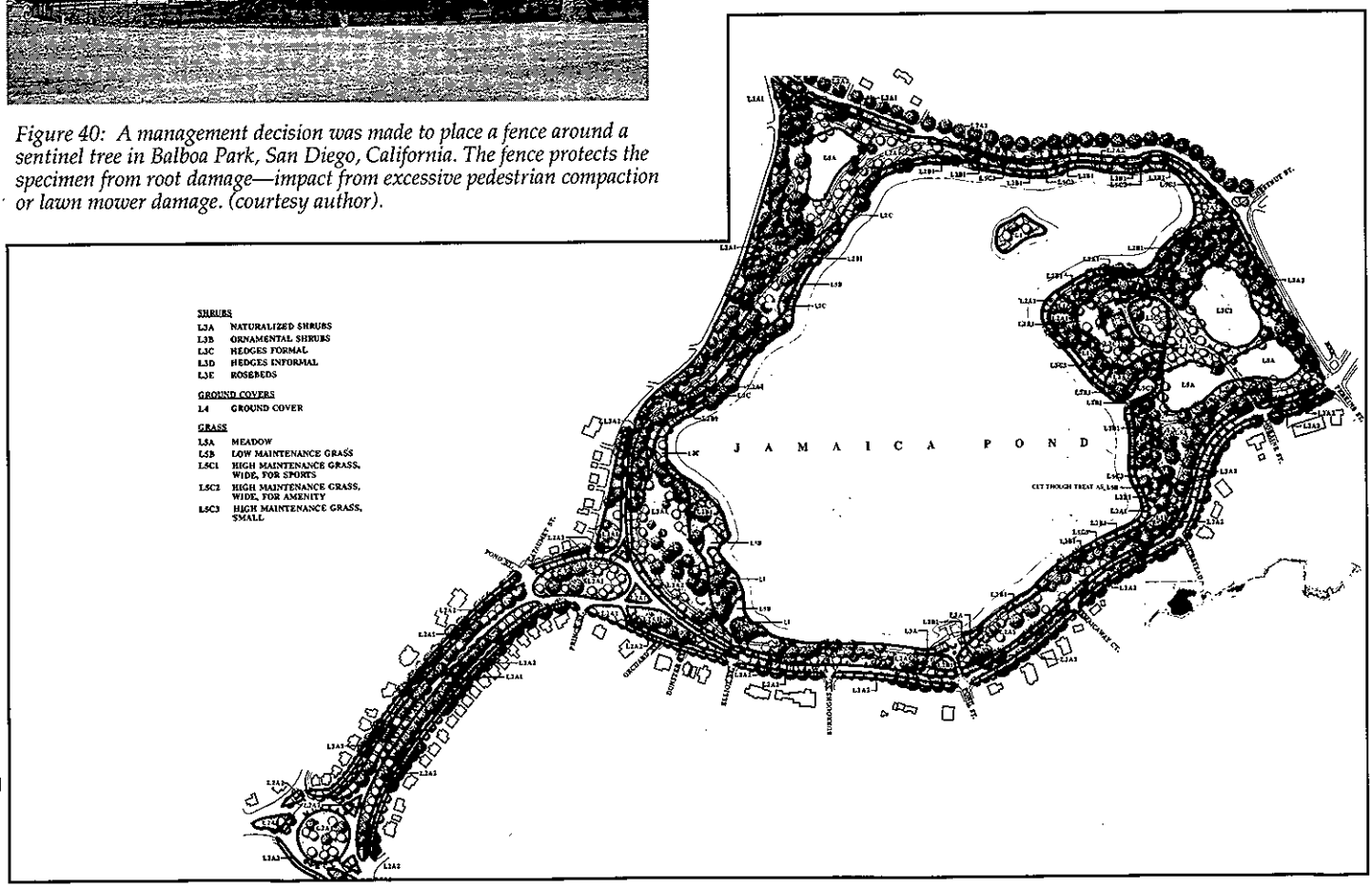


Figure 40: A management decision was made to place a fence around a sentinel tree in Balboa Park, San Diego, California. The fence protects the specimen from root damage—impact from excessive pedestrian compaction or lawn mower damage. (courtesy author).

Figure 41 (below): A small property of under an acre may only have a few management zones including lawn, trees over lawn, shrub and herbaceous borders. Larger, more complex landscapes such as Jamaica Pond Park, Boston and Brookline, Massachusetts, contains a broader range of management zones including: forests, trees over grass—broad areas, trees over grass—narrow areas, meadows, and mown grass for active recreation amenities or passive use. (courtesy Walmsley/Pressley Joint Venture)



DEVELOPING A PRESERVATION MAINTENANCE GUIDE

In the past, there was rarely adequate record-keeping to fully understand the ways a landscape was maintained. This creates gaps in our research findings. Today, we recognize that planning for ongoing maintenance and on-site applications should be documented—both routinely and comprehensively. An annual work program or calendar records the frequency of maintenance work on built or natural landscape features. It can also monitor the age, health and vigor of vegetation. For example, on-site assessments may document the presence of weeds, pests, dead leaves, pale color, wilting, soil compaction—all of which signal particular maintenance needs. For built elements, the deterioration of paving or drainage systems may be noted and the need for repair or replacement indicated before hazards develop. An overall maintenance program can assist in routine and cyclic maintenance of the landscape and can also guide long term treatment projects.

To help structure a comprehensive maintenance operation that is responsive to staff, budget, and maintenance priorities, the National Park Service has developed two computer-driven programs for its own landscape resources. A Maintenance Management Program (MM) is designed to assist maintenance managers in their efforts to plan, organize, and direct the park maintenance system. An Inventory and Condition Assessment Program (ICAP) is designed to complement MM by providing a system for inventorying, assessing conditions, and for providing corrective work recommendations for all site features.

Another approach to documenting maintenance and recording changes over time is to develop a manual or computerized graphic information system. Such a system should have the capability to include plans and photographs that would record a site's living collection of plant materials. (Also see discussion of the use of photography under Preparing Existing Conditions Plans, page 5.) This may be achieved using a computer-aided drafting program along with an integrated database management system.

To guide immediate and ongoing maintenance, a systematic and flexible approach has been developed by the Olmsted Center for Landscape Preservation. Working with National Park Service landscape managers and maintenance specialists, staff assemble information and make recommendations for the care of individual landscape features.

Each landscape feature is inspected in the field to document existing conditions and identify field work needed. Recommendations include maintenance procedures that are sensitive to the integrity of the landscape.

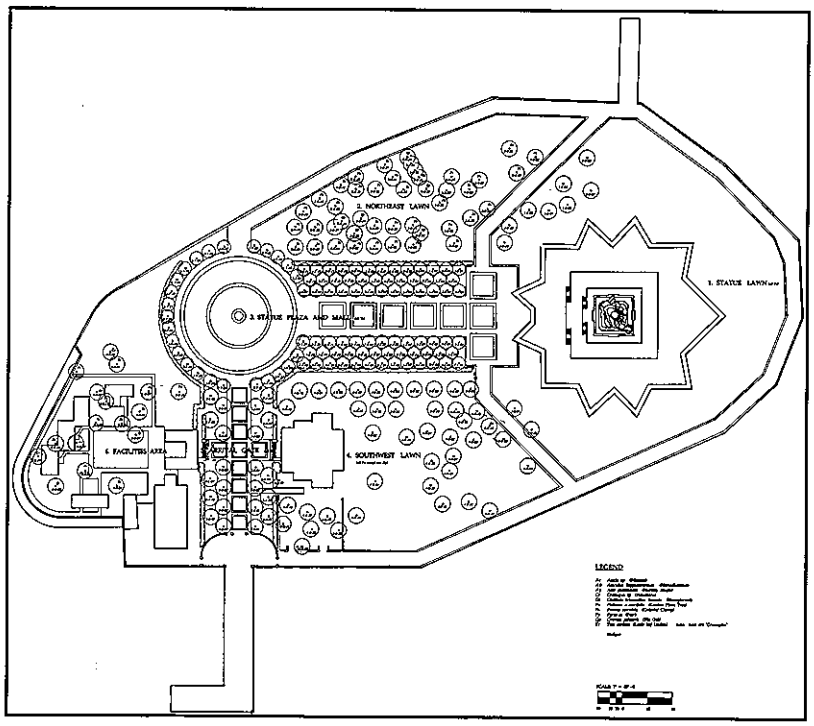


Figure A- Existing Conditions: A map of the existing trees at the Statue of Liberty National Monument is used to indicate necessary preservation maintenance work (Drawn by Margaret Coffin, 1992)

Statue of Liberty National Monument
FIELD INVENTORY, INSPECTION, AND WORK NEEDED

Category: Specimen Trees
Areas: 4 - South Lawn
Feature Name and Field ID#:

Feature Name and Field ID#	Overall Rating	Bark Texture	Bark Color	Crown Form	Foliage Color	Foliage Texture	Foliage Density	Comment on size, age, condition, field diagnosis and work needed:	Feature Diagnosed Needed (y/n)	Pruning Needed (y/n)	Cyclical Work (y/n)	Replace Immediately (y/n)	Action Completed date
London Plane Tree 4-0-26	2	2	1	2	1	2	n	Large scar from branch split, structurally weak tree, remove branches with decay at base, plan for replacement	yes	x		P	
London Plane Tree 4-0-27	3	1	1	2	1	2	n	leaner, crowded by larger adjacent tree, remove dead branches	no	*			
London Plane Tree 4-0-28	3	1	1	3	1	3	n	internal decay, remove large dead branches	yes	*			
London Plane Tree 4-0-29	2	1	1	2	1	2	n	fair condition, remove dead watersprouts from trunk and dead branches	no	*			
London Plane Tree 4-0-30	1	2	1	2	1	2	n	good condition, remove watersprouts from trunk	no	x			
London Plane Tree 4-0-31	2	3	1	1	1	2	n	fair condition, needs structural pruning at top of crown, remove three dead broken branches	no	*			
London Plane Tree 4-0-32	1	3	1	2	1	2	n	good overall condition, remove one dead branch	no	*			
London Plane Tree 4-0-33	3	2	1	1	1	1	n	leaner, remove two of five lower branches	no	x			
London Plane Tree 4-0-34	1	2	1	2	1	2	n	remove watersprouts from trunk, re-cut dead branch spur	no	x			
London Plane Tree 4-0-35	2	2	1	2	1	2	n	remove watersprouts from trunk, needs structural pruning throughout	no	x			
London Plane Tree 4-0-36	3	3	3	3	1	3	n	in decline, dieback throughout, safety hazard, remove all deadwood, plan for replacement	yes	*		P	

Codes: [illegible]
Environmental factors to be [illegible]
Inspected by: M Coffin, A Farrugia, C. Pepper
Date: July 15, 1992

Figure B - Field Inventory, Inspection, and work needed: Within areas of the landscape, each feature is assigned a field identification number. An inspection is conducted to assess the condition, potential problems, such as deadwood or integral decay, and specify work needed. A map (above) is used to locate features that require attention)

Statue of Liberty National Monument
FEATURE DATA - LONDON PLANE TREE

CATEGORY:	Deciduous Tree
AREAS:	4- South Lawn
FEATURE NAME:	London Plane tree (Platanus x acerifolia)
SOURCE OF IDENTIFICATION:	Al Farrugio, STLJ Horticulturist, 1992

DESCRIPTIVE CHARACTERISTICS:
The fruit of London Plane Tree is typically in clusters of 2, leaves are large, 5 -10" width whereas the fruit of American Sycamore is singular, and leaves are slightly smaller.

HISTORIC SIGNIFICANCE/ APPEARANCE/ INTENT:
London Plane trees were specified in the General Development Plan by Norman Newton in 1937 (Newton, N. T. Design on the Land, Harvard University Press, 1971, p. 543).

PRESERVATION PRACTICES AND WORK PROCEDURES:

Winter -
Prune out dead, damaged wood and watersprouts as needed. Inspect for interior decay and pest damage. Disinfect tools between cuts to prevent spread of cankerstain disease.
Spring -
Trunk protection. Take preventative actions to protect the base of each tree from string trimmer damage. Train all equipment operators.
Monitor and treat anthracnose. Prolonged periods of cool, moist, damp spring weather will increase anthracnose. The best times to control anthracnose are before bud break, at bud break, and when leaves have expanded.
Transplant. Spring is the best time to transplant trees.
Summer -
Water newly transplanted trees so that they receive one inch of water every 10 days. To water, set up water bags around the base of the tree at the end of the day. Remove empty bags in the morning. Do not overwater.
Fall -
Rake up London Plane tree leaves and dispose off site to remove anthracnose inoculum.

PESTS, DISEASES AND CULTURAL PROBLEMS:
Pests - Plum Borer, Lecanium Scale, Sycamore Lace Bug, Aphids, Fall Webworm
Diseases - Anthracnose, Cankerstain, Wetwood, Powdery Mildew
Cultural Problems - Susceptible to drought stress, frequently produces watersprouts, often vandalized by carving in bark.

RECOMMENDED METHOD AND SOURCE OF REPLACEMENT: Replace in-kind with nursery stock. Consider anthracnose resistant cultivars that are similiar in size and character to the straight species.

PROPAGATION METHOD: Take root cuttings in July or August. Treat with IBA.

ADDITIONAL SOURCES OF INFORMATION:
Shigo, Alex L. A New Tree Biology. Durham NH: Shigo & Trees, Assoc., 1986.
Sinclair, Lyon & Johnson. Diseases of Trees & Shrubs. Ithaca NY: Cornell U. Press, 1987.

Figure C - Feature Data: *For each feature that requires special care, a detailed sheet is developed. This contains notes on when to monitor and carry out work, specific procedures, cite potential problems, and perform repair or replacement.*

Statue of Liberty National Monument
CALENDAR - SPRING

FOR ALL TREES -

Transplant. Spring is the best time to transplant trees.

If soil or leaf analysis indicates that fertilizer is needed, late fall is the best time to fertilize trees However, fertilizer may also be applied in early Spring, before bud break. Use an organic fertilizer with the micronutrients needed, such as manganese. If the lawn area below the trees is receiving fertilizer, additional fertilizer is not necessary. Light annual pruning throughout the tree tends to reduce the amount of fertilizer needed.

LONDON PLANE TREES -

Trunk protection. Take preventative actions to protect the base of each tree from string trimmer damage. Train all equipment operators.

Monitor and treat anthracnose. Prolonged periods of cool, moist, damp spring weather will increase anthracnose. The best times to control anthracnose are before bud break, at bud break, and when leaves have expanded.

LINDENS -

Prune out crossing branches on young trees.

LAWN -

Rake lawn areas in the early spring to remove matted grass and accumulated debris. De-thatch lawn areas where thatch accumulation exceeds 3/4 of an inch.

Aerate with a core aerator, lawn areas that are heavily compacted. However, do not aerate around the trees because of shallow roots.

Begin mowing and trimming operations. Instruct all equipment operators on how to prevent damage to tree trunks.

Check soil pH. Send soil samples to Cooperative Extension Service for analysis of pH, phosphorus and potassium levels. Apply lime and fertilizer as necessary to adjust the soil condition.

Fertilize in late May or early June with an organic fertilizer with an analysis of 5-4-3 or equivalent. Apply at a rate of one pound of nitrogen per 1000 square feet. This is the first of three annual applications.

Inspect lawn areas for pests (grubs) and disease (leaf spot, leaf smut) damage.

Figure D - Calendar for Monitoring and for Work: *All feature-specific monitoring and work recommendations are combined into one seasonal calendar for all areas of the landscape to ensure that important work activities are not overlooked.*

Statue of Liberty National Monument
RECORD KEEPING - FEATURE: LONDON PLANE TREE

Record notes on measurements, conditions, work performed, reason for removal, replacement or installation, propagation method and growing location, status of feature, or reference to a related report, etc.	Pruning	Fertilizing	Watering	Pest Control	Disease Control	Other	Date and Initials
All deadwood and watersprouts removed by Arboriculture class from University of Massachusetts.		X					AF 8/92
Replaced tree #4-0-26 with London Plane Tree, anthracnose resistant cultivar 'Columbia'. Installed through Gardener Intake Project.			X				AF 4/93
#4-0-26 damaged by vandalism, re-set and restaked.	X						AF 5/93
Removed and replaced #4-0-37 with London Plane Tree, anthracnose resistant cultivar 'Liberty' in order to compare with 'Columbia'.			X				AF 5/93
#4-0-26 'Columbia' and #4-0-37 'Liberty' both in fairly good condition. Both received water by gator bag 1x a week during July and August.	X						AF 8/93

Figure E - Record Keeping: *A record sheet is created for each type of feature. Maintenance staff may record information relating to changes in condition, major work performed, removal, replacement, propagation and any other events. As records are added too through the years, they become a valuable source of documentation of the landscape's history.*

Because landscapes change through the seasons, specifications for ongoing preservation maintenance should be organized in a calendar format. During each season or month, the calendar can be referenced to determine when, where, and how preservation maintenance is needed. For example, for some trees structural pruning is best done in the late winter while other trees are best pruned in the late summer. Serious pests are monitored at specific times of the year, in certain stages of their life cycle. This detailed calendar will in turn identify staff needs and work priorities.

Depending on the level of sophistication desired, one approach to documenting maintenance data and recording change over time is to use a computerized geographical or visual information system.[13] Such a system would have the capability to include plans and photographs that would focus on a site's landscape features.

If a computer is not available, a manual or notebook can be developed to organize and store important information. This approach allows managers to start at any level of detail and to begin to collect and organize information about landscape features (see Box opposite and above). The value of these maintenance records cannot be overstated. These records will be used in the future by historians to understand how the landscape has evolved with the ongoing care of the maintenance staff.

Recording Treatment Work and Future Research Recommendations

The last and ongoing step in the preservation planning process records the treatment work as carried out. It may include a series of as-built drawings, supporting photographic materials, specifications and a summary assessment. New technologies that have been successfully used should be highlighted. Ideally, this information should be shared with interested national organizations for further dissemination and evaluation.

The need for further research or additional activities should also be documented. This may include site-specific or contextual historical research, archeological investigations, pollen analysis, search for rare or unusual plant materials, or, material testing for future applications.

Finally, in consultation with a conservator or archivist—to maximize the benefit of project work and to minimize the potential of data loss—all primary documents should be organized and preserved as archival materials. This may include field notes, maps, drawings, photographs, material samples, oral histories and other relative information.

Summary

The planning, treatment, and maintenance of cultural landscapes requires a multi-disciplinary approach. In landscapes, such as parks and playgrounds, battlefields, cemeteries, village greens, and agricultural land preserves—more than any other type of historic resource—communities rightly presume a sense of stewardship. It is often this grass roots commitment that has been a catalyst for current research and planning initiatives. Individual residential properties often do not require the same level of public outreach, yet a systematic planning process will assist in making educated treatment, management and maintenance decisions.

Wise stewardship protects the character, and or spirit of a place by recognizing history as change over time. Often, this also involves our own respectful changes through treatment. The potential benefits from the preservation of cultural landscapes are enormous. Landscapes provide

scenic, economic, ecological, social, recreational and educational opportunities that help us understand ourselves as individuals, communities and as a nation. Their ongoing preservation can yield an improved quality of life for all, and, above all, a sense of place or identity for future generations.

Selected Reading

Birnbaum, Charles A, guest editor. *Preservation Forum.* "Focus on Landscape Preservation". Washington, D.C.: National Trust for Historic Preservation, Volume 7, No. 3, May/June 1992.

Buggey Susan, guest editor. *APT Bulletin. Special Issue: Conserving Historic Landscapes.* Fredericksburg, VA: Association for Preservation Technology International, Volume XXIV, No. 3-4, 1992.

Burns, John A, and the Staff of HABS/HAER. *Recording Historic Structures.* American Institute of Architects Press, 1989. (Includes chapter on the documentation of Meridian Hill Park, pp. 206-219.)

Diehl, Janet and Thomas S. Barrett, et al. *The Conservation Easement Handbook. Managing Land Conservation and Historic Preservation Easement Programs,* The Land Trust Exchange (now Alliance) and the Trust for Public Land, 1988.

International Committee of Historic Gardens and Sites, ICOMOS-IFLA. *Jardins et Sites Historiques,* Scientific Journal. ICOMOS 1993. Compilation of papers on the subject, in both english and french.

Kelso, William M., and Rachel Most. *Earth Patterns: Essays in Landscape Archaeology.* Charlottesville, VA: University Press of Virginia, 1990.

Stokes, Samuel, N., et al. *Saving America's Countryside: A Guide to Rural Conservation.* Baltimore and London: John Hopkins University Press, 1989.

Tishler, William, editor. American Landscape *Architecture, Designers and Places.* Washington, DC: The Preservation Press, 1989.

Several publications available from the National Park Service deal directly with the preservation of historic landscapes. These include:

America's Landscape Legacy, Brochure, Preservation Assistance Division, 1992.

Guidelines for the Treatment of Historic Landscapes, Preservation Assistance Division, 1992 (Draft).

Case Studies in Landscape Preservation, Preservation Assistance Division in cooperation with the Alliance for Landscape Preservation, 1995.

Cultural Landscapes Bibliography: An Annotated Bibliography of Resources in the National Park System, Park Historic Architecture Division, 1992.

Historic Landscape Directory; A Source Book of Agencies, Organizations, and Institutions Providing Information on Historic Landscape Preservation, Preservation Assistance Division, 1991.

CRM, Cultural Resource Management, Thematic Issues: *The Preservation of Cultural Landscapes,* Volume 14, No.6, 1991; *A Reality Check for Our Nation's Parks,* Volume 16, No. 4, 1993; *Historic Transportation Corridors,* Volume 16, No. 11, 1993; and, *The Interpretation of Cultural Landscapes,* Volume 17, No. 8, 1994.

Pioneers of American Landscape Design: An Annotated Bibliography, Preservation Assistance Division, 1993 (ISBN:0-16-041974-3).

Making Educated Decisions: A Landscape Preservation Bibliography, Preservation Assistance Division, 1994 (ISBN:0-16-045145-0)

National Register Bulletin 18: How to Evaluate and Nominate Designed Historic Landscapes; National Register Bulletin 30: Guidelines for Evaluating and Documenting Rural Historic Landscapes; National Register Bulletin 40: Guidelines for Evaluating and Registering Battlefields; and, National Register Bulletin 41: Guidelines for Evaluating and Registering Cemeteries, Interagency Resources Division.

Endnotes

[1] The cultural landscape definitions are contained in *NPS-28, Cultural Resource Management Guideline,* Release No. 4, 1994, National Park Service.

[2] For an expanded list of offices to contact, see *America's Landscape Legacy* brochure. Free from the National Park Service Preservation Assistance Division.

[3] From Kelso, William, *A Report on the Archeological Excavation at Monticello, Charlottesville, VA, 1979-1981,* Thomas Jefferson Memorial Foundation, 1982.

[4] Lewis, Pierce, "Common Landscapes as Historic Documents," Lubar, Steven and Kingery, W. David (eds.), *Essays on Material Culture,* Smithsonian Institution Press, Washington, DC, 1993, p. 138.

[5] Meinig, D. W. "The Beholding Eye: Ten Versions of the Same Scene," *The Interpretation of Ordinary Landscapes,* Oxford University Press, New York, 1979, pp. 33-48.

[6] See National Park Service *National Register Bulletins* under Selected Reading (opposite).

[7] The Historic American Buildings Survey, HABS, has generated standards for landscape documentation that they now utilize on a number of projects. Specifically, a case study on recording historic landscapes is included in *Recording Historic Structures,* pp. 206-219. See Selected Reading (opposite).

[8] This is being undertaken with technical assistance from the Olmsted Center for Landscape Preservation a partnership between the National Park Service and the Arnold Arboretum of Harvard University that provides cultural landscape technical assistance, technology development and training.

[9] See *National Register Bulletin 16A: How to Complete the National Register Registration Form.* Washington, D.C.: U.S. Department of the Interior, National Park Service, Interagency Resources Division, 1991.

[10] Ibid.

[11] The standards are general principles for the treatment of buildings, structures, sites, objects, districts and landscapes. The treatment standards are one set of standards included in the broader group known as the *Secretary of the Interior's Standards for Archaeology and Historic Preservation.*

[12] The Secretary of the Interior is responsible for establishing professional standards and providing advice on the preservation and protection of all cultural resources listed on or eligible for the National Register of Historic Places. For a copy of the brochure, *The Secretary of the Interior's Standards for the Treatment of Historic Properties,* 1992 contact the National Park Service Preservation Assistance Division (424) Box 37127 Washington, DC 20013-7127.

[13] A visual information system, a computer-aided mapping program with a linked database, has been developed for the historic landscape at the Frederick Olmsted National Historic Site. Data can be accessed directly from a digitized map such as information on each plant including identification, age, location, size, condition, and maintenance history.

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September 1994

Oral History Guidelines for Landscape Historians

by
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ASLA Open Committee on Historic Preservation
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

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This Guide has been developed as a result of a need felt by some participants in the first ASLA/NPS Historic Landscape Preservation Symposium, sponsored by the American Society of Landscape Architects Open Committee on Historic Preservation and the National Park Service and held in Baltimore in October of 1987, for guidelines for oral history interviews in landscape history. The Guide provides suggestions only and does not claim nor attempt to cover all possibilities or situations. The authors wish to thank the members of the ASLA Committee on Historic Preservation - especially Patricia O'Donnell, Charles Birnbaum, and Lauren Meier - for their encouragement and advice and for securing funding for the publication of the Guide. They also wish to thank Catha Grace Rambusch, co-director of The Catalog of Landscape Records in the United States, for her advice and encouragement. Both Arnold Alanen, of the University of Wisconsin, and Joseph Goodwin, of Ball State University, reviewed the draft text and contributed substantially to its revision. In addition, thanks go to Patricia Filzen, graduate of the University of Wisconsin, for her constructive comments. The authors wish to recommend the Oral History Association as the primary source of information on oral history in the United States today. Oral History Association publications were of great use in developing this Guide.

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Introduction

Oral history has been defined as "...the tape recording of reminiscences about which the narrator can speak from first-hand knowledge....[the interviews] are intended for use in the future by a wide variety of researchers..." (Baum 1987, p. 1). For example, one might ask, "What was Beatrix Farrand's design intent for Dumbarton Oaks?" Her design intent may be deduced from written sources such as correspondence, plans, and plant lists. But what would Farrand herself have told us? Unfortunately, she is no longer alive, and we cannot ask her. However, in many cases, designers and other primary sources are still alive, and many of these people can contribute their memories and ideas to the body of knowledge of landscape history and design through the medium of oral history.

In addition to providing "hard data," oral history allows one to obtain a subjective view of history from the people directly involved. Since design itself in part is subjective, and as design often may take place on-site and over time (as both the design and the designer mature), plans and other documents actually may provide limited information. Oral history, however, can illuminate motivations, design intent, "behind the scenes" political maneuvering, personalities, and the thought processes that went into a design. It can help us to trace professional, vernacular, and popular design history and to learn more about design and the design process.

Oral history also has become a useful tool for preservation professionals and today may be included in the historic landscape documentation process. For example, the National Register documentation process may involve oral history. As is stated in the draft of National Register Bulletin 30: How to Identify, Evaluate, and Register Rural Historic Landscapes, "Oral history is essential in studying rural landscapes" (McClelland et al. [Draft] 1988, p. 11). And, for example, landscape architect Noel Vernon worked in part from oral histories in reviewing design history in both Ohio and Indiana.

For their work to be valuable, oral historians should be aware of and make use of the basic methodology of oral history research. Thus this guide has been prepared to help the amateur oral historian who wishes (as project director, interviewer, and/or editor) to make a genuine and long-lasting contribution to landscape architectural history and/or historic landscape preservation. Of course, this guide cannot take the place of academic expertise, and such issues as philosophy of history and historiography are not covered here. Neither does this guide cover specific organizational strategies and technologies for slide-tape, videotape, film, or other audiovisual oral history productions. However, the general issues, processes, and techniques described here have been distilled from scholarly studies and experience so as to lay a foundation for the organization and execution of a wide variety of oral history projects. In fact, this Guide also may be applied to oral history in architecture and other environmental design disciplines.

Types of Oral History Projects

The following section describes some of the more common directions for oral history projects in landscape architecture. In design history, the interviewee often is the raison d'etre of an oral history project. For example, a project may consist solely of interviewing a famous designer to record his or her philosophies on design. Or one may attempt to describe an era or a "school" in design. This may necessitate multiple interviews and the weaving together of these with an editor's text or narration. Or one may be attempting to document a particular site, district, or type of site. Here one may need to interview site users, design clients, local residents, and government officials (for example), as well as design practitioners. In the case of vernacular sites (rural or urban), one may or may not wish to interview design practitioners at all (as design practitioners were not involved in the creation of the site). However, their thoughts may be of use in determining the significance of the site in question. When studying a venacular site such as Pennsylvania Dutch settlement patterns or a 1930s CCC project, oral histories may be the best source in documenting how the patterns appeared upon the land. If one's own project type is noted here--or even if it isn't--this Guide may be of use as one proceeds to plan an oral history project.

Organizing an Oral History Project

An oral history project begins with good planning: lack of planning can make even a simple project difficult or render the results useless. This planning should be done long before the actual interview process begins.

The Role of an Advisory Council:

Anyone interested in initiating an oral history project might wish to begin by assembling an Advisory Council. An Advisory Council or committee can help "lay out the road map" for an oral history project (Moss 1974, Baum 1987). The Council's main purpose would be to organize the project by defining clear goals and objectives, thereby providing direction. An Advisory Council also may lend legitimacy to a project and provide a broad base of support-- something which is especially helpful in obtaining funding. In addition, the Council may help locate and select a project director if this is necessary. Obviously, the Advisory Council should be composed of people who have an interest in the project. Frequently, members of an Advisory Council can help to make initial contacts with prospective interviewees, as the Council members selected should be somewhat familiar with the people and events involved. It also would help to include someone with legal expertise and someone already familiar with oral history techniques. An individual with experience in the writing of grant proposals or experience in directing fund-raising activities also can be a valuable asset to the Council. Also consider asking one of the people you plan to interview to be a council member--interviewees can be a great resource (Moss 1974).

As a theoretical example, an Advisory Council for a local oral history project on the work of Jens Jensen in Indiana might include the following: local chapter members of the American Society of Landscape Architects (ASLA) who have an interest in Jensen, a friend of Jensen's, a landscape preservationist, one or more owners of Indiana sites designed by Jensen, a student or associate of Jensen, a Scandinavian scholar interested in Danish folkschool traditions, a librarian with a landscape or design background, an archivist, and a lawyer. As the project develops, the Council may no longer be needed. At the beginning, however, this group may help the project director(s) to target important oral history sources and to avoid costly and/or embarrassing mistakes.

Setting Goals:

After selecting the project leader(s) and advisory council, the next step is to determine the project's goals. Each project will vary in subject, scale, technique(s), and methodology to accord with project goals. Is the primary goal to interview a single designer about his or her career, life, and works? Is the goal to document a particular landscape design project or a design era? Does the sponsoring organization wish to undertake, for example, a statewide project interviewing all retired members of the state ASLA chapter? Is the intent to document the development of a landscape type or district?

Through carefully-refined goals, parameters should be placed on the scope of the project. What time period is to be covered? For example, will the project document all practitioners of the "Prairie" school, or only one particular designer? Or, if the goal is to document a landscape for possible nomination to the National Register, is it necessary to deal in depth with the site's history later than its period of significance? Another important goal may be to obtain project funding.

Even while setting specific preliminary goals, be aware that the full scope of a project rarely will be evident in the planning stages (Moss 1974). Knowing that the project may evolve, it still must determined at the outset what is wanted from the project.

Determining Objectives:

Objectives can be determined after the overall general goals are set. Objectives are measurable expected results.[1] By achieving these specific objectives, the director assures achievement of the project's goals. For example, if the project's goal is to document Dumbarton Oaks through an oral history project, a set of pertinent objectives would be developed which might include "Interview the site owner (Mildred Bliss)," "Interview Beatrix Jones Farrand" and so forth. Objectives also should address the logistics of editing the material, disseminating that collected information and including it in an archival collection--unsummarized (as raw tapes or transcripts) or in a presentation form (as an edited videotape, slide-tape, or booklet). Objectives must be stated as specifically as possible because these decisions will directly affect the next steps of the project.[2]

Establishing a Timeline:

The director should set specific dates for achieving the objectives, so progress can be monitored. Again, the Advisory Council may help in developing a realistic project timeline. With a large project, or one that involves grant funding and reporting, the director may wish to use Critical Path Method (CPM)[3] or a similar format to develop the timeline. However, a timeline is only a guide and is not set in stone. Moss (1974) has commented that often the scope and direction of a project will fluctuate during the course of gathering information and that freedom should be given to those who feel there may be some valuable information to investigate in an area previously thought to

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[1] An excellent reference on developing goals and objectives is **Mager**, Robert F. Preparing Instructional Objectives. 2nd rev. ed. Belmont, CA: David S. Lake Publishers, 1984.

[2] See Oral History Evaluation Guidelines for standards developed by the Oral History Association that will help in the planning process.

[3] See Radcliffe, Kawal and Stephenson (1972) for detailed explanation of the Critical Path Method.

be unimportant or unrelated. Yet, in cases where grant deadlines must be met, a firm timeline is the only way to learn the full scope of a project and to avoid unnecessary and embarrassing grant extensions.

Determining Staff Requirements:

The group or individual sponsoring the project must decide whether there will be a paid or a volunteer project leader. Also, are interviews going to be conducted by volunteers, or will a paid staff be used? The most obvious limiting factor will be the availablity of funding. A paid staff generally will give the most consistent, high-quality results and provide better continuity for the project (Moss 1974). Does one wish to hire a professional interviewer? Does one wish to hire secretarial services to transcribe the tapes? All this will cost money. If grant or other funding is available, one should plan to hire a staff. Even without a paid staff, however, it is still possible to obtain, transcribe, and disseminate good oral history.

Selecting the interviewee(s):

After determining the subject and scope of the project, the Advisory Council may help develop a list of potential interviewees. The scope and subject of the oral history project will dictate who should be interviewed.

The characteristics of a good interviewee are hard to define since different kinds of people make good interviewees. Interviewees above all else should be knowledgable about the subject under investigation. Age is a not a direct factor in deciding who to interview. However, the following basic attributes also are important. Interviewees should

1) speak clearly enough to be understood,
2) have a reliable memory,
3) be willing and able to respond in depth to questions,
4) be interested in the past and the subject matter at hand, and
5) have had significant life experiences that they can share.

In many cases, the health of the interviewees becomes critical in determining who may be interviewed and how soon (Shumway and Hartley 1973; Davis, Back and MacLean 1977; Baum 1987).

In landscape architectural histories, chapter members of the ASLA may be asked to recommend prospective interviewees. The project director also could canvas ASLA membership lists for membership dates, generating a list of local or regional landscape architects with potentially long "professional memories" of the general subject or of a specific era, issue, site or designer.

The authors of several oral history guidebooks suggest making a card file of prospective interviewees with their names and addresses, telephone numbers, descriptions of their positions or roles in the subject being investigated, their professional affiliations, notes on their specific background experiences, and the sources of the contacts (Moss 1974, Davis, Back and MacLean 1977).

One source recommends "...that you immediately decide upon three or four persons to be interviewed who are known to your group for their first-hand knowledge...and that you begin the interviewing program without delay....Your whole program will develop and change as you go" (Baum 1987, p. 4). This may be particularly important if potential interviewees are elderly or ill: many fine interviews are lost forever through hesitation and postponement. As Moss observes, "Oral historians are haunted by the obituary page" (1974, p. 4).

A number of interviewees may be needed to provide depth and breadth to the project. In many cases, additional interviewees may be needed to corroborate the data of a principal interviewee: corroboration of interview data is one test of the accuracy of the interview material. In the initial planning phases, it is best to schedule time for secondary source interviews as well as primary source interviews. Through conflict in primary and secondary interview data, it may be discovered that a coveted principal interviewee ultimately may prove a poor subject due to poor memory or limited perspective, although even an inaccurate primary interviewee may still provide a lot of unintentional information about a project. Or he or she may prove helpful in one particular area of a scholarly investigation. On the other hand, a secondary interviewee quickly may unfold as a primary source.

Contact with the (Potential) Interviewee:

Potential interviewees should be contacted early in the oral history planning process. A letter effectively can communicate to the potential interviewee the scope and intent of a project. This letter should explain the project goals and the specific objectives that will be met in the individual interview. It is important that the letter be written in a professional manner without being threatening, demanding, or assuming. In the letter, the interviewee should learn that he or she will soon be contacted by telephone. However, an introductory letter may prove ineffective with some individuals. A short introductory telephone call, prefaced with the name of a friend or acquaintance, can be more sucessful. The phone call, however, should be followed immediately by a letter confirming the request and agreed date for the interview. Along with thanks, the letter would mention (or confirm) the general interview subject and a few of the interview topics. Lists should not be sent, as they tend to make the interview lack spontaneity. If the interview is to be tape-recorded, the letter should carefully note this. If a subject seems particularly knowldegable, one should be ready to schedule "follow-up interviews." Gauge carefully at what point you inform the potential interviewee that additional interviews may be needed. Some may welcome additional sessions; others may need to become involved in the process before they are asked to donate further time and effort to your project. In the end, one must acceed gracefully to the interviewees' wishes.

If the interviewee wishes to participate[4], the content of the interview should be described and the interviewee permitted to understand that additional, lengthier interviews may be expected of him or her if the interviewee is asked to participate in further project work. Davis, Back and MacLean (1977) and Moss (1974) all advise maintaining a log of all contacts and telephone calls with the interviewee(s) and keeping copies of all interview-related correspondence, in order to enable anyone who reviews the file to have a complete history of the involvement of the interviewee(s) in the program. This may be particularly useful for documenting grant work or if questions or problems arise.

If the interviewee has plans and/or photos of his or her work, the interviewer or project director might find out if it is possible to photograph them. If the documents are valuable, one might ask the interviewee if he or she eventually would allow these plans or photos to be placed in a public repository and listed with Wave Hill's Catalog of Landscape Records in the United States.[5]

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[4] See "Pros and Cons of the Preliminary Interview," p. 14.

[5] See "Making the Oral History Available to its Audience," p. 20.

Gathering Background Material:

During and after the interviewee selection process, it is recommended that project personnel do background documentation on the primary interviewees. This again may help in determining the reliability of the interview data and in selecting interviewers who would relate well to the subjects. Generally, the more famous a person is the more published material will be available to inform the interviewer about the subject's characteristics, lifestyle, background, and idiosyncrasies. At times the interviewee himself may be able to provide some of this background information, parts of which otherwise may be unavailable. For example, if the interviewee is a designer, a questionnaire sent to the interviewee may provide biographical information about the interviewee's education, personal interests, birthplace, dates of professional practice, and mentors. If the interviewee is open to this idea, a questionnaire can be a valuable tool (Baum 1987).[6] Note, however that very famous people may resent a question such as "List your most important built work." Also, filling out forms takes time and effort, and busy or disabled interviewees may resist this phase.

Selecting the Interviewer:

Interviewing is an art that is approached by different people in different ways, but there are certain personalities and techniques that provide the most valuable interview data. An interviewer should have a well-modulated and clear speaking-voice, be able to channel conversation back to interview topics without undue abruptness, and be a sympathetic and positive audience for the interviewee. Again, the interviewer need not be a paid professional. Baum sums up some desired characteristics:

> The interviewer should be someone who can sit quietly and listen, who is willing to let the narrator [the interviewee] express an opinion contrary to his own without feeling compelled to contradict or re-educate the narrator, who is not afraid to break in occasionally with a question or guiding comment, who is firm enough to end the interview on time and to keep it within the bounds of whatever lines of inquiry have been planned, who is alert enough and knowledgeable enough to recognize when the narrator brings up an unplanned but valuable subject, and who is able to pursue that new subject with questions.

Baum (1987, p. 28) goes on to say, "There are, however, two types of people who should not be assigned to interviewing. They are the compulsive talker and the compulsive director."

In selecting an interviewer, one may also want to take age and personality differences into account. For example, in a "career" oral history, an older and more sophisticated designer may provide more hard data to an interviewer who is well-educated, mature, and familiar with his or her subject's era, clients, and colleagues (if only through reputation and anecdote) than to an interviewer who is naive or overly enthusiastic. By the same token, if one wishes to supplement a "career" interview by talking with the younger students of a particularly successful design professor, the

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[6] See page 14, "Preparation for the Interview" for insight on obtaining background information about the interviewee. Data may be obtained in a preliminary interview as discussed in this section.

interviewees may feel more comfortable with a younger and more enthusiastic interviewer with whom they can easily identify and share confidences. Personalities and egos are very delicate pieces of the puzzle that must be considered in selecting the interviewer to make sure a compatible situation develops.

While prior or professional experience is not essential, the interviewer should have a background in the art and science of oral history, as good oral history involves gathering coherent historical data--not just making pleasant conversation about the past. A serendipity between the interviewee and the interviewer may, however, bring a greater depth and openness to the material gathered--as well as help gain information about the character and personality of the interviewee.

In the following excerpt from a statement by oral historian Charles T. Morrissey, taken from Oral History at Arrowhead Proceedings (Morrissey, ed. by Dixon and Minks 1967, p. 54), he summarizes the qualities and responsibilities of a good interviewer:

> "Interviewing, in conclusion, is very difficult when you think that the good interviewer must know his stuff; he must be listening to what the [interviewee] is saying; he must be thinking of what the question was he just asked, to make sure the man is answering it. He must know what's already been covered; know what he has yet to cover. He must anticipate where he's going to go if the man, while he's talking, indicates he's about through with the subject; and in anticipating where the conversation is going to go, he must in his mind be beginning to try to formulate that so it will come out well-phrased. It's a very difficult business. Anyone who does it successfully, is probably so successful that he should be interviewed and not doing the interviewing himself."

It is often possible that the project director may be a total novice to oral history and yet prove to be a competent and even subtle oral history interviewer. If in doubt, the selection of an interviewer may be made in consultation with members of the Advisory Committee. If the interviewer is not a member of the project team, he or she must be well-coached on the project's goals and objectives, interviewing techniques, and methods of reducing legal liability to the project.

Preparation for the Interview

Pros and Cons of the Preliminary Interview:

Oral history sources such as Davis, Back and MacLean (1977), Lance (1978), and Baum (1987), recommend preliminary meetings with the interviewee for the following reasons:

1) to allow the interviewer and interviewee time to become acquainted and to become comfortable with one another. As mentioned earlier, developing an atmosphere of mutual trust and respect is of paramount importance to the success of the interview;

2) to gain insight into the personality of the interviewee which will help the interviewer communicate more effectively with the interviewee. The interviewee may be more committed to the project if their ideas on topics to be covered are solicited.

3) to show (and perhaps to demonstrate) to the interviewee the tape-recording equipment that will be used during the interview so that he or she might become more comfortable with its presence. It also helps to test out the recording equipment that will be used in situ. Noise levels can be monitored, and, if necessary, a better site for the interview may be selected.[7]
4) to discuss the legal aspects of the tape-recorded interview and to obtain release forms signed by the interviewee which define the rights of the various parties involved. It should be explained that these release forms will specify how the tapes will be used, who will be responsible for them, and who owns the recorded material.[8]

Please note that some oral historians (Davis, Back and MacLean 1977, Baum 1987) feel that preliminary meetings are a poor idea as these may turn into premature unrecorded interviews which dampen the spontaneous effect of the actual interview. However, if the interviewer uses care in what is covered, a preliminary interview should have a positive influence on the actual recorded interview.

Designing the Interview (Content and Structure):

With or without interviewee input, some oral history experts suggest that drafting a set of topics to cover during the interview is preferable to writing out specific questions to ask the interviewee. They feel that writing exact questions may stifle the interview, creating a rigid, unnatural atmosphere (Baum 1987, Davis, Back and MacLean 1977). With a general list of topics, there is room for fluctuation and spontaneity that is so important during the interview. These topics will be a springboard for more detailed discussions. The approach used is based upon the project goals, the interviewer, and the practitioner or other subject being interviewed. A theory-oriented interview--or one dealing with an individual career or era in design--may be based on a few general questions, while questions in a site-documentation oral history may be more highly structured and specific. For example, in a "career" interview of a landscape architect, general topics to cover might include: award winning designs, books and/or articles published, favorite teachers, and specific design styles, issues or events that may have influenced this specific landscape architect. In the case of a site history, questions might relate to client contacts, alternate unused designs, design omissions, and revisions that occurred on-site during construction or during succeeding years. Questions about site maintenance and issues of the date of site maturity also may be appropriate.

It also is helpful to structure the content of the interview as much as possible so that the flow of conversation follow a meaningful channel. Organizational structures may include chronology or a topic-by-topic framework. Knowledge of the project goals will help to establish the appropriate organizational structure for each interview.

Once one or more specific topics and/or interviewees have been chosen, more background research should be done so that the interviewer will be thoroughly prepared for the interview. Not only is the interviewer's knowledge of the subject matter crucial to the success of the interview, but he or she must be able to ask appropriate questions at the right times. Thus, one must continue to gather biographical information about the interviewee(s). Scrapbooks and memorabilia can provide insight. Also, talking with the interviewee's colleagues will help one key in on specific incidents, issues, or key people that should or should not be discussed during the interview. Remember that one

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[7] See "Audio Engineering," p. 16.

[8] See the section "Legal Issues," p. 23, for more information on this.

inappropriate or awkward question could jeopardize the success of the entire interview. Again, if the interviewer is not part of the project team, the project director and his or her staff must keep the interviewer appraised of the intended interview design and background data. An ill-prepared interviewer can ruin a lot of careful preparation.

After the interview has been designed, the interviewer has a major responsibility to keep the interview objective and to adhere to the general outline of topics originally drawn up. It is not uncommon for interviewees, during the course of an interview to get off the track and begin to discuss information not pertinent to the interview subject. Then the interviewer must tactfully move the interviewee back to the subject. Knowledge of the interviewee and the interview topic will help the interviewer to avoid these pitfalls.

One final note: it is generally best to avoid joint interviews (Davis 1977). While two practitioners together may refresh each other's memories, there is the risk of competition between the interviewees for interview time, and the interviewer may lose much of his or her control over the direction of the interview. Also, a dominant interviewee may influence the other's comments so that the interview shows a one-sided perspective of a site, person, event, or era.

Scheduling the Interview:

The calendars of interviewer and interviewee should be considered in order to schedule interviews at times convenient for both. One should not think that all elderly interviewees have spare time on their hands: it is not unusual that an eighty-year-old designer still may have a substantial and time-consuming design practice. Other elderly and/or ill interviewees may only be able to talk for an hour or less at a time. Again, a preliminary interview may be useful in outlining material to be covered in depth and in assessing the extent, clarity, and accuracy of an interviewee's potential contribution (Lance 1978).

Audio-engineering: Basic Considerations:

Before the actual interview, the interviewer should become familiar with and practice working with the recording equipment that he or she will use during the interview. It is preferable to obtain funding and hire a professional audio crew to accompany the interviewer so he or she may focus on the actual interview rather than on the audio recording. Few things can be more frustrating than to have problems with recording equipment during the interview. Even in the best conditions, monitoring sound levels and leading an interview is a very difficult task. And, for example, operating a Nagra tape recorder and doing an oral history interview at once may be highly aggravating due to the short length of Nagra tapes when running the recorder at fast, high-quality speed (on the other hand the tape quality may be superb). One should note that, in this era of electronic editing, videotape sound tracks may be the finest and most stable way of capturing good sound--with or without the video image.[9] Several references have a section on equipment which should be read thoroughly in order to avoid unnecessary problems (for example, Henige 1982, pp. 36-38; Sitton, Mehaffy and Davis 1983, pp. 69-73; and Baum 1987, pp. 9-15). If funding for the project is limited, check with a local university

[9] An excellent source on videotaping oral histories is Videotaping Local History by Brad Jolly. Nashville, Tennessee: American Association for State and Local History, 1982.

radio station or telecommunications department to see 1) if a free or inexpensive crew might be available, 2) if equipment and/or editing services can be obtained for the project, and 3) if a faculty member or advanced student might be available to help with the project. Be sure that all audio recording equipment is adequately tested before going out to the interview and make certain the crew is equipped with electrical adapters, extension cords and other simple objects that could "make or break" the interview experience. During a preliminary interview, or as a opening to the interview, the interviewer may want to explain the recording equipment to the interviewee. One must exercise personal judgement as to whether drawing attention to the equipment will lessen or enhance any intimidation the interviewee may feel about being recorded.

Prior Notification of Interview Topics:

It is helpful to send a list of the general topics that will be covered during the interview to the interviewee prior to the actual interview (Baum 1987). A list of topics refreshs his or her memory which will make the interviewee feel more comfortable with the interview in general. This is particularly true if there has been no preliminary interview. Some sample topics might be: an opinion of design styles--before he or she started in design to the present; public awareness of his or her work; feelings about the quality of documentation of an era; the value of the interviewee's work; and his or her thoughts on the direction of design today. Again, if the interviewee has been given a list of very specific questions in advance, he or she may be led into rehearsing pre-planned answers which can devastate the spontaneity of an oral interview (Baum 1987).

The Interview

The crux of oral history is the oral spoken interview. Therefore, the conversation must be clear and easily followed. On the video or audio tape recording, it is important to provide background information about the interviewee and to state the purpose of the interview. One must remember that oral history is a technique of historical investigation and that the end product must be as accurate and objective as possible in order to ensure its credibility as a historical document.

There are several key criteria involved in obtaining a good interview. The most important is thorough preparation. If the interviewer has not done appropriate background research and planning for the interview, it will be reflected in the product.[10]

The Interview Setting:

Being interviewed can at first seem a stressful situation. Again, the location of the interview is immaterial as long as the setting is conducive to obtaining a high-quality recording and as long as the interviewee is (or can become) relaxed and comfortable in that setting. In fact,

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[10] The Oral History Association's Evaluation Guidelines, pp. 8-10, includes sections with rules for interview content and interview conduct which should be of value to the interviewer. These guidelines will help the Advisory Council or program director to guide the interviewer.

the best location may be the interviewee's office or home (if the location is not overly noisy). Sometimes it can take several minutes for the interviewee to relax, especially if he or she has not previously spoken with the interviewer at length.[11] Informal conversation is a good way to break the ice and begin the dialogue (Baum 1987).

Asking Interview Questions:

The interview now begins. The interviewer should be aware of the advantages open ended, closed and leading questions and should know when to use each type (Moss 1974, Hoopes 1979, Baum 1987):

1) Open ended questions begin with "Describe...," "Explain...," and "Tell me about...," and are good to lead into a subject area and to get the interviewee talking freely.

2) Closed questions are those that will, usually, elicit a one-phrase response which is not conducive to an open, spontaneous conversation. For example, compare "Where were you born?" as opposed to "What are some of your most vivid memories about the place you were born?" The first question would probably have been answered with the name of a city, while the second question should elicit the same information in a fuller and more descriptive fashion.

3) Leading or probing questions can lead to emotional or gut reactions. However care must be taken not to be too pushy or invasive as this can cause to interviewee to feel uncomfortable. For example, "You didn't like Mr. so and so, did you?" or "What did you think of Mr. so and so's outlandish design?" are poor questions. The first may insult the interviewee's sense of humanity, while the second directs the interviewee toward a negative response. These questions would be far better were they phrased (respectively) as "You worked with so and so, didn't you? What was he like as a boss?" or "What did you think of his xyz garden?"

In Oral History: From Tape to Type (Davis, Back and MacLean 1977, pp. 20-21), the author presents the following additional advice:

1. ...Ask provocative questions- who? what? where? when?
2. Employ cues. Ask about specific events or experiences....
3. Use props. Refer to family scrapbooks, photographs, newspaper clippings,...maps. Be sure to identify and at least briefly describe these on tape....[plans and photographs of landscapes can be of help in triggering memory.]
4. Elicit emotions. Ask the narrator [interviewee] to recall his or her feelings about important personal experiences....
5. ...Encourage the narrator to reconstruct conversations that were part of past experiences....
6. ...At the beginning of any new topic ask the narrator to reconstruct in his/her mind's eye the physical appearance of familiar things.... Also, whenever a narrator indicates the size of something vaguely or nonverbally such as by gesturing with hands ask for verbal clarification.

[11] See "The Pros and Cons of the Preliminary Interview," p. 14.

One must remember that the interviewer is present only to stimulate dialogue and to elicit responses from the interviewee by asking appropriate questions. The taped interview should consist primarily of interviewee comments and stories with only occasional interjections from the interviewer. It is important that the interviewer maintain eye contact with the interviewee and display a genuine interest in his or her recollections as this will give the interviewee confidence and encourage openness and candor.

The interviewer must always be one step ahead of the interviewee, listening closely to the interviewee for cues, while also thinking about the next question. Interviewers also must learn to wait for the interviewees responses. The worst thing to do is interrupt the interviewee's thoughts by asking another question about another topic. A good interviewer lets the interviewee set the pace and will follow accordingly. The length of a good interview can vary greatly; the interviewer should be aware of the interviewee's tolerance level and watch for signs of fatigue--some persons may not endure a full hour. And of course there will be some interviewees who would like to talk all afternoon. Then the interviewer has to make the decision on when to cut the conversation off. One complete oral history interview may take one or many sessions to complete. At the end of the final interview session, it is always wise for the interviewer to ask if he or she may come back at another time for another interview if the need arises, just to keep the lines of communication open and friendly.

The interviewer also should be responsible for bringing the interview process to closure for the interviewee. The courtesy of a "thank you" note to the interviewee is essential to the success of the project. An interviewee has made an emotional investment along with the generous donation of time--therefore follow-through with the interviewees must be programed into the schedule of the project. The interviewer and interviewee often develop a personal relationship during the interview process. Volunteers and staff may need to be counselled on how to taper this relationship off. In other cases, such friendships may become permanent and valuable, a welcome by-product of the interview process.

Transcription and Editing of Interview Tapes

Transcription involves the transferring of the audio portion of the interview to a typewritten (usually computer-processed) verbatim "hard" copy. Transcription should take place in order to make the information in the interview accessible to others. This can be a tedious and time-consuming process which requires the cooperation of many people in order for it to be effective.[12] As a matter of fact, some oral historians do not transcribe the interviews because it is such a costly step. However, if time and energy went into producing a good oral history, the interview eventually should be transcribed since the written form is used more often by researchers than the taped form (Baum 1977).

Transcription is an art. There is some controversy concerning the transcription process: what to (and what not to) include in the transcription, and what form the data should take. These questions must be addressed and answers standardized at the beginning of the transcription process so that a specific set of rules will be adhered to--otherwise the project may lose its cohesiveness. Both the interviewer and transcriber should read the section on transcript information in the Oral History Association's Evaluation Guidelines (1980), to become familiar with the expected criteria. Baum's (1977) book, Transcribing and Editing Oral History, is a very good reference on this subject and also

[12] Patricia Filzen, graduate student at the University of Wisconsin, found transcribing took three hours for every one hour of recorded material. This is consistant with Baum.

should be studied before the transcription process is started. Baum has included sections on what to and what not to transcribe, the processing steps, transcribing equipment and procedures, who should transcribe, what form the transcription should take, advice to the transcriber, and dozens of sample interviews and transcriptions. It is a thorough book with sound advice that should prove to be most helpful during this phase of the oral history process. Davis, Back and MacLean (1977) also have provided a helpful section with examples of transcriptions. Again, there seems to be much controversy among oral historians concerning what should and should not be edited from the typed, verbatim transcript. Specific editing procedures will vary with each program depending on the goals and objectives of the project.

Editing involves checking the transcript against the audio portion of the recording. Mistakes in spelling, punctuation, and sentence structure are also checked in order to record accurately what was said during the interview. More in-depth editing might involve deleting entire words or sections of the tape in order to make the transcript read more easily. Adding words or phrases and details --with or without brackets--to make the final transcript more informative is not uncommon. In any case, the interviewee should be allowed to review the edited transcript prior to publication to make sure he or she agrees with all the changes and make comments or clarify any points that might be vague or misleading. An interviewer could send cover letters with transcriptions to interviewees stating that, if the manuscript was not returned by a particular date, the editor would assume approval and complete the processing.

Getting the interviewee to review and return the transcript can be a difficult process. On the whole, most people will be eager to go over the transcript and return it quickly because they thus will have a finished copy in their hands very soon. However, for some it will be a tedious and time-consuming task that will be put aside for one reason or another. Again, one should stay in contact with the interviewee, perhaps agreeing on a specified date to pick up the completed, reviewed transcript. This will give him or her a time-frame within which to work.

Baum's book, Transcribing and Editing Oral History (1977), is a valuable source for the editing stage of the process as the author breaks down the editing techniques into specific categories and uses examples to illustrate the procedure involved.

Once the transcript has been edited and checked by the interviewee, it should be given to a typist who will put it into final form. A format sheet should be prepared for the typist so he or she will know how to lay out the pages, headings, footnotes, etc. When the transcript is to be edited on a word-processor, the typist should retain diskette copies of the various interim editions, so that he or she may return with ease to earlier drafts if needed. Also, one then needs to maintain back-up copies of any material on diskette. If at all possible, due to the need for careful and often extensive corrections of the text, one should work on a word-processor.

Making Oral History Available to its Audience

"Diseminating oral history to the public consists of (1) serving actual users by producing customary finder's aids as an index, table of contents, and a card catalog of memoirs; and (2) reaching the public by providing information about the collection in reference and bibliographic works, placing the collection within convenient reach of potential users, and publicizing its availability" (Davis, Back

and MacLean 1977, p. 77). Barbara Allen and Lynwood Montell have gone a step further in From Memory to History: Using Oral Sources in Local Historical Research (1981), which deals with the incorporation of oral history into a broader historical context--for disemination without context may negate much of the value of even the most carefully obtained oral history.

The following bibliographic information is suggested by Baum (1977, pp. 85-87) as essential for cataloging and library use:

1) Name of narrator
2) Major subject of interview
3) Name of the project
4) Date of the interview
5) Name of interviewer
6) Conditions of use--per legal release
7) Contents of interview

Additional information that may be of benefit would include

8) a vita of interviewee (similar to a "Who's Who" entry)
9) an introduction, perhaps by a colleague of the interviewee
10) a bibliography of writings by the interviewee
11) information about the interviewer

For purposes of documenting nominations of sites to the National Register of Historic Structures and Sites, the draft copy of Bulletin 30 (McClelland et al. 1988 p. 34) recommends including "...the names and affiliations of the person being interviewed and the interviewer and the date of the interview. Cite also the name and location of collections of photographs, oral history tapes or transcripts, personal records, or maps that are not available in published sources."

An index makes a collection much easier to access in the future. Transcribing and Editing Oral History (Baum 1977) and Oral History: From Tape to Type (Davis, Back and MacLean 1977) both contain useful information on indexing and cataloging tapes and transcripts.

Contacting an Archive:

Placing tape recordings and transcripts in archival storage is one of the crucial steps of an oral history project. Information that has been collected has no intrinsic value--it becomes valuable through use. Again, locating a suitable archive should be done early in the project.

In deciding where to deposit the project output, Baum (1977, p. 119) advises the depository meet these qualifications:

1. A permanent legal existence with a director to whom ownership and administration of the oral history materials can be assigned; ...
2. A permanent building or space where the materials will be kept.
3. A regular staff that is prepared to handle special noncirculating materials. For example, supervision of the use of tape players by patrons, and carrying out any restrictions such as getting permission to quote.
4. Regular hours when the depository is open and users can have access to the materials...
5. Preferably located near the scene of the events covered in the oral history collection....

Baum goes on to recommend depositing the labelled tapes, a Table of Tapes' Content, the transcript, copies of any legal agreements, and supporting material such as photographs and maps (Baum 1977). In the case of a "design career" history, the oral history tapes and the professional office papers should be stored together if possible. Note that, due to the sheer volume of the office plans and records, finding a suitable archival depository may be difficult. The project director

probably should consult a member of the Society of American Archivists if there are problems in placing and/or cataloging the collection. When deposited, the collection should then be listed with the Catalog of Landscape Records in the United States.

Publication Outlets:

Several oral historians suggest printing catalogs of the oral history project's tape and transcript collection and sending copies to organizations with similar interests (Davis, Back and MacLean 1977; Baum 1977; Grele 1987). Also Davis, Back and MacLean (1977) and Sitton, Mehaffy and Davis (1983) suggest inviting local newspapers and radio stations to use the project oral histories for "human interest" articles. Professional design journals may welcome scholarly articles based on oral history interviews. Some grant funding agencies in the Arts and Humanities may be willing to share both research and publication costs with oral historians and their sponsoring agencies.

Listing Oral Histories:

An oral landscape architectural history often needs to be listed to be of benefit. It cannot join a "body of knowledge" if no one knows that it exists or where it is located. The Library of Congress National Union Catalog of Manuscript Collections now catalogs oral history transcripts. A few on-line computer search databases also are beginning to include oral history citations (Grele 1987). However, The Catalog of Landscape Records in the United States (housed at Wave Hill, 675 West 252nd Street, Bronx, New York 10471; phone: 212/549-3200) is the primary bibliographic listing of material pertaining to U.S. landscape architecture. Oral histories pertaining to any landscape issue ideally should be listed with Wave Hill. One should contact the catalog directors at Wave Hill to see that a project is properly listed (note that Wave Hill is not, in itself, an archive). Consult with a librarian to find bibliographies or directories that may be interested in listing your collection.

Ethical and Legal Considerations

Ethical Considerations:

Oral history is "...a method of gathering and preserving information..." (Oral History Association 1980, p. 3), and every effort should be made to document this history as accurately as possible. As Moss has stated, "...oral historians have a primary obligation to the truth" (1974, p.12). Again, there are limits on how far and how aggressively an interviewer should pursue a line of questioning. The interviewer may ask for and expect candid information, but should be cautious about making the interviewee so uncomfortable as to become uncooperative.

Other ethical issues include responsibility to the interviewee and the professional conduct of the interviewer and project personnel. Oral historians emphasize the need to make sure that the interviewee fully understands the project goals, how the oral history will be used, and the interviewees' rights concerning copyright law, editing policies, restrictions on use of sensitive material, and means of avoiding slander and libel (Moss 1974, Davis, Back and MacLean, et al. 1977, and Baum 1987). In its Guidelines, the Oral History Association (1980) recommends that the interviewer respect the dignity of the interviewee, make each interview as complete as possible, maintain objectivity, and respect required confidentiality. Moss (1974, p. 15) also recommends that the sponsoring organization (through the project director or the Advisory Council) demand "...professional, objective work from all staff--paid or volunteer. The director also has the responsibility of honoring the requests from the interviewees on restricting access to oral history."

The Oral History Association offers guidelines on ethical behavior involving informing interviewees of their rights and of the purpose of the project, maintaining the confidentiality as needed, gathering accurate information, and then making it public.

Legal Issues:

The interviewer needs to be aware of the legal responsibilities he or she carries when involved in interviewing, especially when representing an institution. Ownership of the contents of a taped interview may prove to be a particularly thorny area. The most desirable permission format for the interviewer generally is the unconditional release; however, some interviewees may feel compelled to restrict access to their interviews for one reason or another (Neuenschwander 1985). It is not unusual for interviewees to become uncomfortable when legal issues are involved, so it is essential that one explains all of the optional ways the tapes may be handled (Moss 1974, Davis, Back and MacLean 1987). Also, interviewees should be permitted to review the final transcript and to make any corrections necessary before it is printed for use.

In a benign situation such as that faced by most landscape historians, problems such as these are unlikely to arise. Yet, the interviewer and other project leaders should become aware of potential legal pitfalls. This can be done in part by studying John Neuenschwander's (1985) pamphlet, Oral History and the Law. Below is a list of topics covered in the pamphlet:

1) Understanding and avoiding legal problems, including sections on character defamation and invasion of privacy.
2) Protecting sealed interviews from subpoena [rarely needed in design history to date].
3) Copyright concerns: including sections on works of nonfiction-ownership and transfer, registration, and a list of how-to-do-it materials available through the U.S. Copyright office. Copyright is a major issue.
4) Legal release agreements, including sections on drafting contractual agreements, deeds of gifts, and on explaining legal issues to interviewees.
5) A bibliography and an appendix of sample forms.

This pamphlet provides the oral historian with much of the information needed to know how to avoid potential problems, rather than trying to fix them after the damage is done. The chances are good that an interviewer never will be involved in legal controversy over oral history, but it pays to be educated on the subject and pertinent issues. Note that laws may change rapidly in these areas, and print information may become outdated. In all cases, if one senses potential trouble, one should consider seeking legal advice. Again, one may include a lawyer on one's Advisory Committee for just such an emergency. Given these precautions, and a basic sense of courtesy to one's subjects, the oral history process should proceed without hindrance from concept to finished product.

Annotated Bibliography

Baum, Willa K. Oral History for the Local Historical Society. Third Edition, Revised. Nashville, Tennessee: American Association for State and Local History, (1969) 1987. 63 pages, photographs, bibliography.

Baum is one of the leading authorities on oral history and this is one of the first works published for historical societies interested in starting oral history programs.

----------Transcribing and Editing Oral History. Nashville, Tennessee: American Association for State and Local History, 1977. 127 pages, illustrated, bibliography.

An excellent reference book which focuses on one part of oral history--program processing. Processing involves transcribing and editing. Thorough, informative, and concise, this book should be consulted before any transcribing or editing is attempted. Includes useful examples and samples. Excellent bibliography.

Davis, Cullom, Kathryn **Back** and Kay **MacLean**. Oral History From Tape to Type. Chicago: American Library Association, 1977. x + 141 pages, illustrations, appendices, bibliography.

An excellent comprehensive reference book on oral history. Written as an instructional and operating manual for learning the basic steps of oral history. Helpful and practical examples with practice exercise. There are also chapters on understanding, collecting and managing oral history. Appendices include a glossary and rules of style.

Dixon, Elizabeth I., and James V. **Minks**, eds. Oral History at Arrowhead: The Proceedings of the First National Colloquium on Oral History. Los Angeles: The Oral History Association, 1967. vii + 93 pages.

These are the proceedings (in part) of the first national meeting organized on oral history. From an historical standpoint, this publication is valuable in understanding the initial issues and concerns of oral historians as well as --in retrospect--to see the progress that has been made over the last two decades.

Grele, Ronald J. "On Using Oral History Collections: An Introduction." Journal of American History. Vol. 74, No. 2, (September 1987) pp. 570-577.

Discusses evaluating interviews for source of bias. References several listings, computer data bases and collections.

Henige, David. Oral Historiography. London: Longman Group Limited, 1982. 150 pages, index, and bibliography.

An academic dissection of the nature of oral history. Historiography is the study of techniques of historical research and historical writing. Written more for those interested in understanding the philosophy behind techniques rather than for those persons interested in simply the basic mechanics of the techniques. Exhaustive bibliography contains 502 entries.

Hoopes, James. Oral History: An Introduction for Students. Chapel Hill: The University of North Carolina Press, 1979. 155 pages, bibliography.

Geared toward student projects in oral history--not for the professional or researcher. Good bibliography.

Lance, David. An Archive Approach to Oral History. London: International Association of Sound Archives, 1978. 64 pages, illustrated, references and select bibliography.

A British approach to oral history based on the program at the Archives of the Imperial War Museum. Geared toward oral history librarians and archivists who need guidelines for program development. Extensive coverage of how to catalog and index material as well as types and uses of equipment. Specifically for archivists or those interested in the administrative aspects of an oral history program.

McClelland, Linda F., J. Timothy **Keller**, Genevieve P. **Keller**, and Robert Z. **Melnick**. National Register Bulletin 30: How to Identify, Evaluate, and Register Rural Historic Landscapes [Draft, 1988]. U.S. Department of the Interior, National Park Service: **Draft**, 1988.

Moss, William W. Oral History Program Manual. New York: Praeger Publishers, 1974. 109 pages, illustrated, appendices.

Written for those interested in starting an oral history program. Based on the author's experiences as Director of the Kennedy Library Oral History Program. Topics include starting an oral history program, techniques of interviewing, processing interviews, processing records and staffing and equipping a major program. Well-organized, concise, with good practical information. Appendices are helpful.

Neuenschwander, John N. Oral History and the Law. Denton, TX: Oral History Association, 1985.

An excellent treatment of the potential legal ramifications involved in oral history programs. Appendix contains some sample forms and the bibliography is very comprehensive. A must for all those pursuing oral history projects.

Oral History Association, pub. Oral History Evaluation Guidelines, Report of the Wingspread Conference July 27-28, 1979, Racine, Wisconsin, as Amended and Approved by the Annual Business Meeting of the Oral History Association, October 27, 1979, East Lansing, Michigan. Lexington, Kentucky: 1980.

The Standards adopted by the Oral History Association.

Radcliffe, Byron M., Donald E. **Kawal** and Ralph J. **Stephenson**. Critical Path Method. Boston: Cahners Books, 1967, Second Printing 1972.

Shumway, Gary L., and William G. **Hartley**. An Oral History Primer. Salt Lake City: Primer Publications, 1973. 28 pages, illustrated.

A basic how-to-do-it manual for novice interviewers. Sample questions and forms that may be helpful.

Sitton, Thad, George L. **Mehaffy** and O. L. **Davis**, Jr. Oral History for Teachers (and Others). Austin: University of Texas Press, 1983. 161 pages, bibliography.

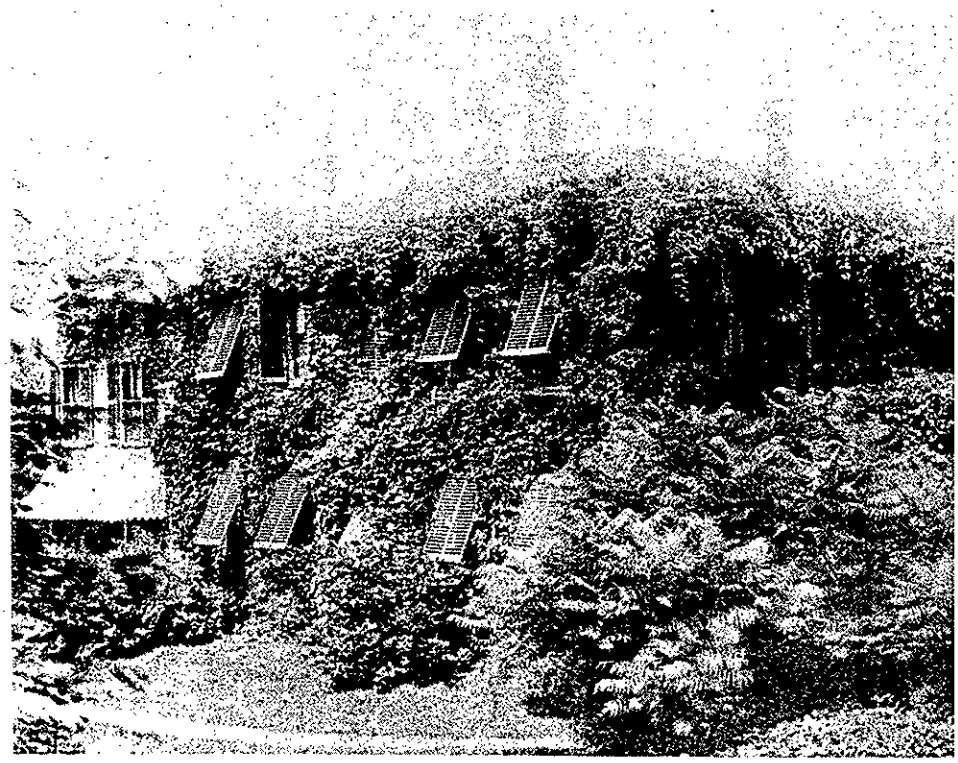
Developed for teachers in a Foxfire concept: "cultural journalism."

Vernon, Noel Dorsey. "The Emerging Role of the Archivist in Historic Landscape Preservation." Unpublished manuscript.

Discusses protection, organization and storage of primary source plans and documents. Proponent of working closely with professional archivists.

Waserman, Manfred, compiler. Bibliography on Oral History. New York: The Oral History Association, 1975 Rev. 53 pages.

Bibliography of works published through early 1975. Annotated entries on oral history collections. Indexed by subject.



PRESERVATION
Tech Notes
U.S. Department of the Interior
National Park Service
Cultural Resources
Preservation Assistance Division

SITE

NUMBER 1

Restoring Vine Coverage to Historic Buildings

Karen E. Day
Preservation Assistance Division
National Park Service

FAIRSTED
Frederick Law Olmsted National Historic Site
Brookline, Massachusetts

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

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

The vines that covered Fairsted are an important visual and historic feature, reflecting Olmsted's interpretation of the ideal garden suburb and his landscape design principles. Unfortunately, the vines eventually contributed to the deterioration of the clapboard house, necessitating that some alternative method be found to protect the building facade from future damage and while still supporting the historic plant material.

Problem

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

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

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

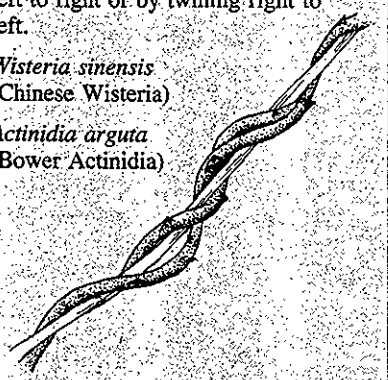
Vine Types

Twining

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

Wisteria sinensis
(Chinese Wisteria)

Actinidia arguta
(Bower Actinidia)

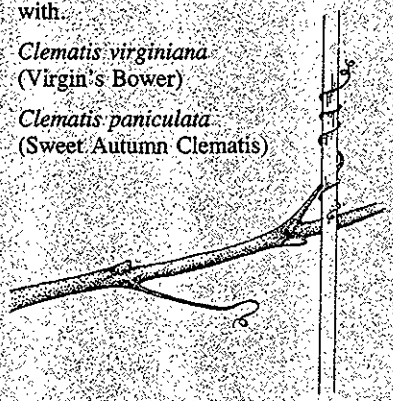


Tendril

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

Clematis virginiana
(Virgin's Bower)

Clematis paniculata
(Sweet Autumn Clematis)

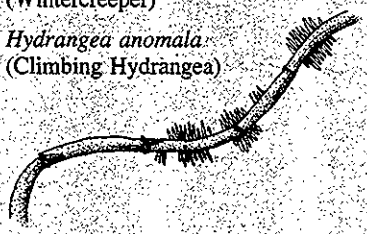


Aerial

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

Euonymous fortunei
(Wintercreeper)

Hydrangea anomala
(Climbing Hydrangea)

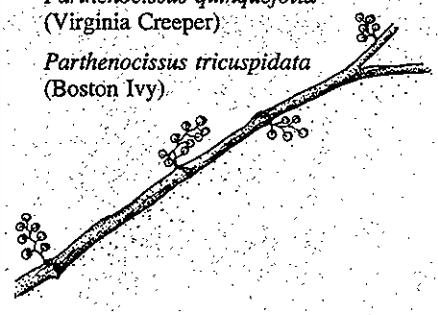


Creeper

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

Parthenocissus quinquefolia
(Virginia Creeper)

Parthenocissus tricuspidata
(Boston Ivy)



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

Like twining vines, *tendril* vines wrap around objects for support. Because they are actually extended leaves, tendrils do not grow in width, only in length. Both twining and tendril vines, however, can break weather seals on wooden facades, separating wood shingles and siding, as well as fascia and soffit boards on porches. Other vine types include *Aerial* vines which grow small roots along the length of the stem. These rootlets cling to the wall and can force their way into crevices. The fineness and density of the rootlets makes removal difficult. *Creeping* vines have tiny adhesive pads that cling to the building surface. Commonly found on masonry brick buildings, creeping vines do not generally cause extensive damage to structures while growing, although they may abrade softer mortar. However, they attach themselves so thoroughly to the building surface that paint, mortar, and brick are likely to be damaged when the vines are removed.

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

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

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

Historic Fairsted Trellises

Development of a new trellis system began with research into the materials, techniques and hardware used in New England between 1880 and 1930, as well as specific investigation into the various techniques used at Fairsted during those years. Historically, the east elevation of the house had two trellis structures supporting *Wisteria sinensis* (Chinese Wisteria). Photographs from as early as 1884 show a wooden trellis system at the entry porch and a spiraled steel strapping system along the house facade *(see figure 2)*. Remnants of these systems, such as eyebolts and hooks, were found intact at several locations on the structure. The kitchen wall had an interesting trellis consisting of posts with protruding pegs located between windows. Holes in the post indicated that pegs could be added or removed depending on the growth of the plant.

Solution

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

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

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

Installation and Monitoring

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

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

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

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

System 1—Spiraled Steel Strapping

Fabrication

Materials: ⅛" x ½" spiraled steel strapping, hooks, snap hooks, eyebolts, and F & M rings.
The steel strapping trellis is modeled after the historic design (c. 1885) developed by Olmsted. Spiraled metal strapping were attached to the house by a series of hooks and metal eyebolts. The eyebolts for this system, as well as the attachment devices for the other trellis systems, are held at least 6" away from the house to allow for air circulation between the plant material, trellis system and building facade. The strapping was fed through intermediate F & M rings located at regular intervals vertically and horizontally along the side of the house.

Maintenance

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

Evaluation

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

System 2—Aircraft Cable

Fabrication

Materials: ⅜" aircraft cable, eyebolts, and hooks.
⅜" aircraft cable was substituted for the spiraled strapping in the first system. A system of eyebolts and hooks was used to secure the aircraft cable to the house.

Maintenance

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

Evaluation

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

System 3—Modular Pipe

Fabrication

Materials: galvanized metal pipe, fittings, eyebolts, and swivel sockets.
This modular pipe system is composed of galvanized metal pipe and a series of pipe fittings. This system was hinged at the base to allow the rigid trellis structure to be tilted away from the house. The support pipes were anchored in the ground by inserting them in galvanized metal sleeves that were placed 4' below the ground surface and 6" away from the house. The top portion of the trellis structure was secured to the house by a bolt and clamp combination.

Maintenance

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

Evaluation

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

System 4—Combination

Fabrication

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

Maintenance

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

Evaluation

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

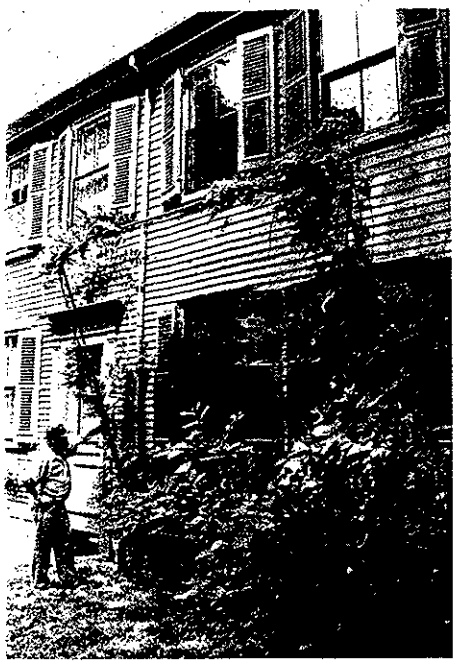


Figure 4. The pipe and strapping system, constructed with swivel sockets, allows the rigid support system to fold down away from the house. The strapping can also be removed from the pipe support for limited maintenance. Photo by Karen Day.

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

Conclusion

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

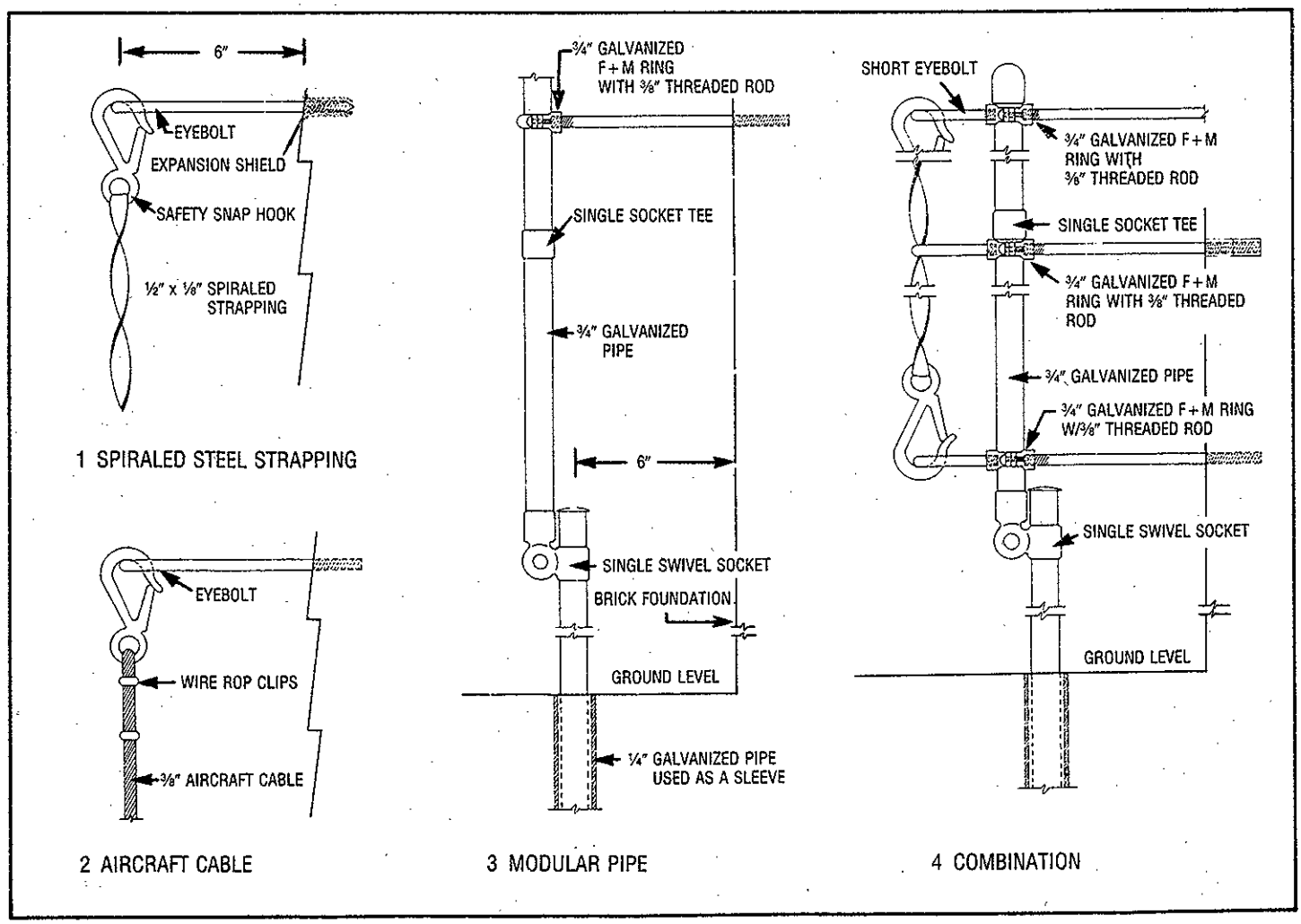


Figure 5. Details of the four experimental trellis systems. Drawings by Sharon Runner, National Park Service.

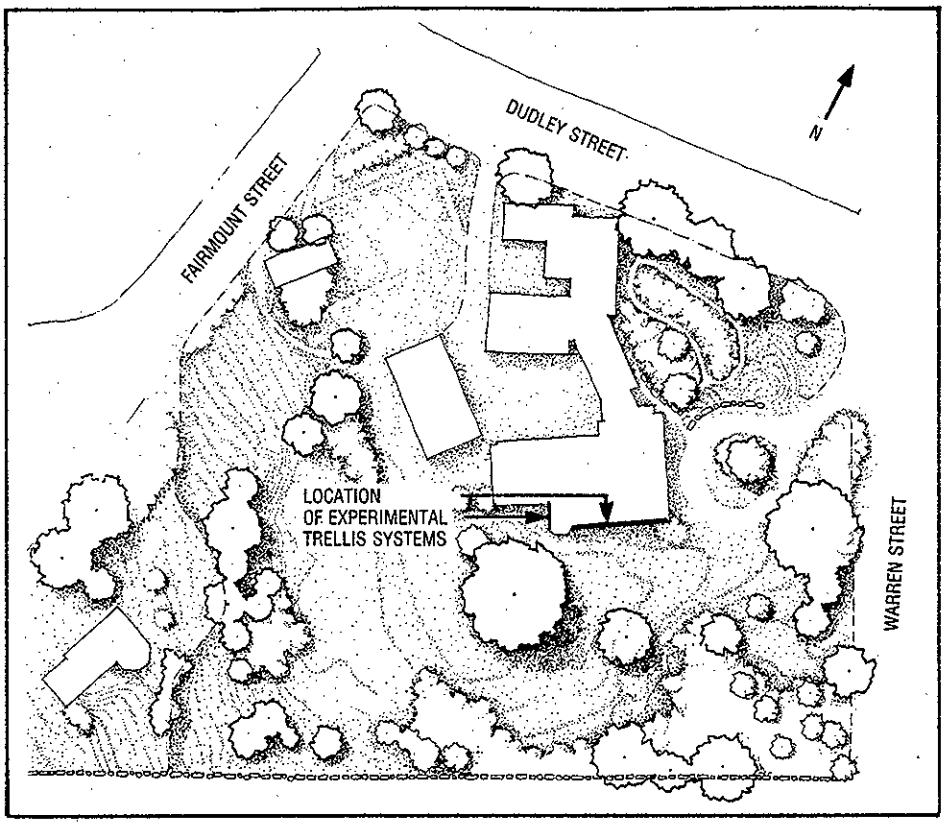


Figure 6. Site plan of Fairsted; the experimental trellis systems were installed on the south and west elevations. Drawing by Karen Day.

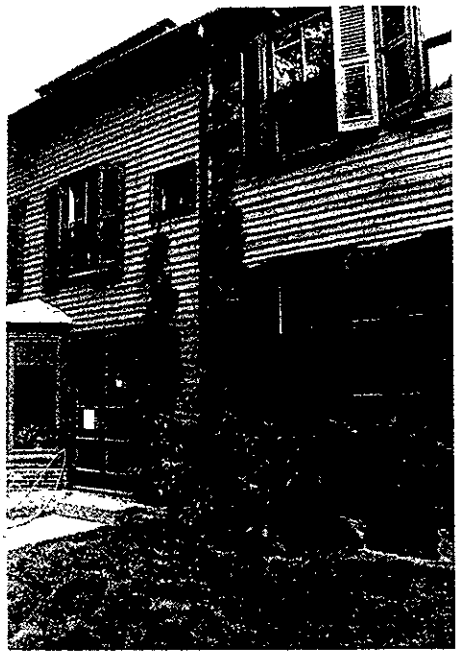


Figure 7. View of south facade, the experimental trellis systems have been in place for two growing seasons. Photo by Karen Day.

PROJECT DATA

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

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

Project Dates:
Spring 1989-Fall 1991

Project Supervisor:
Charles Pepper
Supervisory Horticulturist

Project costs:
Materials: $5,000

Materials:

System #1
spiraled steel strapping
hooks
snap hooks
eyebolts
F & M rings

System #2
air craft cable 3/8"
eyebolts
hooks

System #3
galvanized metal pipe
pipe fittings
galvanized metal sleeves
bolt and clamp combo

System #4:
spiraled steel strapping
galvanized metal pipe
fittings
eyebolts
swivel sockets

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

Preservation TECH NOTES are designed to provide practical information on innovative techniques and practices for successfully maintaining and preserving cultural resources. All techniques and practices described herein conform to established National Park Service policies, procedures and standards. This Tech Note was prepared pursuant to the National Preservation Act Amendment of 1980, which direct the Secretary of the Interior to develop and make available to government agencies and individuals information concerning professional methods and techniques for the preservation of historic properties.

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NATIONAL PARK SERVICE

RESEARCH/RESOURCES MANAGEMENT REPORT SER-82

Biotic Cultural Resources: Management Considerations for Historic Districts in the National Park System, Southeast Region

United States Department of the Interior

National Park Service
Southeast Region

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BIOTIC CULTURAL RESOURCES: MANAGEMENT CONSIDERATIONS FOR HISTORIC DISTRICTS IN THE NATIONAL PARK SYSTEM, SOUTHEAST REGION

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NATIONAL PARK SERVICE – Southeast Region

Research/Resources Management Report SER–82

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Cumberland Gap National Historic Park

Cumberland Island National Seashore

Fort Caroline National Memorial

Fort Frederica National Monument

Great Smoky Mountains National Park

Horseshoe Bend National Military Park

Natchez Trace Parkway

Shiloh National Military Park

Vicksburg National Military Park

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INTRODUCTION

Biotic cultural resources are communities of plants and animals associated with human settlement and land use in historic districts. Such landscape features as gardens, orchards, woodlots, fields, ponds and pastures are biotic resources as distinct from the buildings, structures and objects of a historic district which are abiotic resources. Because these biotic features are products of land use and management, they are cultural resources; they are distinct from the native vegetation and wildlife of a historic district, which are natural resources.

Existing NPS guidelines for the management of historic districts do not address the unique characteristics of biotic cultural resources. Some, such as pastures, have been classed as natural resources; others, such as gardens, have been classed as structures. The usual approach to their preservation has been to restore them to the general appearance of a historic scene. There are no guidelines or standards applying to this. As a result, considerable attention has been paid to historical authenticity in some cases while in others it has been neglected.

In principle, biotic cultural resources have a historical significance equal to that of historic buildings, structures and objects, and their preservation should be guided by equivalent standards. The aim of this report is to provide some considerations for preserving biotic cultural resources within the framework of the Cultural Resources Management Guideline (NPS 28). The recommendations are based on a review of existing management issues and practices within the NPS Southeast Region.

Sections one and two describe the unique character of biotic cultural resources, the distinctions between the preservation of natural and cultural resources and the differences between biotic and abiotic cultural resources.

In section three, standards for the preservation and restoration of biotic cultural resources are recommended, based on the concept of integrity.

Section four discusses the evaluation of historical significance, using examples from the Southeast Region.

The feasibility of a preservation or restoration strategy depends on the available historical information, an ability to recover past characteristics and to maintain those characteristics. In sections five, six and seven, these issues are examined with reference to preservation and restoration projects in the Southeast Region.

Where it is not feasible to preserve or restore a biotic cultural resource, alternative ways of managing a landscape must be found. Section eight discusses three alternatives: replacement with an equivalent community, replacement with a grassland community, and release to allow the return of native vegetation and wildlife.

Fig. 1 The goat barn and pasture at Carl Sandburg Home.
In this historic landscape the pasture, pond, goats and ducks should be managed as biotic cultural resources.
Photo: no date (1970s), in the collection of Carl Sandburg Home NHS.

SECTION ONE

NATURAL AND CULTURAL RESOURCES

Definitions

A clear understanding of what is natural and what is cultural is essential for us to appreciate the historical characteristics of a place. This distinction should be reflected in different approaches to the management of natural and cultural resources in historic districts.

All historic landscapes evolved from and depend on natural resources - interconnected systems of land, air and water, native vegetation and wildlife. Human settlement and land use altered many of these systems, some deliberately by construction and management activities, others only accidentally. Those features of a landscape which were the result of construction and management in a historic period should be classed as cultural resources. This includes biotic communities such as gardens, orchards, fields, ponds, pastures and woodlots, and includes all their plant and animal populations. Those features of a landscape which escaped deliberate alteration, although affected by man's presence in a historic period, should be classed as natural resources. This includes any indigenous vegetation and animal life which were not managed in that period.

Preservation Goals

Natural resources in historic districts should be preserved in their pristine condition. No attempt should be made to replicate the chance, usually destructive impacts of man's historical presence. Cultural resources, on the other hand, should be preserved in their historic condition as physical evidence of man's activities during a particular historic period.

Natural Resources Protection

In theory, a "hands-off" policy is required for the preservation of natural resources, but in practice some form of management is often necessary to restore

these resources to their pristine condition and protect them from further disturbance by human activities. This protective approach means we must accept natural changes in a historic landscape. This involves not only daily and seasonal cycles in native vegetation and wildlife, but permanent changes which are an inherent part of the development of natural systems. Some changes may be imperceptible to the casual observer; other changes, particularly in a coastal environment, may have an immediate and drastic effect. Where permanent changes affect our ability to understand historical events, it is desirable to record and, if possible, to mark the historic configuration of natural features. But any interference with natural processes would alter the natural character of these resources.

An important exception to this "no interference" policy must be made where natural processes threaten cultural resources in a historic district. For example, periodic wildfires in native vegetation communities can threaten historic buildings and structures. In such cases, the feasibility and consequences of control measures must be considered. The aim should be to find the minimum level of control of natural processes necessary to ensure the survival of cultural resources.

Cultural Resource Preservation

In contrast to the protection of natural resources, the preservation of cultural resources requires continuous interference with natural processes. Changes which would alter the physical characteristics of a cultural resource must be controlled. This does not mean we should prevent cyclical changes which are an integral part of the character of cultural resources, particularly those that are biotic, but rather we should prevent permanent changes which would transform the cultural resource.

Just as the protection of the natural character of natural resources must be compromised where cultural resources are threatened, so the preservation of the historic character of cultural resources must be compromised where environ-

mental impacts are unacceptable. This applies particularly to the management of biotic cultural resources and is considered further in the analysis of maintenance strategies in section 7. The aim should be to find the minimum level of alteration to the historic character of cultural resources compatible with the conservation of natural resources.

The goal of preserving the historic physical characteristics of cultural resources applies to both biotic and abiotic cultural resources, but there are essential differences between the two. These differences are outlined in the next section.

Section One References

1. U.S. Department of the Interior NPS 1975. Management Policies Washington, D.C.

2. U.S. Department of the Interior NPS 1978. Management Policies Washington, D.C.

3. U.S. Department of the Interior NPS 1981. Cultural Resources Management Guideline (NPS 28) Washington, D.C.

4. White, Peter S. and Susan P. Bratton 1980. "After Preservation: Philosophical and Practical Problems of Change" Biological Conservation 18 (241-255).

SECTION TWO

BIOTIC AND ABIOTIC CULTURAL RESOURCES

Preservation, Restoration and Reconstruction

The NPS has defined three strategies for the preservation of cultural resources. Preservation is "the act or process of applying measures to sustain the existing terrain and vegetative cover of a site and the existing form, integrity and material of an object or structure. It includes initial stabilization work, where necessary, as well as ongoing maintenance" (NPS 28, Chapter 1, p. 12).

Restoration is "the act or process of recovering the general historic appearance of a site or the form and details of an object or structure, by the removal of incompatible natural or human caused accretions and the replacement of missing elements. Restoration can be for exteriors and interiors, and may be partial or complete" (NPS 28, Chapter 1, p. 13).

Reconstruction, the third strategy, is not endorsed by the NPS except in special cases. It may be defined as "accurately recreating a (cultural resource) which no longer exists to its original appearance or to its appearance at a given point in its history . . . Reconstruction can be full or partial" (NPS 28, Chapter 1, p. 13).

These three strategies can be applied to both abiotic and biotic cultural resources, but the processes involved are very different.

The preservation of abiotic cultural resources - buildings, structures and objects - focuses on the retention of materials from a historic period in their proper structural arrangement. A structure is isolated as far as possible from the natural agents of decay. Alterations to the form of the structure by reconstruction are prohibited.

A different approach must be taken to the preservation of biotic cultural resources. The preservation of individual plants and animals is not feasible; their lives may sometimes be prolonged, but they cannot be perpetuated. Only their skeletal remains can be preserved by techniques similar to those used in the conservation of abiotic objects. However landscape features formed by communities of plants and animals (such as gardens, orchards, pastures, etc.) can be preserved. This requires the regeneration of their component populations and a continuation of their organization through the application of historic management techniques.

In short, while the preservation of an abiotic cultural resource focuses on the retention of historic materials and architectural structure, the preservation of a biotic cultural resource should focus on the retention of historic plant and animal populations and community organization.

Restoration of a building, structure or object may involve the removal of additions made since a historic period and the replacement of lost parts of a structure with materials matching the historic fabric. Restoration of a biotic cultural resource, on the other hand, may involve the removal of plant and animal populations which have invaded a community or been deliberately introduced since a historic period, and the replacement of lost members of a community with plants or animals matching the historic population.

Reconstruction of a building or structure involves the reproduction of missing elements, at full scale and on the original site. Reconstruction of a biotic cultural resource would involve the reintroduction of historic plant and animal populations to recreate a historic community on the original site.

The distinction between restoration and reconstruction of a biotic cultural resource hinges on the presence of historic plant or animal populations on a site. Where any of the historic populations are still represented, a recovery of the

rest of the community may be considered as a restoration. (In the case of annual plant populations grown in rotation in fields and gardens, the presence of any of the populations within the rotation qualifies.) Where none of the historic populations remain, a reproduction of a historic community should be considered as a reconstruction.

Preservation Standards

The NPS has established preservation, restoration and reconstruction standards for historic structures, but not for managed biotic communities. References to the general appearance of a historic scene are clearly inadequate.

Standards for biotic cultural resources, like those for historic structures, should be based on the concept of integrity. This is examined in Section Three.

Section Two Reference.

1. U.S. Department of the Interior NPS 1981. Cultural Resources Management Guideline (NPS 28), Washington, D.C.

SECTION THREE

THE INTEGRITY OF BIOTIC CULTURAL RESOURCES

Definition

Integrity refers to the authenticity of the historic identity of a cultural resource, which is evidenced by the survival of physical characteristics from a historic period. This concept, applied in the preservation of historic buildings and structures, should also be applied in the preservation of biotic cultural resources.

Historic Period

The integrity of a cultural resource is evaluated by comparing its present physical characteristics to those of a historic period. In this comparison the state of a resource at the end of a historic period is usually taken to define its historic condition. But there are exceptions to this rule. For example, in a Revolutionary or Civil War battlefield, it is usual to designate the landscape as it existed immediately before the action as a historic scene. This allows us to understand the influence of the terrain and vegetation on the military action, but it does not require a record of the random destructive impacts of battle.

Evaluation Criteria

The National Register of Historic Places evaluation process provides criteria for assessing the integrity of historic districts, sites, etc. These criteria were developed primarily for buildings, structures and objects and need to be redefined to apply to biotic cultural resources. There are seven aspects of integrity, namely location, design, setting, materials, workmanship, feeling and association. In applying these to biotic cultural resources, it is necessary to consider species composition, community organization and management techniques rather than material, design and workmanship. The seven aspects of integrity as they apply to biotic cultural resources are defined below.

Location

Location is the geographic distribution of a biotic cultural resource. Changes

usually occur through a migration of boundaries. The edges of managed biotic communities are often clearly defined. Many communities such as gardens, orchards and fields are usually fenced. But the historic limits of some communities, such as woodland pastures in which livestock were allowed to range freely, may be difficult to define.

Cultural resources must be preserved in their historic locations if we are to understand the past. The idea of a historic place links history to geography. It is important therefore to identify any change in the boundaries of historic biotic communities.

Species Composition

A managed biotic community is usually composed of a mixture of native and introduced species. It is very difficult, if not impossible, to catalogue all the species in a biotic community, and this is not necessary. Instead, the dominant and the introduced species, which were the focus of management activities in a historic period, should be the focus for inventory and preservation. This inventory should identify not only the species, but also the varieties of plants and breeds of animals. Where possible, the origins of introduced species and the histories of varieties and breeds should be known. This should be accompanied by a description of their physical characteristics - in form, growth and reproduction. These characteristics are transferred from generation to generation, though only a clone is genetically identical to its parent. While cloning is practiced in some branches of agriculture, horticulture and silviculture, the normal variations resulting from sexual reproduction are vital to the maintenance of healthy plant and animal populations. A comparison between the past and present characteristics of the plants and animals within a community, should focus, therefore, on distinctive varietal characteristics while allowing for normal variations between individuals.

Community Organization

The organization of a community can be described in terms of the size, structure and distribution of each of its plant and animal populations, plus the cyclical patterns in these characteristics. The exact format for this description varies with the type of plant or animal population.

The size of a population can be derived from a count of individuals or from an estimate based on area occupied. For example, trees in an orchard and livestock in a pasture can be counted, while the size of grain crops is given as an acreage accompanied by a yield per acre. An analysis of a population structure may consider divisions based on age, size, sex or other characteristics that affect the management of the plants or animals. Distributions may be described in terms of a fixed layout, a general density or a movement between points. For example, the pattern of corn in a field can be described with some precision - by the number of plants per hill and the spacing of the hills and rows. But the distribution of sheep can only be described in general terms - they may have been penned in the winter and released to forage in woods during the summer.

Many cyclical patterns affect the size, structure and distribution of plant and animal populations. These cycles are controlled by natural rhythms and by management. For example, we have daily and seasonal cycles in the movement of livestock, annual cycles in the replanting of vegetables and the regeneration of most livestock, a four- or five-year cycle in the rotation of some field crops, and a longer cycle in the replacement of old and damaged trees in an orchard. When we compare historic population patterns with those of the present, it is important to distinguish these cyclical changes from permanent developments. If the present population characteristics are different from the historic ones, it may be because the population is in a different phase of a normal cycle.

Management Techniques

The species composition and community organization of a biotic cultural

resource are controlled by constant management activity. Agriculture, horticulture, silviculture and other land management systems employ a variety of techniques, which can be described under five headings:

regeneration - including the maintenance of population numbers and promotion of desirable characteristics by selection of parent stock;

intermediate care - such as the cultivation of crops, thinning of timber and feeding of stock;

protection - the prevention of losses to weather, disease, insect and animal predation;

harvest - the optimization of production by controlling the length of the life cycle and determining the place and time of harvest;

use - including the conservation and consumption of the products.

Ornamental patterns of plants and animals are essentially the same as agricultural patterns but without the same concern for harvest and use.

The physical characteristics of a biotic community reflect the management techniques and standards, the types of equipment used and the timing of the various activities. Often these technical details are peculiar to a time and place, whereas the overall land management system may be common to several periods and locations.

Setting

The setting is the physical environment of a managed biotic community. It includes natural resources - landforms, streams, natural vegetation, wildlife, etc. - and cultural resources - both other managed biotic communities and buildings, structures and objects. This physical setting is vital to the functioning of a community. Natural resources of land, air and water provide the framework for

the growth and development of the plants and animals. Neighboring communities provide competing or complementary populations, while buildings and structural site improvements facilitate various management activities.

A comparison between the setting in the past and in the present should not be restricted to the immediate environs of a community, but should include all features associated with its management.

Feeling

Feeling refers to the ability of a cultural resource to evoke a sense of the past. All the senses are engaged in the perception of biotic communities. Sounds and smells can be as evocative as views. But particularly important is a sense of rhythm: an awareness of the pulse of the community. The character of a living community of plants and animals cannot be appreciated without experiencing its various biological rhythms: diurnal, monthly and seasonal. And the management of a biotic community in each historic period and place had its own tempo; it is this which can speak most strongly of times past.

An evaluation of the integrity of a community in this sensory aspect can be based on an assessment of its integrity under the first five criteria - location, species composition, community organization, management techniques and setting.

Association

Association refers to the connection between a biotic community and the people, events or developments of a historic period. This quality is a summation of the previously defined categories of integrity. It is important to assess whether the cumulative effect of changes in the previous six categories is such that the connection to the past has been severed.

An overall evaluation of the integrity of a managed biotic community can be made by a comparison of its appearance in the historic period and the present.

However, we should remember that even when a community survives intact, an exact repetition of its appearance at any particular moment can only occur periodically, because of normal cyclical patterns in populations. A repetition of a historic scene composed of several plant and animal communities requires a conjunction of all biotic cycles in their appropriate phases. Therefore, like Halley's Comet, a particular historic scene may return perhaps once in a lifetime.

Preservation Standards

When an evaluation of the integrity of a biotic cultural resource indicates that sufficient historic characteristics remain to convey the historical associations of the place, then those characteristics should be preserved.

The standards guiding the preservation of a biotic cultural resource should be equivalent to those established for historic structures.

Before any preservation work is implemented, a sound historic and scientific investigation of the biotic community should be conducted. A preservation guide should then be prepared. All work relating to the regeneration of historic plant and animal populations should be preceded by a study that adequately ensures that inherent research and interpretive values are not lost.

The aim of preservation is to retain the existing integrity of the biotic cultural resource; it should not include any substantial restoration. Shifts in the boundaries of a community are to be accepted, but further changes should be prevented. Lost populations of plants and animals should not be reintroduced and those added since the historic period need not be removed, except where the maintenance of remaining historic characteristics requires a reintroduction of missing populations or a control of competing species. When historic population characteristics - number, structure and distributions - can be recognized, these should be maintained, but where these patterns have been lost they need not be restored. A return

to a historic management system is not required, but historic populations should be managed by the historic techniques when feasible. Further disintegration of the historic setting - of both its natural and cultural components - should be prevented as far as possible.

This strategy recognizes that changes which have taken place since the historic period provide evidence of the passage of time. Where these changes have not severed the association with the historic past, they should be accepted.

Restoration Standards

"Restoration may take place only when such work is essential for public understanding and appreciation of the historical or cultural associations of the park and when adequate interpretation cannot be imparted through any other means" (NPS 28, Chapter 2, p. 6).

The standards guiding restoration of a biotic cultural resource should be as rigorous as those established for historic structures. Historical data should be sufficient to permit an accurate restoration with a minimum of conjecture. Every restoration should be preceded by a detailed study that adequately documents the biotic cultural resource.

Any changes made during restoration should be carefully documented and surviving historic plant and animal populations should be safeguarded during and after restoration.

The aim of restoration should be truth to the historic characteristics and not merely recovery of a "general appearance". A restoration of historic boundaries should follow the historic alignment. Any plant or animal populations reintroduced should have all the physical characteristics of the original varieties or breeds. A restoration of historic community organization should be accurate with respect to the size, structure and distribution of each population. A return to historic management techniques should meet the same standards, employ the same types

of equipment and follow the same calendar as those of the historic period. A recovery of the historic setting should, as far as possible, restore the natural resources of the historic period to their pristine condition and protect them from further disturbance by human activities. A restoration of the structural components of a setting should follow existing NPS guidelines.

Restoration may be partial or complete. Complete restoration is the recovery of all the physical characteristics of a historic resource. Partial restoration is selective; it restores only those characteristics which are essential for public understanding of the significance of the original. For example, a partial restoration of an orchard may restore the fruit trees but accept change in the ground cover vegetation. Where a partial restoration is planned, the effects of the changed community composition on the restored populations should be considered in deciding the extent of restoration necessary.

Only an accurate restoration can recover the historic characteristics of a biotic cultural resource and properly convey the historical and cultural associations of a place.

Reconstruction Standards

"Reconstruction shall be undertaken only if such work is absolutely essential for public understanding and only if the subject (cultural resource) is associated with a site's primary theme. In addition all prudent and feasible alternatives to reconstruction must be considered and it must be demonstrated that reconstruction is the only alternative that permits an appreciation of the historical or cultural association for which the park was established" (NPS 28, Chapter 2, p. 7). The prohibition of reconstruction except in these limited circumstances should apply to biotic cultural resources as well as to structures.

The standards guiding reconstruction work with respect to the adequacy of historical data and accuracy in the reproduction of historic characteristics should

be equivalent to those defined for restoration.

Application

The objective of preservation and restoration is to convey the historical or cultural associations of a park or historic district. The issue of historical significance is examined in Section Four.

The feasibility of preservation and restoration projects depends upon:

the availability of data on historic characteristics,

the degree of disturbance since a historic period, and

the development of an appropriate maintenance strategy.

These issues are examined in Sections Five, Six and Seven.

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SECTION FOUR

HISTORICAL SIGNIFICANCE

Evaluation

It may not be necessary to preserve a complete historic scene in order to convey the historical or cultural associations of a historic district. Preservation and restoration should focus on historically significant features. Congress in the legislation establishing a park may have defined the significance of a district, or it will have been described in the course of nomination to the National Register of Historic Places. This Register recognizes four types of historical significance:

association with historic events,

association with historic persons,

illustration of types of design or construction, and

provision of information on history or prehistory.

Some districts have more than one type of significance, and in these cases primary themes are distinguished from secondary themes.

The significance of the physical characteristics of biotic cultural resources should be evaluated by an assessment of their relevance to those themes.

Association with Historic Events

This is the most common category among Southeastern districts. It includes single events such as the Revolutionary and Civil War battles, and series of events such as the colonial settlement of the seaboard and movements westward through the Appalachians. The influence of biotic cultural resources on such events was often direct.

For example, Chickamauga-Chattanooga NMP was established for the "purpose of preserving and suitably marking for historical and professional

Fig. 2. A clearing in the woods at Chickamauga.
The character of vegetation on this battlefield had a significant effect on the conduct of the battle.
Photo: no date (early this century), in the collection of Chickamauga and Chattanooga NMP.

military study the fields of some of the most remarkable maneuvers and most brilliant fighting in the War of the Rebellion" (1890 Act quoted in Interpretive Prospectus, 1982).

Those maneuvers were mostly chaotic. The dense woods were matted with underbrush probably as a result of agricultural disturbance. This took the battle out of the hands of the commanders, the use of artillery was restricted and there were numerous charges and unexpected events. Open fields and orchards became the scene of the heaviest casualties as advancing soldiers were subject to devastating volleys. So the boundaries of woods and fields are of great historical significance. The composition of the woods played a central role. In the fields, the details of crops and orchards were less important to the conduct of the battle. They are of interest, however, in relation to a secondary theme of the park - the impact of the war on the lives of civilians caught in its path of destruction.

Association with Historic Persons

Some districts may be places where historic persons made their contributions to the history of the nation, or the homes from which they came and to which they retired. In these districts, it is often difficult to isolate particular features of a landscape as being more significant than others.

For example, at Carl Sandburg Home NHS, the farm and forest landscape provided an idyllic setting for the last 22 years of the author's life. Sandburg was essentially an observer, as he did not play an active role in the management of the farm. He usually spent his evenings strolling around the farm or along forest trails, delighting in their sights and sounds. It is therefore the feeling of the landscape as a whole which has historical significance.

Illustration of Types of Design or Construction

The terms "design" and "construction" tend to focus attention on the buildings and structures within a district, but they can also refer to distinctive

Fig. 3. Carl Sandburg at Connemara.
The landscape of this farm provided an idyllic setting for the last 22 years of the author's life.
Photo: June Glenn Jr. - no date.

land use systems. Unlike buildings and structures, land use systems were seldom designed and constructed by a single individual. They were usually the work of a group of people and reflected that group's history and culture. Examples in the Southeast range from the humble farms of Appalachia to the estates of the wealthy on Cumberland Island. In some cases, it is possible to select a particular feature as representative of distinctive land use practices, but in other cases the entire landscape has significance in this context.

At Hensley Settlement in Cumberland Gap NHP, the characteristic frugality and ingenuity of the settlers could be seen in their use of all the resources of their mountain home. This was a 20th century community but with a material culture similar to that of the early pioneers. The Settlement was isolated on a high plateau and remained almost self-sufficient. The physical characteristics of all the biotic communities on each farm - orchards, vegetable gardens, cornfields, woodlands and pastures - are equally significant within this context.

Provision of Information on History or Prehistory

Districts in this category are primarily associated with archaeological research, in which the emphasis is on the study of biotic remains rather than living communities of plants and animals. However the scientific value of the latter to historians should not be overlooked. For example the composition and population structure of woodlands, pastures, hedgerows, etc. can provide valuable information on past land use practices. But this scientific value is reduced when there is a history of disturbance, which is generally the case in the Southeast.

Selection

In districts in which the whole landscape is considered historically significant, it may be desirable to preserve or restore an entire historic scene.

Fig. 4. Willie Gibbons' Farm at Hensley Settlement.
The design and operation of the farm illustrate the characteristic self-sufficiency of this isolated mountain community.
Photo: William Cox, 1975, in the collection of Cumberland Gap NHP.

However, this is seldom feasible and a more selective approach is often necessary.

It may be possible to select within a larger landscape an area which contains a representative cross-section of the significant resources. For example one farm at Hensley Settlement - the Willie Gibbons Farm - was selected to represent the land use patterns typical of the entire settlement. The park has developed this farm as a Living History Farm. A couple of adjacent farmsteads have been partially restored, but a large part of the plateau was left as it was when the NPS acquired the property - abandoned to revert to forest.

It may also be necessary to reduce certain populations to token numbers - representing the composition but not the organization and management of biotic cultural resources. For example, at Carl Sandburg Home the 1971 Master Plan called for the restoration of the entire goat farm. But this proved over-ambitious. It was not possible to manage the goats along historic lines. Difficulties were encountered in maintaining the pedigree herd and marketing the dairy products. So in 1978 the herd was reduced to a token number and no attempt is made to maintain the herd's registration.

Interpretive programs need not be dependent on the total recovery of a historic scene. A wide variety of methods can be used to assist public understanding of the historical significance of a place. Visitors should be presented with the processes as well as the products of historical research.

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SECTION FIVE

HISTORICAL RESEARCH

Sources

Preservation and restoration projects must be guided by adequate historical data. An assessment of the integrity of a biotic cultural resource requires a scientific study of its present characteristics coupled with research to define its historical physical characteristics.

The historical research should draw on a variety of sources, including old maps and surveys, written accounts, photographs, oral histories, archaeological investigations and the historical evidence provided by the present community. None of these sources by itself can be relied upon to provide an accurate and complete picture of a cultural resource. It is essential to cross-check information from all these sources.

Historical Maps and Surveys

The most common types of historical surveys are military maps, topographic surveys, coastal charts, plats and architectural plans. The usefulness of a survey depends on its date in relation to a historic period and the purpose for which it was made. Few historical surveys provide much information on the composition of biotic communities; most are useful only to determine boundaries of major communities such as fields and forests. The reliability of these surveys must be ascertained by cross-checking them with written accounts. For example, when Shiloh NMP was established in 1896, maps were made showing the layout of the battlefield in 1862. In 1973, to guide a restoration program, these maps were cross-checked with accounts of the battle in the Official Records of the Union and Confederate Armies, veterans' memoirs and various secondary sources. Corrections and additions were made to the 1899-1900 maps to provide a more accurate historical base map.

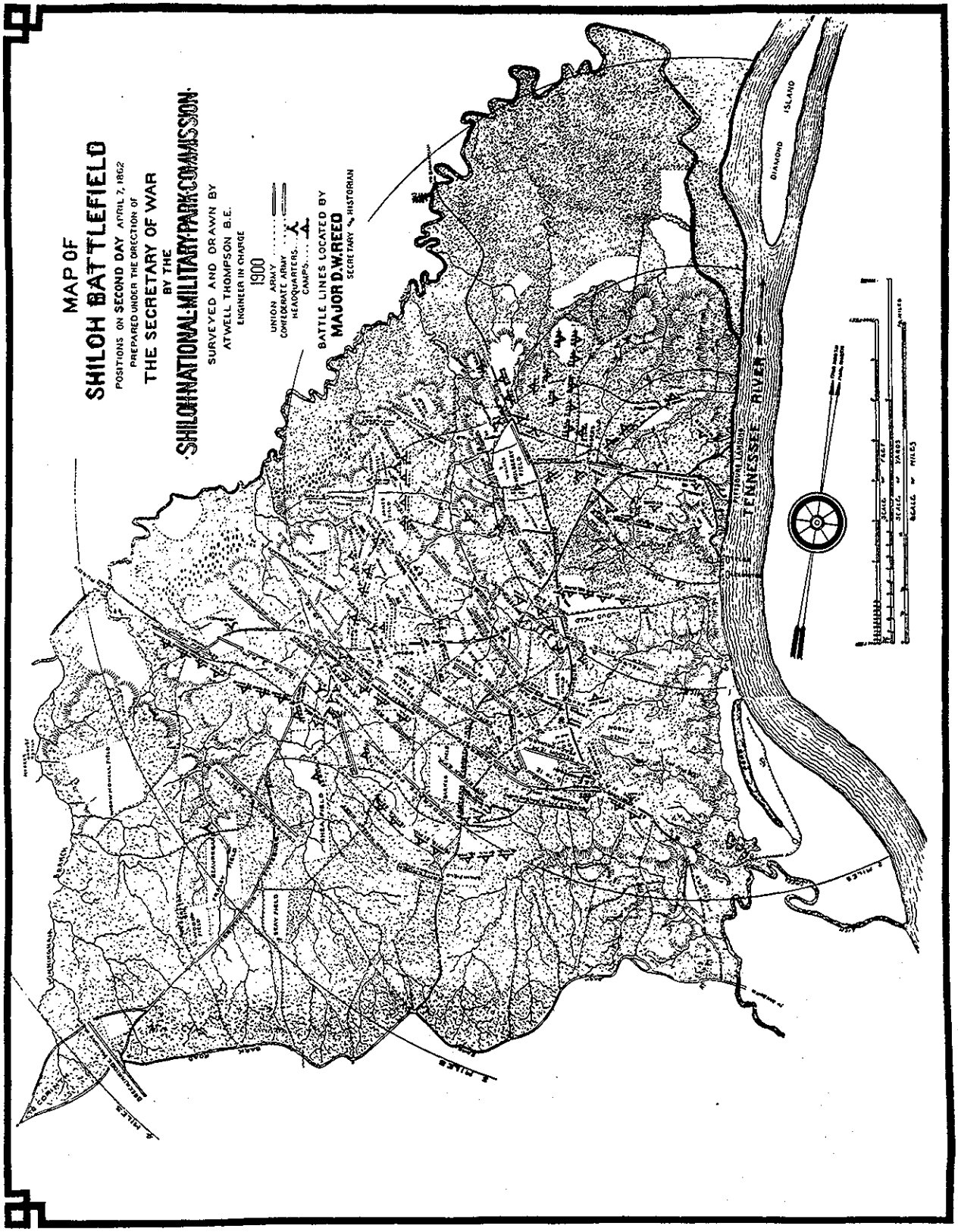

Fig. 5. Shiloh Battlefield, positions on second day, April 7, 1962.
This is one of the historical base maps prepared when the park was established. Corrections and additions were made to these base maps in 1973, to guide a program which restored most of the fields to their historic configuration.
Map: A. Thompson and D.W. Reed, 1900, in the collection of Shiloh NMP.

Historical Written Accounts

Censuses provide statistics on agricultural production in each county. More detailed accounts may be available in land management records. These are more likely to have been kept on large estates than small farms. More general descriptive accounts in journals, letters, newspapers, etc. are useful to the extent the authors paid attention to biotic communities. For example, some of the early colonial accounts are informative because the authors were interested in the agricultural potential of the land, whereas most military accounts only mention features of the terrain which influenced the conduct of a battle. Where accounts are incomplete it may be possible to infer some details. For example, at Shiloh the spacing of peach trees in an orchard has been deduced from the absence of any mention of the trees as an impediment to movement during the action. The spacing has been estimated from the turning radius of a cannon limbered up with a six-horse hitch.

Photographs

Photographs are not as selective as written accounts. In addition to those taken as a deliberate record of a scene, many family snapshots are a rich source of information. The evidence from a collection of photographs taken from different vantage points at about the same time can be pieced together to decipher vanishing landscape features. This has been done on Cumberland Island NS to discover the layout of the Carnegie gardens at Dungeness. Repeat photographs taken from the same vantage point at different times are valuable as a record of changes in a landscape. Aerial photographs, available for the past 50 years, make possible a detailed analysis of vegetation communities. Large-scale aerial photographs can play an important role in guiding field investigations, revealing features not readily apparent from the ground. At Dungeness, for example, the layout of the paths now overgrown

Fig. 6. Flossie Carnegie's wedding at Dungeness, Cumberland Island. The layout of the gardens at Dungeness during the Carnegie period can be determined from a collection of family photographs. Photo: 1901 in the collection of Cumberland Island NS.

by lawns is clearly visible on aerial photographs.

Oral History

The most detailed accounts of managed biotic communities have been pieced together from interviews with past residents of historic districts. For example, a detailed account of farming practices at Hensley Settlement in Cumberland Gap NHP has been assembled from interviews with surviving members of the Hensley and Gibbons families. This research relies on memory or stories passed down within families and is obviously most applicable to the rediscovery of the recent past. It is important to link interviews to available maps and photographs so that geographic references can be understood. It is also desirable to interview enough people so that different viewpoints can be obtained and details cross-checked.

Archaeological Investigations

The management of plants and animals may leave several kinds of remains - artifacts, structures, disturbed soil profiles and biotic remains. Artifacts such as farm and garden implements can indicate management techniques. Structural remains and disturbed soil profiles are particularly useful for indicating site layout. Biotic remains such as bones, seeds, roots, etc. can provide evidence of the species composition of past communities as well as distribution patterns. Archaeological investigations are most productive in areas which have been released rather than redeveloped. At Fort Frederica NM, for example, although archaeological research has yielded some evidence of the layout of the lots within the settlement (post holes and brickwork indicate the position of fences between gardens), the long history of disturbance during the plantation era is a major handicap to this type of research.

Study of the Present Community

Living communities of plants and animals can retain traces of past manage-

Fig. 7. Archaeological investigations at Fort Frederica.
Fieldwork has revealed some structural remains indicating the layout of the lots within the colonial town; but the long history of post-colonial disturbance on this site is a major handicap to this type of research. Photo: 1958, in the collection of Fort Frederica NM.

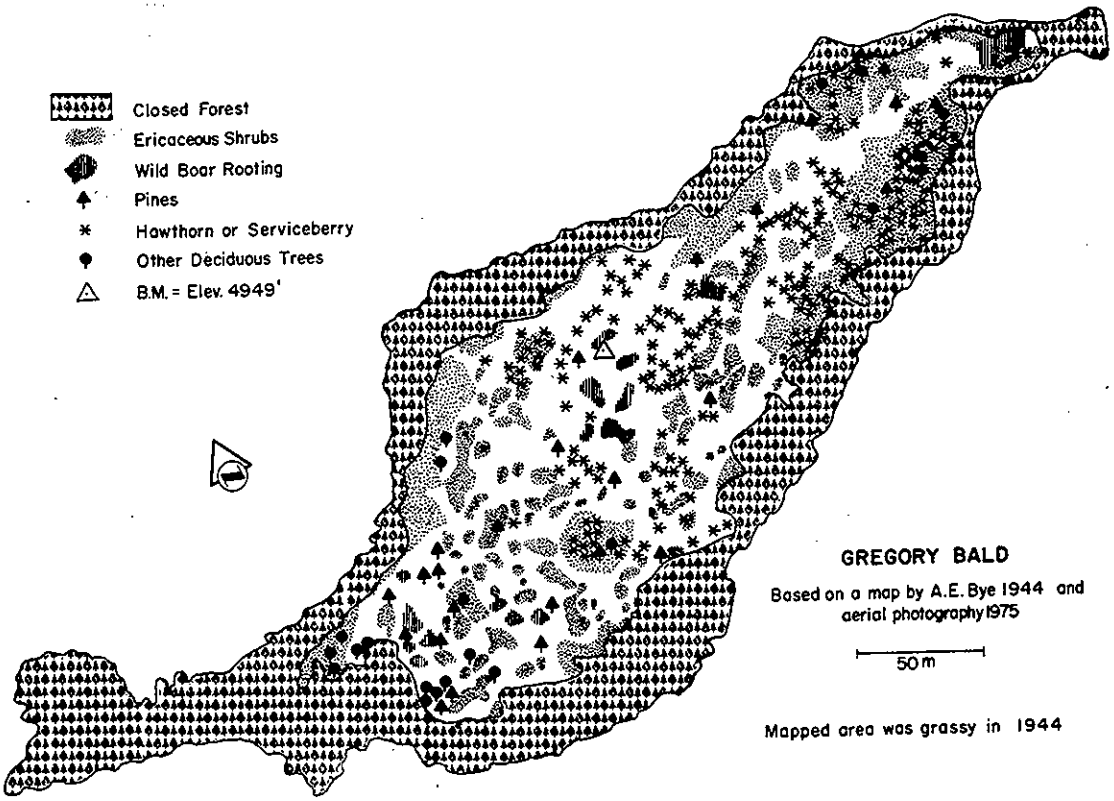

Fig. 8. Vegetation survey of Gregory Bald, Great Smoky Mountains.
The map shows the extent of the invasion by woody plants since grazing was discontinued on this grassy bald.
Map: Mary Lindsay, 1977, Uplands Field Research Laboratory, Great Smoky Mountains NP.

ment many years after the management has been discontinued, particularly if these communities have been released rather than redeveloped. These traces of past management may be seen in species composition - such as the presence of relict populations of introduced species - and in population patterns - such as geometric plant distributions or a uniform age class structure. Because of the dynamic character of biotic communities, "reading" this type of evidence is a complex task and fieldwork needs to be linked to the other types of historical research. In Great Smoky Mountains NP, for example, a study of the history of two grassy balds was begun in 1975. Fieldwork determined the present species composition of each bald and compared it to other high mountain areas with a known history of disturbance by grazing, mowing, fire or trampling. An archival search with an analysis of old photographs, plus interviews with people who had herded livestock on the balds, documented the historical character of the balds before the park was established. From this evidence, the rate of invasion of the grassy balds by woody plants and the resulting loss of integrity could be assessed. While the origins of the balds may still be disputed, this study confirmed the historical importance of grazing in maintaining the grassy balds and the threat to their survival once grazing was discontinued.

Conclusion

The aim of a historical research program is to minimize conjecture in preservation and restoration projects. The degree of precision nècessary in a description depends on the historic characteristics. For example, in a historic period a boundary may have been a line defined by a fence or ditch, or it may have been a transition zone, say between a grassy pasture and woodland pasture. A population may have been tightly organized into linear patterns like trees in an orchard or vegetables in a garden, or only loosely organized

with respect to distribution like trees in a woodlot or livestock in a pasture. The precision of the historical description should reflect the degree of organization in a historic period.

Where research cannot provide a site-specific description, it may be necessary to turn to general accounts of a locality and period. These sources can be used to define common characteristics but cannot substitute for site-specific data. They are useful only as a guide to more site-specific research. A general description should not be used as a basis for restoration as it does not identify the particular characteristics of a time and place.

Where historic physical characteristics cannot be defined adequately, the preservation, restoration or reconstruction of those characteristics cannot be undertaken.

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SECTION SIX

DISTURBANCE AND RECOVERY

Disturbance

The feasibility of a preservation or restoration strategy depends on the degree to which a biotic cultural resource has changed since a historic period. As disturbance increases, the problems of stabilization or recovery multiply. Disturbance is caused by changes in management in response to natural or socio-economic factors. Many sites have undergone a series of redevelopments interspersed with periods of release. Both types of disturbance set in train a complex sequence of changes in biotic communities.

Redevelopment is associated with technical advances in land management and changes in land use. The adoption of labor-saving machinery, the use of artificial fertilizers and pesticides, site improvements to facilitate regeneration, care and harvest - all produce changes in the organization of a biotic community. Progress is often accompanied by the introduction of improved varieties or breeds with a change in population characteristics. A change in land use - for example, as forests or pastures give way to the plow - involves the most drastic disturbances. Existing plant and animal populations are displaced, new populations are introduced and the site altered to accommodate the new inhabitants. Once a community has been replaced, the biotic links with the past are broken.

Release occurs when the land is neglected and falls into disuse due to social or economic reasons. Community boundaries become obscured as vegetation succession replaces cleared fields with scrub and eventually forest. Introduced plants and animals may become feral and scatter beyond their historic confines. Structural site improvements decay and disintegrate. But the alteration of the land in the historic period may operate against a full

reestablishment of native flora and fauna. Some biotic continuity from a historic period remains until the last of the relict populations is eliminated.

Districts associated with events in the more distant past have usually suffered the most disturbance. At Fort Frederica NM, for example the site of the settlement has undergone at least three cycles of release and redevelopment since the end of English occupation in the 1740s. As a result, little of the present vegetation around the townsite reflects colonial activities.

Recovery

Where a site has been much disturbed, restoration may be essential for public understanding and appreciation of its historical or cultural associations. However, the recovery of biotic communities can present a number of difficult problems.

Returning a community to its historic boundaries may bring conflicts with other land uses. The boundaries of historic districts are often drawn with reference to a group of structures or to the site of a historic event, and without regard to land management patterns.

Reintroduction of historic types of plants and animals requires a source for the authentic varieties and breeds. The removal of successional vegetation which has invaded abandoned areas can be a major undertaking. Exotic species introduced since a historic period also must be removed, and this may prove to be an intractable problem. Regeneration of a historic community, such as a mature woodland, may take decades and it is difficult to accelerate this process. A return to historic management techniques requires a labor force of the same size and with the same skills as the historic workforce. It is often difficult or impossible to completely recover a historic setting. Changes to the site as a result of soil erosion, air pollution, alterations in stream flow or water table etc. may be irreversible. The recovery of the structural com-

ponents of the setting - restoring fences, ditches, barns, etc. and removing anachronistic structures - often accounts for a large part of the initial cost of a restoration project. In recapturing a feeling of the past, much depends on the recovery of this setting.

Many of these problems can be seen at Cowpens NB. In 1781, the battlefield was a woodland pasture, an oak, hickory, chestnut and maple woodland free of underbrush except along the creeks, and sufficiently open to allow the growth of grasses and peavine. Each spring cattle were fattened on these pastures before being driven to the coast.

By 1972, when the site was acquired by the NPS, nearly two centuries of farming had produced a mosaic of fields, house sites, orchards, pine plantations, and abandoned scrubland. Only in the woods along the creeks did some of the historic populations remain. The Master Plan called for a restoration and reconstruction of the 1781 landscape.

> The vegetation of the battlefield core and its periphery is to return to its appearance on January 17, 1781. The battlefield will appear as pastureland with scattered trees, and this will gradually merge into dense woodland which will simulate the heavy forest typical of Piedmont South Carolina in Colonial times. This forest will eventually return if nature is let alone to accomplish it. There were swamps and canebreaks in 1781, and they should be allowed to revegetate, too. The woodland will double as a screen around the periphery of the battlefield, and at the south end it will be extensive enough to simulate the mile upon mile of heavy forest which dictated the selection of the open Cowpens as a battleground. (Cowpens NB Master Plan p. 12).

It was estimated that it would be at least 40 years before a deciduous

Fig. 9. Aerial photograph of Cowpens in 1970.
In the two centuries since the battle, a woodland pasture has been replaced by a mosaic of fields, house sites, orchards, pine plantations and scrubland.
Photo: USDA Agricultural Stabilization and Conservation Service, 1970.

forest cover could be reestablished across the site, and another 50 years before it begins to resemble that of the 18th century. Natural succession is being allowed to proceed throughout the site, but in the battlefield core a planting program using volunteer labor is attempting to accelerate the establishment of a tree cover.

The composition and form of the woodland may vary significantly from the original because of the history of disturbance. Soil erosion, changes in the water table and air pollution (including pesticides sprayed in adjacent peach orchards) will probably affect the composition. Chestnut blight is preventing the return of one important species. The removal of anachronistic structures has been completed but it will be many years before all traces disappear. Old road beds, scarified and seeded, form open swaths across the site. Soil conservation terraces and drainage ditches are embedded in patches of woodland. But the major problem for management today is the widespread distribution of exotic vegetation. Ornamental trees, shrubs and vines mark old home sites, and some may persist in an open woodland pasture. Kudzu is being controlled by the use of herbicide followed by the fertilization of natives to speed recovery and closure of the canopy. Ways are still being sought to control the rapid spread of Japanese honeysuckle and Asiatic bamboo.

Several questions concerning the reestablishment of the pasture within the woodland remain to be resolved. More information is needed as to the type of cattle and the composition of the pasture on which they fed. Practical problems of managing cattle without fences may be difficult to solve. (In the historic period, the pens were about two miles away.) The impact of grazing on the regeneration of the woodland as well as the risk of conflict between cattle and automobiles may require the introduction of fencing. It may indeed be necessary to settle for a partial restoration. If the cattle

are omitted, the grasses could be maintained by rough mowing.

The regeneration of the historic woodland pasture, therefore, is more than a question of time. But time is perhaps the most intractable problem. An ancient woodland has a complex flora and fauna which research suggests is not regained by a restored woodland.

Conclusion

A careful assessment should be made of the feasibility of a complete or partial restoration meeting the recommended standards of integrity. Where those standards cannot be met, restoration may prove inaccurate and misleading and should not be undertaken.

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SECTION SEVEN

MAINTENANCE

Preservation and Maintenance

The success of a preservation or restoration project depends on the development of an appropriate maintenance strategy. The process of preservation or restoration cannot be separated from the problems of maintenance.

Historic plant and animal populations will retain their original characteristics only as long as the historic management practices are repeated. But an exact repetition of all the activities relating to regeneration, care, protection, harvest and, if appropriate, use may not be feasible, so it may be necessary to seek alternatives. Those alternatives may involve "improvements" such as the substitution of powered machinery for hand tools, or different systems of management, such as the substitution of mowing or burning for grazing as a method of maintaining grassland.

Maintenance techniques should be evaluated in terms of:

the integrity of the biotic cultural resources,

environmental impacts,

costs and benefits, and

administrative and legal constraints.

Evaluation of Historic Techniques

Integrity

A comprehensive preservation or restoration of a biotic cultural resource requires an exact repetition of the historic management techniques to maintain it. Where some historic populations have been lost, it may be necessary to replace them with modern varieties or breeds, if need be, to maintain the historic characteristics of the remaining parts of a community. For example, the maintenance of the historic character of pastures requires the presence

of the historic herds or their present-day equivalent. Whether it is feasible to repeat the exact historic management techniques depends on a resolution of the following issues.

Environmental Impacts

In many parts of the southeast, historic techniques abused and abandoned the land. Shifting cultivation was widely practiced; when yields decreased, new land was cleared from the forest. The resources of the forest seemed limitless and areas were indiscriminately burned and grazed. These frontier practices could only be countenanced while new lands were available. They are incompatible with the maintenance of a stable settled landscape and in conflict with the mission of the NPS in an era which recognizes resource limits. Some historic practices must therefore be modified or prohibited.

Costs and Benefits

Historic methods of working land were often labor-intensive. On a farm the entire family provided the work force and a revival with paid labor means high costs. Moreover, few people in the late 20th century are prepared to accept the working conditions of an earlier era. It is easier to stage demonstrations or construction projects than to continue the daily routines year after year. Any financial returns from farm products seldom balance these costs, as many of the products cannot compete in today's marketplace.

Administrative and Legal Constraints

Legal obstacles can exacerbate economic problems. Legislation on the control of diseases and noxious weeds, and the production and use of some crops may prevent a revival of historic practices. Moreover, there are ethical problems in a complete return to the past. This is especially true in the care and protection of livestock.

Application

A return to historic management techniques is primarily associated with

"living farm" projects. On these farms the various biotic communities have been preserved, restored or, in some cases, reconstructed. The requirements and problems of such an ambitious undertaking are well illustrated at Hensley Settlement in Cumberland Gap NHP.

Restoration and reconstruction began in 1966 after nearly two decades of abandonment. Part of the settlement site was cleared and houses, barns, henhouses, hogpens and fences, etc. were restored or reconstructed with the advice of former residents.

In 1972, a Farm Management Plan for the Willie Gibbons Farm was prepared specifying the historic management techniques for all the biotic communities on the farm - fields, pastures, orchards and woodlots with their various plant and animal populations.

Although the aim was to repeat exactly the historic farming system, the Plan recognized some of the difficulties and decided a number of "historical inaccuracies" would be unavoidable. Certain destructive practices would have to be prohibited, such as severe overgrazing of the land by livestock and indiscriminate burning and grazing of the forests. Other modifications would have to be made for economic reasons, including a limited use of modern equipment for plowing, seeding, cultivation and harvesting, but some fields would be worked by mule as a demonstration of historic methods. Finally, legal restrictions had to be recognized on activities such as hunting, the sale of farm products which would not meet public health standards and the sale of moonshine.

For a few years in the early 1970s, one of the members of the settlement, Jesse Gibbons, returned to live on the mountain. In addition to acting as a farmer-demonstrator, he kept his own animals and fowl and grew his own vegetables. During this period many of the old farming practices were revived.

After Jesse Gibbons suffered a heart attack and left the mountain, the

Fig. 10. Chester Thomas plowing at Hensley Settlement.
Some of the historic farming practices are continued at the Settlement by ranger-demonstrators.
Photo: Charles Anibal, 1975, in the collection of Cumberland Gap NHP.

Fig. 11. Stacking Hay at Hensley Settlement.
Hay is raked with a horse drawn hayrake and stacked using wooden pitchforks.
Photo: Gene Cox, 1975, in the collection of Cumberland Gap NHP.

high costs of maintaining the project in such an isolated location led to omissions and variations from the 1972 plan. Only a selection of crops and stock have been farmed in the past ten years.

In 1982, a revised Farm Management Plan recommended changing the historic system to make it more commercially viable. The main proposal was to build up the sheep herd to around 100 animals over two years.

The plan was not approved and the livestock were removed from the Settlement in 1983. Selected crops continue to be grown for demonstration purposes but the pastures are now maintained by mowing. The hustle and bustle of a working farm have gone. Interpretation programs now focus on annual events - a sorghum stir-off, or a demonstration of moonshine making.

Evaluation of Alternative Techniques

Integrity

Any change from the historic management techniques will be reflected in the organization of a biotic community. Some changes in organization may be almost imperceptible, while others may be obvious even to an uninformed observer. Changes due to improvements in equipment are sometimes difficult for the general public to detect, but nevertheless a field mowed by a machine is likely to develop a different species composition from one mown by hand with a scythe. The effects of a change in management system are usually more visible, for example the changes in grassland composition which would result from a substitution of mowing or burning for grazing.

Normally, the alternative technique which involves the least change in a historic community or population is to be preferred, but one must also consider the following issues.

Environmental Impacts

In addition to the effects on historic populations, it is important to evaluate the impacts of alternative management techniques on natural resources including

wildlife. The aim should be to develop a stable system capable of being sustained indefinitely.

The impact of the management practices on any historic structures must be assessed. A risk of damage may require restrictions on the size and type of equipment or prohibit the use of some techniques such as burning.

Costs and Benefits

A need to reduce labor costs is often the major reason for seeking alternatives to historic practices. Costs are related to the numbers and skill level of the labor force and the nature and timing of the tasks. Maintenance is a long-term commitment and should not be dependent on the availability of a volunteer workforce.

The costs of maintenance by alternative techniques may be offset by an economic return.

Legal and Administrative Constraints

Introduction of modern management techniques may allow an area to remain in commercially productive use. Fields, pastures, orchards, etc. may be directly managed by park staff and the products sold by a park, but it is more usual to lease the land to local farmers. When land is leased, a memorandum of agreement should specify any restrictions on use necessary to preserve the historic characteristics of the biotic communities.

Whether land is leased or directly managed by park staff, a system for monitoring the impacts of management on the integrity of cultural resources and on the wider environment should be established.

Application

A number of parks are experimenting with alternative techniques, particularly for the maintenance of areas which were once pastures. The problems of maintaining herds of livestock, especially where in the historic period these

were free ranging, has caused parks to explore alternatives. A good example of a systematic evaluation of these alternatives is provided by the experimental management of two grassy balds in the Great Smoky Mountains NP.

The grassy balds were maintained before the establishment of the park by the summer grazing of large herds of cattle and sheep. This was discontinued and shrub and tree species began to invade the balds from the forest edges. At first the effect was to enhance the floristic diversity of the balds. Azalea and other flowering shrubs invaded the pastures and their late spring display reached a peak in the 1950s. Thereafter tree species began to dominate and the effects of succession became a matter of public concern. The balds had attracted hikers because of the views from the open tops and their flora which included several rare plants. Both attractions were threatened by the advancing forest. Although the balds were in a "Natural Area" of the park, a study was begun in 1975 of the progress of succession on Gregory Bald and Andrews Bald, and of techniques which could be used to arrest or reverse this process.

The experience of the U.S. Forest Service in maintaining several grassy balds by fire, mowing, grazing and hand cutting was studied, and tests of the last two methods were conducted on Gregory Bald. The alternative techniques were analyzed for their historical authenticity, environmental impacts, cost and administrative practicality.

A return to the historic system of grazing cattle and sheep on the balds would reestablish the historic character of these areas but would also cause a number of adverse impacts and be very expensive. The stock could not be allowed to range freely, so the costs would include the construction of fences and other structures. The introduction of some animals, which were not an important part of the historic herds, would have some advantages. Goats browse woody plants and could accelerate a return to the open bald. Donkeys would

Fig. 12. Sheep grazing on Gregory Bald before the establishment of the Great Smoky Mountains NP.
Management experiments have been conducted on this bald to evaluate alternative techniques for the maintenance of its historic character. Photo: Thompson Bros., no date, in the collection of Great Smoky Mountains NP.

Fig. 13. Clearance work on Gregory Bald in 1975.
The disposal of slash in the surrounding forest proved to be one of the most difficult and time-consuming parts of the cutting program. Photo: Susan Bratton, 1975.

be best able to fight off predators - bears and mountain lions.

The use of fire would alter the historic composition of the balds somewhat and it would not select for botanically desirable species such as azaleas. But burning is a relatively cheap method of controlling succession. Its effectiveness would depend on the frequency and intensity of the burns. The impacts of fire also depend on the timing - for example, a spring burn is more difficult to arrange but the area would recover faster.

In the initial clearance experiments, cutting had to be done with hand tools as the park discouraged the use of power tools in backcountry areas. It was therefore time-consuming and expensive. The most difficult task was the disposal of the slash in the surrounding forest. Cutting has the advantage of precision, but without the use of herbicides many woody species would resprout. If the cutting program were to be discontinued before a grass sward was completely reestablished, root sprouting could result in an even denser shrub thicket than existed before any action was taken. Mowing would be an effective method of maintaining grass areas once initial clearance has been completed. But the species composition would probably be altered, and maintenance would be expensive as scythes or hand mowers would have to be used.

The study concluded:

> Although cutting and grazing would be the most historically correct sequence of grassy balds management and would likely best maintain their character, the most practical techniques would probably be cutting followed by mowing, or cutting followed by burning and mowing (Lindsay, M.C. & Bratton, S.P. 1979, pp. 429).

The 1982 General Management Plan for the park designated Andrews and Gregory Balds as experimental research subzones within a Natural Area. Volunteers began to clear Andrews Bald the next year using hand and power

cutting equipment with a limited application of herbicides to prevent resprouting. The clearance of Gregory Bald began in 1984. The aim of the program is to restore the balds to their 1940s configuration. A return to historic management with cattle and sheep is not considered feasible, but the long-term method of maintenance has yet to be determined.

All the other grassy balds within the Park will continue to be protected as Natural Areas and succession will proceed unchecked. It is estimated that they will become closed forest communities in 30 to 70 years time.

Conclusions

There are intractable environmental, economic and legal obstacles to the maintenance of large areas by a return to historic management systems. The use of historic techniques is only feasible on a limited scale, applied to selected communities or populations, where there are no insoluble environmental or legal problems. Elsewhere, alternative management techniques must be employed, even when it may mean a modification of historic characteristics.

To ensure proper public understanding, a clear distinction should be made in interpretive programs between those communities or populations which are being maintained by historic techniques and which retain all their historic characteristics, and those which have been modified by the use of non-historic techniques.

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SECTION EIGHT

LANDSCAPE MANAGEMENT

Alternatives to Preservation

It is seldom feasible to preserve or restore all the components of a historic scene. Inadequate historical information, or an inability to recover or maintain historic characteristics, makes it necessary to consider alternatives to the preservation and restoration of biotic cultural resources.

There are three principal alternatives:

replacement with equivalent communities,

replacement with grassland communities, and

release to allow the return of native vegetation and wildlife.

Each of these alternatives should be managed to retain some link to the landscape of a historic period.

Replacement with an Equivalent Community

An equivalent biotic community is one in which present day varieties of plants and breeds of animals are substituted for the historic populations and modern management techniques are employed. The historic land use is repeated, but the original community is replaced by an "improved" version. This commonly occurs where land remains in productive agricultural use.

Links to a Historic Period

The main link to the past is in the repetition of land use. The present day community will differ from the historic community in composition and organization, but wherever possible historic boundaries and components of the historic setting should be retained. Economic farming may bring pressures to sever these links - to eliminate field boundaries, to replace historic structures with more efficient ones, or to convert the land to a new use. These pressures must be resisted in historic districts.

Management Issues

A continuation of productive agricultural use has a number of advantages for park management. Land is usually leased to local farmers and remains a productive part of a local economy. The local farmers' land management expertise is tapped and a park may receive an income from the leases. However, park management must strike a balance between the requirements of economic farming and the need to retain links to a historic period. This balance must resolve the following issues.

Some restrictions on the way the land is worked are always necessary to protect the land (for example, soils and streams) from misuse. These conservation measures may operate in favor of or against the preservation of historic land use patterns.

Preservation of historic features may raise a farmer's costs. This may be offset by a reduction in rent, but in marginal areas restrictions may make farming an uneconomic proposition.

The administration of agricultural leases requires the necessary expertise to weigh the historical, environmental and economic implications of any action. Decisions to restrict lessees' operations may be complicated by political pressures.

Application

Replacement of biotic cultural resources with equivalent communities has a wide application in the Southeast Region. The need for a judicious compromise between the various interests involved can be illustrated at Shiloh NMP.

At Shiloh the fields are leased with the exception of those most affected by monuments. The leasing agreements were originally seen as a way to reduce mowing rather than as a method of reintroducing historic land use. The land

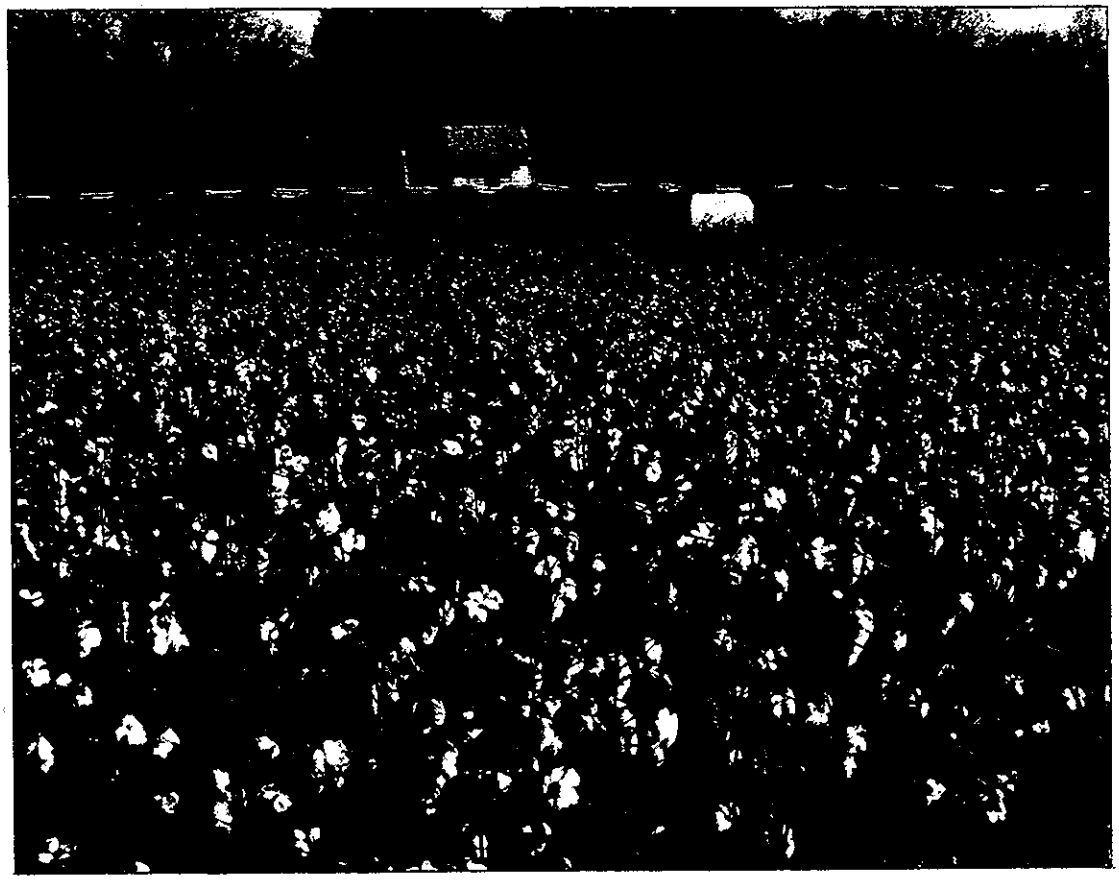

Fig. 14. Cotton in Sarah Bell's Field, Shiloh.
Cotton is planted in some section of this field each year to indicate the historic land use. A commercial crop is produced using a modern variety and present day farming techniques.
Photo: George Reaves, 1985.

is now leased under the provisions of the Historic Preservation Act which allows the Park to retain the income. The Act requires a competitive bid procedure which has encouraged the development of detailed specifications in the memorandums of agreement. These are designed to secure a compromise between the cultivation of "historic" crops and good land management practices, while allowing a reasonable economic return to the lessee.

The leasing agreements require the "historic" crops to be grown in the appropriate locations. At Sarah Bell's Field, for example, the farmer must plant cotton in some section of the field each year. However, as a precaution against soil loss, clauses in the agreement specify a crop rotation and measures to maintain soil fertility. The disking of land that will remain fallow in the winter is prohibited, and where necessary, sod waterways and turning strips must be provided.

In some parts of the battlefield the risk of soil erosion prevents the restoration of the fields to their 1862 configuration. For example, Fraley Field - another old cotton field - has not been completely cleared of second growth woodland, because some areas beside streams are subject to gully erosion.

The park has also reintroduced some apple and peach orchards; but these are not economically productive and are not leased. Instead old varieties of fruit trees have been planted and the orchards are maintained by the park as close to their historic appearance as possible.

Replacement with a Grassland Community

In many historic districts, various grassland communities - pastures, hayfields, mown lawns, etc. - have replaced historic vegetation communities. These grasslands maintain "open" spaces, allowing visitors clear views and, where necessary, ready access across these areas. But uniform green spaces

provide no clue to historic land use and interpretive programs have to counteract the misleading impression such spaces give.

Links to a Historic Period

A grassland should not shroud a historic landscape but rather help to delineate its geography. For this to occur, a variety of management techniques must be employed. The use of different mowing regimes, and grazing and burning can produce variations in composition to differentiate significant areas. The geography of a historic period, such as the layout of old fields, the location of roads and tracks, or the position of defensive lines on a battlefield, could be indicated by these variations.

Management Issues

In assigning different management techniques to different areas, a number of issues have to be considered. First, the effect of the various techniques on grassland composition must be studied. Wherever possible, historically appropriate varieties of grasses and cane should be favored by management. The appropriateness of lawns, meadows, old fields, etc. as indicators of historic patterns of land use should be evaluated.

Each management technique has different environmental impacts and these must be considered. For example, burning might involve unacceptable risks on slopes subject to soil erosion.

The costs and benefits of the various techniques will vary from location to location and from year to year. The minimum acreage necessary for economic operation as a pasture or hayfield varies with the type of farming enterprise. The costs of mowing are related to the complexity of the mowing patterns and type of equipment required, as well as to the acreage and schedule.

The administration of a diversified grassland will be more complex than that of a uniform area. But there can be advantages in the administrative

Fig. 15 Barracks Street, Fort Frederica.
The positions of streets and lots in the colonial town plan are indicated by different mowing regimes.
Photo: 1975, in the collection of Fort Frederica NM.

flexibility given by a variety of options. In addition, a pattern of mown and unmown areas can be used to guide public use, discouraging access to areas vulnerable to overuse or misuse, while encouraging access to other areas.

Application

Opportunities to diversify grasslands to assist interpretive programs can be found in many parks in the Southeast. A couple of examples will be given.

At Fort Frederica NM, there are major obstacles to any restoration of the townsite to its colonial appearance. The long history of disturbance has removed most traces of the colonial landscape, historical data on the area within the town is inadequate for any restoration other than the replanting of shade trees, and the majority of the Commons is outside NPS control.

The townsite is currently maintained as a lawn. The unit is already following a policy of marking streets and lots by different mowing regimes. This policy should be extended to demarcate other areas such as the parade ground, encampment and parapets. A general reduction in the number of areas which are frequently mown would allow more of the site to resemble an old field. This would have the advantage of more closely resembling the old Indian field the colonists found when they arrived.

At Cades Cove in Great Smoky Mountains NP, the valley floor has been transformed into an open parklike grassland. The original economy of the valley was based on a triad common to many mountain areas. Bottomland was cultivated, forested slopes were used for hunting and gathering, and mountain tops provided summer pastures. This economy died with the establishment of the park. To keep the bottomland open, it was leased as hayfields and pastures. Plowing virtually ceased and the mosaic of small fields was replaced by large expanses of grass.

Criticism has focused on the impact on natural resources within and beyond

Fig. 16. Cades Cove, Great Smoky Mountains, in 1936.
Corn and other row crops were grown on the valley floor while the mountains provided summer pastures for livestock.
Photo: A. Stupka, 1936, in the collection of Great Smoky Mountains NP.

Fig. 17. Cades Cove, Great Smoky Mountains, today.
The valley floor has been transformed into an open parklike grassland, leased for the production of hay and grazing of cattle. Much of the original field pattern has disappeared.
Photo: no date, in the collection of Great Smoky Mountains NP.

the historic district. Streams were enriched by cattle wastes and field fertilization, and additional silt loading was caused by cattle watering. The deterioration in water quality threatened fishing and other recreational uses of Abrams Creek outside the historic district. A series of studies in the 1970s led to changes in management. The maximum number of cattle was reduced from 1500 to 500, and the cattle were fenced away from the creeks. Water quality was improved and stream bank vegetation has begun to recover. But these restrictions have made it more difficult to lease the land - the distance from farmers' base of operations outside the valley being a continuing problem for economic farming.

The park therefore has been considering management alternatives. The reintroduction of row crops is discounted as uneconomic and likely to cause soil erosion problems - although it may be considered as part of an interpretive program near some of the cabins. A more feasible alternative is to release some of the fields and arrest succession by periodic mowing or burning. This could have a number of advantages. It would present an opportunity to reinstate some of the historic field patterns and recover the lost scale of the historic landscape. A trail system could be expanded into old fields from the congested loop road without fear of conflicts with lessees. In addition, the botanical and possibly wildlife interest of the area would increase. The park would have to pay for the periodic maintenance of the old fields, but the costs and problems of administering the farming leases would be reduced.

Release

Release from management usually means a return of native vegetation and wildlife. These reclaim abandoned areas, replacing the managed plant and animal populations of a historic period. The land is allowed to heal itself and the costs of managing a stable climax community, once one is reestablished, are minimal.

Links to a Historic Period

The return of native vegetation and wildlife can be seen as a return to presettlement conditions. But some legacies from a historic period are likely to persist and should be protected.

Some biota introduced in the historic period may be able to effectively compete with native species and find a niche within the returning forest. Normally these should be allowed to remain in historic districts, but the escape of exotic species from these districts into natural areas is a widespread problem and one that is difficult and costly to control. Consequently, invasive species should be controlled within historic districts.

Historic structures, buildings, earthworks, etc. should be protected from advancing vegetation. The returning forest may accelerate the disintegration of any remaining structures and pose a significant fire hazard. A cleared area has to be maintained around these structures. The clearings should be designed not only to protect structures, but to keep open significant paths and views to enable visitors to understand the geographic relationships of the historic period.

Management Issues

Clearings should follow as far as possible historic land use patterns. Open spaces around buildings should conform to the shape of historic enclosures, paths should follow historic alignments, and vistas should link historically significant landmarks. But a number of other factors must be considered in determining the location, size and shape of these areas.

Clearings may cause a variety of environmental impacts. The process of clearance may damage areas susceptible to soil erosion, but once cleared these areas can be stabilized effectively by a permanent cover of grass. Some

wildlife populations may benefit from the maintenance of open areas. On the other hand, edges of cleared areas may provide corridors for the spread of invasive plants such as kudzu.

The costs of clearance and maintenance depend on the methods used. Most clearings are managed as grasslands; and where large areas are to be maintained, a variety of techniques should be considered as discussed in previous paragraphs.

In reestablishing historic paths, the circulation patterns of visitors, vehicular access, and maintenance requirements have to be considered.

Application

The majority of historic districts in the region have areas which have been released from management and are returning to forest. In some cases historic practices had damaged the land; in others, the costs of maintenance as open areas was considered excessive. In some of these districts selective clearance policies are being developed.

At Vicksburg NMP the valleys between the Union and Confederate lines have been allowed to return to forest over the past fifty years. Before the Civil War, this area had been open farmland with some woods and canebrakes. The timber was cut by the two armies to construct fortifications, then during the siege, the ground was denuded of most vegetation and pounded into mud. In subsequent years, the area reverted to open fields and pastures, until the Civilian Conservation Corps began an afforestation program in the 1930s. The loess soils of the slopes are highly erodible - a condition aggravated by overgrazing. The return of the forest was intended to protect the historic land form. Only the high ground, alongside the tour roads following the siege lines, was maintained in grass.

The growth of trees, however, has screened the Union and Confederate positions from each other and cannons which once enjoyed a clear view of enemy lines now point aimlessly into the forest. Consequently, the park has

Fig. 18. The valley of Mint Springs, Vicksburg, c. 1900.
The afforestation of this valley in the past 50 years has obscured this view across the valley between the Confederate and Union positions. Photo: no date, c. 1900, in the collection of Vicksburg N.MP.

Fig. 19. Thayer's Approach, Vicksburg.
This is one of a number of vistas cleared between strategic points on the Union and Confederate lines.
Photo: B. Pickett, 1982, in the collection of Vicksburg NMP.

undertaken a program of vista clearance between strategic points on the two lines. In places these vistas are followed by foot trails to allow visitors to understand more clearly the conduct of the battle. Cleared areas are maintained as grassland, but they need not be mown with the same frequency as areas alongside the tour roads and gun emplacements. In the past the park has permitted grazing and burning as maintenance techniques, and it is currently reevaluating its mowing program. There would be advantages in diversifying the grasslands. In some areas where native cane was present at the time of the battle, the cane has begun to reestablish itself and these canebrakes should be allowed to spread.

Portsmouth Village on Cape Lookout NS has become overgrown with a dense shrub thicket since grazing ended about 40 years ago. Portsmouth Island had been grazed by cattle, sheep, horses, etc. for two centuries. The animals grazed freely across the island and early photographs show the area as nearly treeless. Today, an impenetrable, vine-tangled thicket dominated by eastern red cedar, wax myrtle and marsh elder hides much of the village. This change from the historic scene makes it difficult for visitors to orient themselves and presents a fire hazard to the buildings in the village.

The park has begun a brushing out program around the historic buildings. However, research is needed to determine an appropriate size and shape for the clearings. Historical research is in progress to identify the pattern of land use around each structure. Some buildings had fenced yards which could be reestablished. The clearings around the structures are linked along the historic paths, but some views need to be opened to the inlets and marshes. An experiment has been conducted to test the effectiveness of goats in maintaining small enclosures. The experiment might be extended to include other types of grazing animals and other maintenance techniques. A mix of different

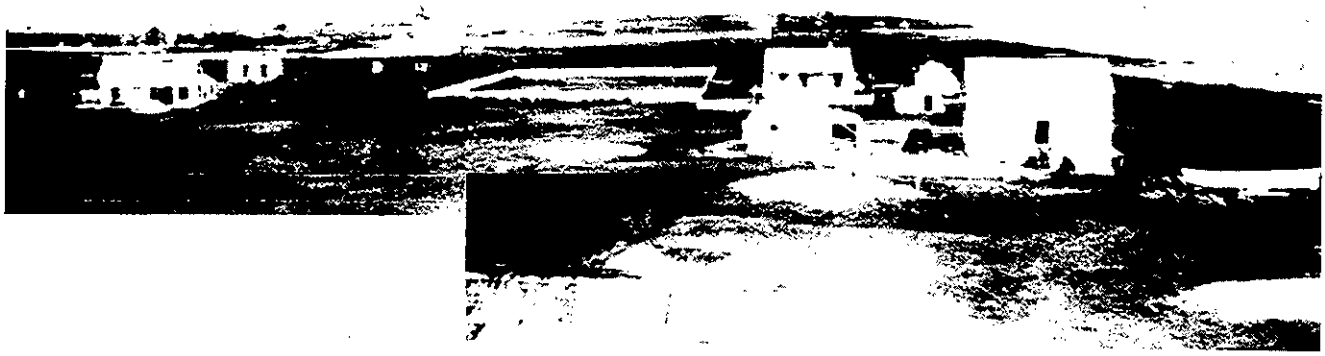

Fig. 20. Portsmouth Village, Cape Lookout, c. 1920.
This view from the Lifesaving Station past the horse barns to the village, shows the area to be virtually treeless.
Photo: c. 1920, in the collection of Cape Lookout NS.

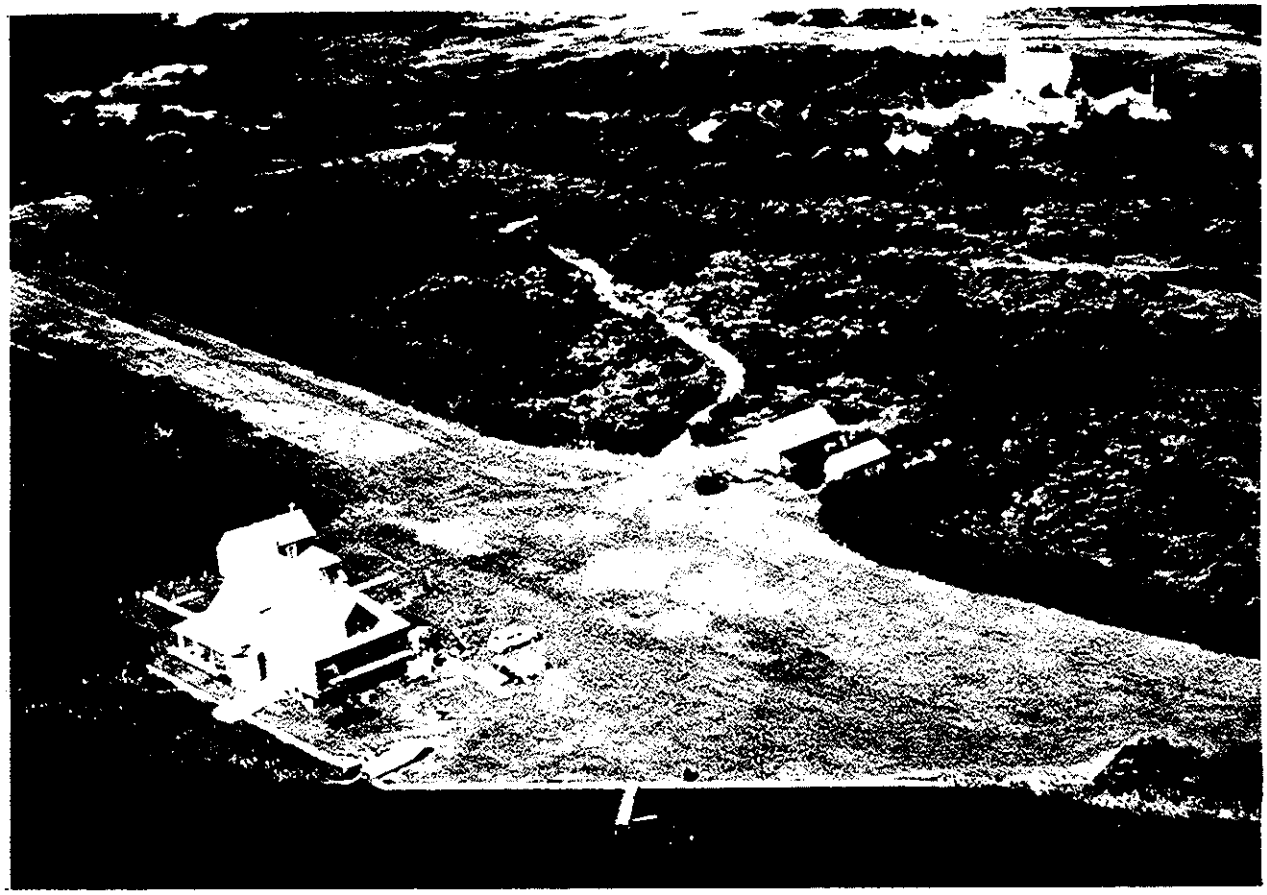

Fig. 21. Portsmouth Village in 1979.
A dense shrub thicket has developed since grazing was ended. The cleared area beside the Lifesaving Station in the foreground is maintained as an aircraft landing strip.
Photo: Bruce Weber, 1979, in the collection of Cape Lookout NS.

techniques will probably be necessary to maintain a variety of wet and dry, and fenced and unfenced areas.

Conclusion

A combination of alternative strategies should be adopted for the management of landscapes in historic districts. The preferred strategies are:

preservation - of significant biotic cultural resources, where sufficient historic characteristics remain to convey the historical associations of the place;

or restoration - where essential for public understanding and appreciation of those historical associations.

When preservation and restoration are not feasible because of a lack of historical data, or an inability to recover the historic characteristics or to maintain those characteristics, then:

replacement - with an equivalent biotic community would maintain a continuity in land use.

Where this is not feasible because of environmental, economic or administrative constraints then:

replacement - with grassland would maintain open areas, or

release - would return the area to presettlement conditions.

The resulting landscapes will be rather complex, and various areas will have different links to the past. This will present a challenge to interpretive programs.

Interpretation should be based on a clear identification of the differences between the present landscape and the historic scene. Where parts of a biotic community have been preserved, interpretation programs should identify missing elements and changes in community organization. Where restoration has been undertaken, programs should explain the process of recovery and its limitations.

Where an equivalent community has replaced an original, the differences in composition and management should be emphasized, not hidden, by interpretive programs. Where grasslands are introduced, interpretation should relate the configuration of the present grass areas to their geography in a historic period, and where forests are allowed to return programs should emphasize the cyclical character of these landscapes. Interpretation should encourage an appreciation of the dynamic nature of landscapes.

The enjoyment of a historic landscape requires time. It is not a scene to be fixed and framed; to be briefly surveyed and instantly comprehended. Like a natural area, a historic district should invite longer stays for exploration and discovery - to appreciate a place in time.

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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environment and cultural value 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 assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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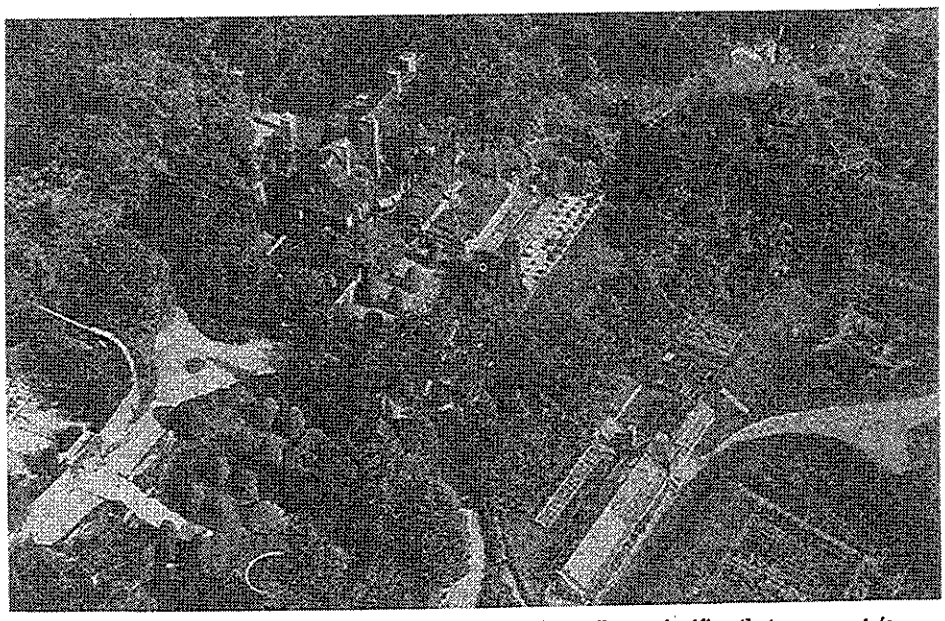
A Guide to Inventorying Plants at Historic Properties is being finalized and should be available in the fall of 1998. Once the guide is available, a copy will be sent to you for inclusion in this appendix.

Principles for Preserving Historic Plant Material

Lauren Meier and Nora Mitchell

Historic landscapes are composed of a variety of features which define their historic character. The elements of landscapes include large-scale characteristics such as spatial relationships and views as well as individual features including topography, vegetation, water features, roads and paths, structures, site furnishings, and objects. Although certain landscapes are very architectural, the principal component which distinguishes landscapes from other types of cultural resources is vegetation. The use of plants in the landscape reflects social, cultural and economic history just as clearly as structures or any other feature. The fact that vegetation grows, changes, and eventually dies does not alter the fact that it is part of the historic record. Recognizing that vegetation is part of the historic fabric of landscapes, does, however, have a number of implications for preservation of this type of cultural resource.

This article addresses the vegetation of landscapes that have historic value, in particular, designed and rural vernacular landscapes (as defined in NPS–28: *Cultural Resource Management Guidelines*). It does not address ethnographic landscapes specifically, although some of the information presented here may be relevant. The intent of this article is to begin to draw some general principles and give examples of good practice in the treatment of historic vegetation. Also included are some preliminary ideas being developed for the *Guidelines for the Treatment of Historic Landscapes* which will interpret the *Secretary of the Interior's Standards for Historic Preservation Projects* for landscapes.



Vegetation is the principal material of historic landscapes and contributes significantly to a property's historic character as illustrated at Naumkeaug in Stockbridge, MA, designed by Fletcher Steele. Photo courtesy National Register of Historic Places.

The Importance of Historic Vegetation

The cultivation, propagation, and artistic use of plants is an important part of American history. Prior to European settlement, indigenous plants were used extensively by Native Americans for food as well as for building materials, and for dye or ceremonial functions. Later, the cultivation of plants for subsistence farming grew into an American gardening tradition and the use of plants for purely aesthetic purposes. Colonial gardens borrowed both form and plant materials from their European roots, developing extensively in the 18th century English colonies.

Thomas Jefferson wrote "the greatest service which can be rendered any country is to add a useful plant to its culture." The exchange of plants began very early in the history of North America. Native Americans had access to plants from Peru to Mexico and from as far away as Africa from Spanish traders. Before Columbus came to the New World, South American food plants had been carried north and east as far as Canada and New England. After European settlement, the plant exchange between the English colonies and the New World thrived. Settlers brought plants as they journeyed to the colonies. Similarly, many plant explorers came to the New World to collect specimens. In the 19th and 20th centuries, accomplishments in plant cultivation, hybridization, and distribution along with additional plant exchange have continued to contribute to the diversity of plant species found in American landscapes. As a result, cultural landscapes found today contain a vast array of horticultural variety, including plants used for functional and aesthetic purposes.

Both native and introduced plants are part of our material culture. Even though often considered a natural resource, vegetation features may be significant cultural resources as well. For example, areas of natural vegetation, such as woodlots and wetlands, may also be present in historic landscapes. Without these character-defining features, much of the historic fabric and visual qualities of the property may be lost. It is

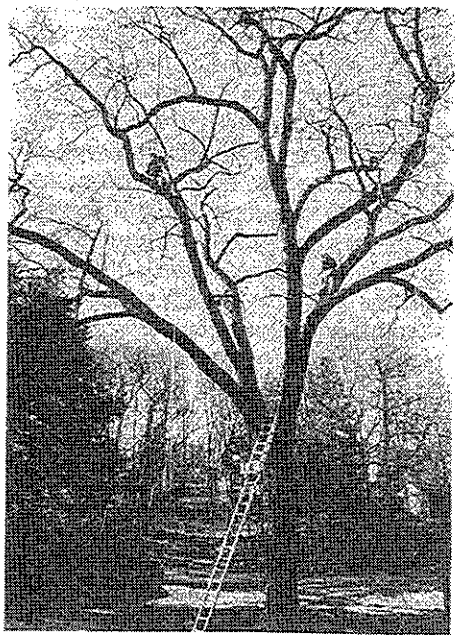
(continued on page 18)

Principles for Preserving Historic Plant Material
(continued from page 17)

therefore essential to include proper treatment of historic vegetation in any preservation effort.

Evaluating Vegetation Features

Inventory and documentation, as well as analysis of existing conditions and overall integrity of the property, should precede any treatment work in a historic landscape. It is important to evaluate the landscape as a whole, as well as its individual components. Vegetation features may include solitary plants which function as specimens in the landscape, as well as aggregations of plants such as hedges, hedgerows, allees, ornamental plantings, perennial borders, orchards, fields, and lawns. In some landscapes, naturally-occurring vegetation may have acquired historic significance due to its association with a significant event, practice, or person. The treatment of these individual vegetation features must be consistent with the overall objectives for the property as a whole.



Preservation maintenance is essential to maintaining the health and appropriate appearance of character-defining vegetation. Removing the dead and dying limbs and branches of the historic "Olmsted" Elm helps to eliminate the infection zones of Dutch Elm disease. Photo by Charles Pepper, courtesy the Frederick Law Olmsted National Historic Site.

A variety of sources and techniques may be used to assemble adequate information on the historic vegetation of a site. Primary sources including personal diaries or journals, agricultural records, historic photos, paintings, etchings, and oral histories may all provide information about the historic appearance, care, or use of the vegetation. In some cases, as with designed historic landscapes, planting plans may also be available. However, in many instances, very little information on historic vegetation may be forthcoming. As a result, secondary sources such as historic horticultural texts may provide an indication of the type of vegetation used during the period of significance.

Through the process of assembling documentary data and field survey information, the historic vegetation location, use, appearance, and changes should be substantiated to the greatest extent possible. The existing vegetation should be inventoried and evaluated, including extant historic features as well as more recent additions and invasive plant material. The condition of the features should be determined as part of the field survey in order to assess their overall health and any specific treatment or needs. It is also important to consider the dynamic qualities of vegetation and understand how much of this inevitable change contributes to, or compromises, the historic character of the property. Finally, the existing appearance of the vegetation should be analyzed in relation to the historic documentation. The feature's condition, relationship to historic vegetation, and overall management objectives for the property will help guide the selection of an appropriate preservation treatment.

Preservation Treatments

Preservation projects involve one of the following treatments: protection, stabilization, preservation, rehabilitation, restoration, and reconstruction. While these terms were initially developed to describe work undertaken on historic buildings, all relate to vegetation as well. Due to the nature of vegetation, these terms may represent very different types of work than is associated with historic buildings. The most common treatments for vegetation are protection, preservation, and restoration. These treatments are discussed below.

Protection projects generally involve measures necessary to guard against further deterioration or damage. For vegetation, this may involve actions necessary to protect the plant itself, or actions against plants which are themselves causing damage. In the latter case, it is important to distinguish between historically significant vegetation and that which is simply invasive or intrusive.

Historically significant vegetation that causes damage to or threatens historic structures should be controlled, rather than removed whenever possible, since the plants are part of the historic fabric of the property. This might involve temporarily removing the specimen, while undertaking treatment on the structure, or pruning the original material back to eliminate the problem. At the Olmsted National Historic Site, the original *Wisteria* and *Actinidia* vines which historically covered the clapboard facade of the house were pruned back during the building's restoration. Now, the park's horticulturist is experimenting with a variety of trellis systems that will allow the building and vegetation to coexist, thus protecting **both** important features of the property.

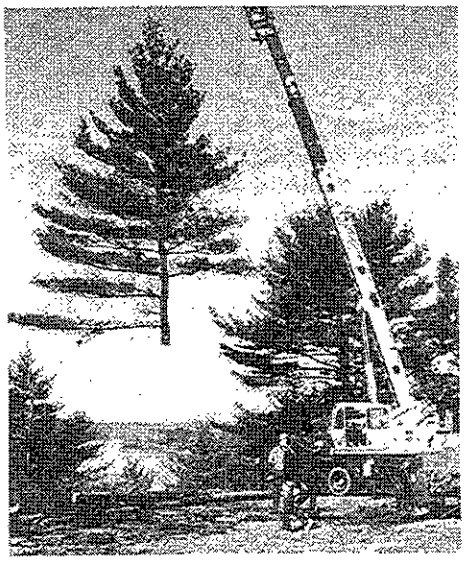
In rural landscapes, fencing or other types of enclosures may be necessary to protect historic vegetation from damage from livestock or game, or from overuse by visitors. In southern orchards, smudge pots are often used to protect the trees from early frost damage. In northern climates, many historic plants require protective measures such as winter mulching, wrapping, staking, or other methods to protect them from snow, wind, or damage from severe freeze.

Another protective treatment involves integrated pest management (IPM) which may involve the careful use of pesticides or fertilizer to aid in the recovery of a diseased, injured, or deteriorated plants, or to protect the plant from further decline.

Preservation efforts for historic vegetation may focus on ongoing

maintenance and management activities which perpetuate the historic appearance, structure, or components of the landscape. This includes mowing or harvesting which sustains the structure and open quality of a field, or any other cyclical maintenance project which is essential to retain the form and character of the vegetation feature. Preservation is the most important treatment since vegetation requires constant management in order to retain overall the structure or appearance of the landscape. The process of removal and replacement or renewal of vegetation is an important component of preservation.

Mowing and pruning are necessary and important maintenance practices, without which vegetation features may be lost or change dramatically and thus affect the historic character. Features that are composed of collections of individual plants such as allees, hedges, or massings of ornamental shrubs may require periodic replacement of individual plants. When the individual elements are deteriorated or missing so that the historic feature as a whole is no longer discernible, the entire feature should be replaced. This is a common issue for hedges, hedgerows, or allee plantings whose individual trees may have died or are deteriorated due to age or poor maintenance.



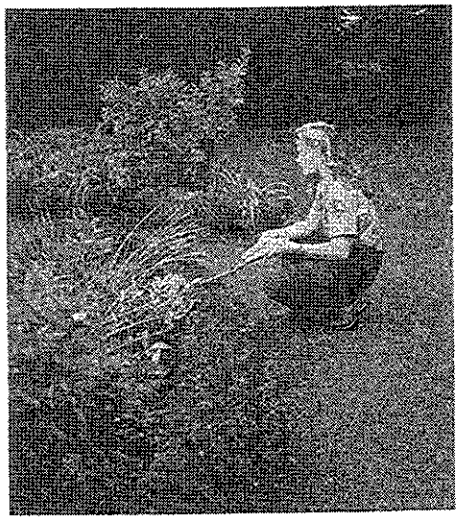
Without proper maintenance, major landscape features may be lost due to vegetation growth, requiring expensive means to restore the character of an historic property. Here, a volunteer white pine is removed by crane from the historic vista of the Moseley Estate, now Maudslay State Park in Newburyport, MA. Photo by Lauren Meier.

It may also be necessary to replace deteriorated, overgrown, diseased, or dying plant material in order to preserve the historic character of the property. Propagating existing historic plant material for replacement later on provides appropriate replacement material and helps to perpetuate the historic genetic material. In addition to replacement, regular removal of vegetation which crowds historic views or other significant landscape features may be required. Invasive vegetation that damages historic water systems, paths, roads, terraces, or structures, or causes the loss of a significant view or visual relation, should be removed.

In vernacular landscapes, continuing traditional maintenance practices or substituting modern management practices may be necessary to perpetuate the historic scene. In some instances, modern agricultural practices may not adequately preserve the historic scene because of the size of the fields required to accommodate modern machinery. In other cases, as in active rural agricultural communities, perpetuation of a particular crop may not be as important as the retention of the gross landscape patterns.

Restoration may require the removal of later additions and the recreation of missing features in order to reestablish the appearance of the property as it looked during an earlier period. For this reason, the historic vegetation, both extant and missing, must be adequately documented before the restoration effort begins. This includes gathering as much information as possible on the types of plants used on the site and comparing this information to the historic appearance. Secondary sources should also be consulted in order to substantiate dates of introduction into cultivation, the commercial availability of the plant varieties, and their popularity during the historic period.

The restoration of a historic property may require replacing an entire vegetation feature such as a hedge, allee, or field that is missing and which contributed to the historic character of the property during the period of significance. Missing historic vegetation which did not exist during the defined period of significance and period of restoration should not be replaced.



Laura Cote, seasonal gardener, is maintaining the historic boxwood hedge at the Longfellow Historic Site to appropriate historic period specifications. Photo by Charles Pepper, courtesy the Frederick Law Olmsted National Historic Site.

Existing historic vegetation that was present during the period of significance and contributes to the historic character of the property should be protected and retained. Similarly, historic vegetation that has matured since the period of significance should also be kept as long as the scale and appearance of the feature does not compromise the historic character of the property. If the scale of the mature vegetation is not consistent with the character of the period for restoration, methods such as pruning or thinning which reduce the scale of the feature should be considered before removal. Replacing matured woodlands with new seedlings in order to create an appearance of the landscape as it appeared at an earlier date, when retaining the matured vegetation would have accomplished the same goals, is not an appropriate treatment. In cases where pruning or thinning does not accomplish the historic effect, the entire feature should be removed and replaced.

Often, replacement of lost historic vegetation is hampered by poor documentation or by the fact that many historic species and varieties are no longer available. (For more information on replacement and substitution, please refer to the following section).

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Principles for Preserving Historic Plant Material
(continued from page 19)

Stabilization is generally considered a building treatment, since it is used to reestablish the stability of an unsafe, damaged, or deteriorated property. For vegetation, there are a few instances when stabilization may be appropriate, such as staking or cabling trees that have blown over or major pruning efforts which remove limbs that threaten the stability of the tree.

Since the objective of **rehabilitation** is to make possible an "efficient contemporary use," appropriate work may involve the preservation of the existing historic fabric or the introduction of new construction and features. New vegetation to screen new features or uses may be necessary to reduce the visual impact of the new features. New construction is often a component of rehabilitation, necessitating protective treatment of historic plant material. Trees will not tolerate damage to their root system without showing some kind of effect and thus should be adequately protected during site or building construction.

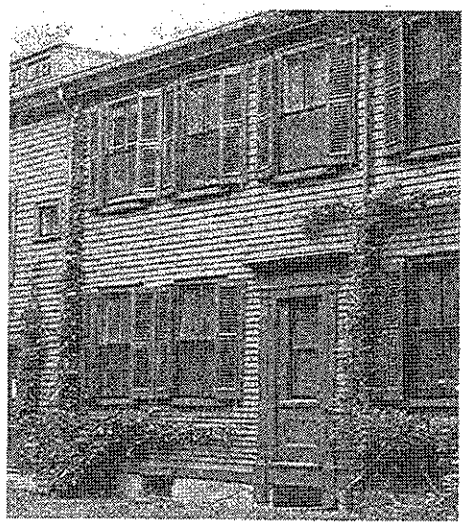
The historic use, appearance and type of plant material should be accurately documented before considering **reconstruction.** Reconstruction of historic landscapes should only be considered when sufficient documentation exists, appropriate materials can be found to accurately recreate the historic appearance of the property and when the interpretive objective for the property necessitates reconstruction. As with restoration, the historic vegetation should be incorporated into every reconstruction project.

Considerations for Replacement and Substitution

The Secretary's Standards for Historic Preservation Projects recommends that "new material should match the material being replaced in composition, design, color, texture, and other visual properties." This principle applies generally to vegetation, though the original species and variety as well as the plant's horticultural characteristics should also be considered. In many landscapes, at least some of the historic plant material is still extant. Since this material is historic fabric, it should be retained. Diseased or damaged vegetation should also be carefully cared for before removal and replacement is considered.

However, removal and replacement of existing historic material or the replacement of lost fabric may be necessary if the existing material is too severely damaged or diseased, or if it has overgrown and pruning will not accomplish the treatment objective. In landscapes where some of the historic plant material remains, opportunities exist for propagation and exact, in-kind replacement of the historic fabric. This option is not available for any other historic resource, and is one that should be used whenever appropriate. Propagation of existing plant material has many advantages including genetic continuity with the historic period. This is particularly important since the landscape itself is regarded as an historic record, and modifying that record should be avoided or minimized.

Often, identification of historic varieties is difficult and must be verified over several years. Purchasing replacement material for incorrectly identified extant material would, of course, result in inadvertent alteration of the historic plant material. Even if the correct plant material is available, the amount of variation present in a species or variety in different regions of the country may result in replacement with a slightly different plant. Replacement of extant historic material through propagation avoids these problems and ensures perpetuation of historic plant species and varieties.



Historically, Fairsted, the home and office of Frederick Law Olmsted, was covered with *Wisteria* and *Actinidia*. Today, NPS staff at the National Historic Site are experimenting with trellis systems that are designed to accurately re-create the historic appearance while minimizing impact to both historic structure and plant material. This is the trellis and *Wisteria sinensis* after one season of growth. Photo by Charles Pepper, courtesy the Frederick Law Olmsted National Historic Site.

In some instances, replacement of the original species or variety may not be possible. This may be due to changes in the site's growing conditions, disease, or simply because the original is no longer available or has disappeared from cultivation. In either case, substitution is sometimes necessary. In decisions on substitution, care should be taken to match the visual, functional, and horticultural characteristics of the historic plant as closely as possible. These attributes include the form, shape, and texture of the original, as well as its seasonal features such as bloom time and color, fruit, and fall foliage.

There are certain plants with such distinctive characteristics that it may be virtually impossible to duplicate their visual effect. This is true in the case of the unique, umbrella-like shape of the American Elm, *Ulmus americana.* The elm, once the great American street tree, has been reduced in number due to Dutch Elm disease, *Ceratocystis ulmi (Buisman).* Yet its form is impossible to replicate making decisions about an acceptable substitute material very difficult. As a result, some historic landscape managers have continued to plant American Elm or the new disease resistant variety known as Liberty Elm, *U. americana 'Liberty.'*

Another example of a plant which is difficult to substitute is the Flowering Dogwood, *Cornus florida* and its close relative, the Western Dogwood, *C. nuttalli.* Both are native trees, used extensively for their distinctive shape and showy white bracts. They have been seriously affected by an anthracnose disease which causes gradual loss of the lower branches and foliage. Unfortunately, replacement with the same species is impractical since the disease may reinfect the new tree. No alternative provides the exact combination of form, size, bloom time,

and bloom color, let alone the fruit and fall foliage characteristics. In these cases it is important to determine what the most critical aspects of the plant are in their given location, and reproduce a limited number of characteristics to the greatest extent possible. Substituting another dogwood species, such as the Chinese Dogwood, *Cornus kousa* may not be an acceptable alternative if the time of bloom is critical to an overall effect. Thus, substitutions for a given plant species may vary on a site to site basis.

Similar issues arise in the replacement of flowering perennial or annual plant material, such as is used in borders or beds. In this case, careful decisions must be made regarding the historic period and the selected treatment. Certain nonwoody perennial plants are quite long-lived and an effort should be made to determine if any of the historic plant material remains. If it is necessary to replace perennial plant material, the selection should be based on site records as well as other documentary evidence which provides information on the use and introduction of plants during the historic period. It is also important to determine the height, color, and seasonal qualities of the original planting in order to select accurate replacement plants. If substitution of the historic plant is necessary, then the selection should ensure that the historic effect is reproduced to the maximum extent possible. If the site research turns up very little site and species-specific information, then the visual effect should be followed as closely as possible.

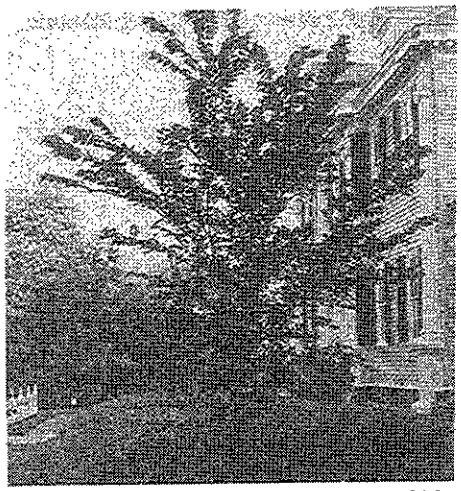
In summary, extant historic plant material should be retained and propagated whenever possible to ensure continuity of the living historic fabric. Plant material that cannot be, or was not propagated before it was lost should be identified and replaced in-kind. If it is determined that replacement with new plants or substitution of the historic plant material is necessary, it is important to keep accurate site records, to allow future generations to distinguish between historic fabric and later alterations and additions to the landscape.

Conclusion

Historic vegetation must be recognized as an integral part of the fabric of most historic properties and should be considered during any preservation effort. Although considering plant material as historic fabric raises new preservation issues not encountered with inanimate materials, the opportunity exists for long-term perpetuation of this living historic fabric through propagation.

Stewardship of historic properties should, to the maximum extent possible, include the preservation of historic plant material to prevent further loss of historic species and cultivars. National leadership in historic species cultivation and propagation is greatly needed if we are to continue preserving historic landscapes. Partnerships should be developed between Federal, state, and local governments and private organizations which manage historic landscapes, and arboretums and agricultural colleges who propagate historic varieties, store genetic material, and train arborists and horticulturists in historic landscape management.

Perhaps the best thing we can do to preserve historic landscapes is to increase skill, knowledge, and attention to vegetation management at each historic site. Management of historic properties should routinely include active management of historic vegetation including propagation, repair and, when appropriate, removal and replacement of historic plant material. These objectives will help ensure the continuation of the living historic fabric, part of a rich historic document, the landscape.



For some plants, no substitute species exist which recreate the appearance of horticultural species of the original. In this case, cultivars, such as the 'Liberty' Elm provide acceptable disease resistant replacements. This tree is a replacement for a missing historic elm at the Longfellow National Historic Site. Photo by Charles Pepper, courtesy the Frederick Law Olmsted National Historic Site.

Lauren Meier, ASLA, is a historical landscape architect in the Preservation Assistance Division, National Park Service. Nora Mitchell is manager of the Cultural Landscape Program, North Atlantic Regional Office, National Park Service.

Preservation Issues for Living Historic Fabric

Vegetation is a dynamic material, subject to seasonal change as well as the cycle of growth, maturity, and decay. As a result, many of the traditional approaches to preservation practice for inanimate objects need to be modified for preservation of this living historic fabric.

1. Integrity is a difficult concept to evaluate in landscapes, since the growth and death of vegetation can have a tremendous effect on the character of the property. Simple actions such as deferring maintenance can result in the loss of significant, character-defining vistas, or the death of important vegetation features. At the same time, the loss of some plant material such as annuals or perennials does not necessarily compromise the integrity of the landscape since many are inherently short-lived and subject to constant removal and replacement. Thus, when evaluating the integrity of the landscape, it is important to keep the dynamics of the existing vegetation in mind while attempting to preserve or restore the historic appearance of the site.

2. Most historic landscapes have evolved over a long period of time, which complicates preservation decisions. It may be difficult to interpret or accurately replicate the appearance of a landscape during its identified period of significance since the vegetation may have grown or changed considerably. It may be both inappropriate and too costly to remove mature vegetation in order to replace it with younger seedlings. Though this solution may replicate the property's appearance at a specific point in time, it may also result in the unnecessary removal of important historic fabric.

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Preservation Issues for Living Historic Fabric
(continued from page 21)

3. In planning a preservation treatment it is important to understand the historic intent, function, and appearance of the individual vegetation feature in order to assess its contribution to the historic character of the property as a whole. Consideration should also be given to the type, form, and arrangement of plantings, as well as the historic "finish" of the feature: was it intended to be clipped or simply left to its natural growth habit? Answering questions such as these is essential before beginning any preservation treatment.

4. Historic plant material which contributes to the character of the property should be retained. Most vegetation associated with historic properties does not survive or retain its character without management and intervention. Thus, ongoing maintenance becomes an important component of landscape preservation.

5. If the historic plant is still extant, then proper identification and propagation will provide identical material, should replacement be necessary in the future. Since vegetation has a distinct life: lasting anywhere from one to several hundred years, replacement with new living material is inevitable. Propagation ensures both the retention of the historic species and appropriateness of the replacement.

6. In some instances, replacement with a compatible substitute species may be required because the original material is no longer extant or available. This may prove difficult due to the lack of accurate documentation. Landscapes, including their primary component, vegetation, are generally less documented than historically significant buildings. However, site-specific information on historic plants can often be found in historic photos, diary entries, or household records. Many plants have been reclassified in the intervening years, and it may take a trained horticulturist or plant taxonomist to interpret the notations or photographs. For plant species introduced through the nursery trades, information on their historic distribution and availability may also assist in identification.

7. Other factors may affect the choice of an appropriate substitute species. Disease and other pests introduced since the historic period may make in kind replacement difficult or impossible. In addition, many historic species have disappeared from active cultivation because of changes in style and agricultural technology. Other historic varieties have been replaced with hardier, disease-resistant, or more productive varieties. The on-going loss of many species from cultivation makes accurate restorations even more difficult.

Treatment Definitions

Acquisition
the act or process of acquiring, through purchase or donation, fee title or interest other than fee title of real property.

Protection
the act or process of applying measures necessary to safeguard the historic character of a property by defending or guarding it from further deterioration, loss, or attack, or to shield it from danger or injury. In the case of buildings, structures, objects, or landscapes, such treatment is generally of a temporary nature and anticipates future historic preservation treatment; in the case of archeological sites, the measure may be temporary or permanent.

Stabilization
the act or process of applying measures necessary to reestablish the stability of unsafe, damaged, or deteriorated property while retaining the essential form as it exists at present.

Preservation
the act or process of applying measures necessary to sustain the existing form, integrity, and material of a historic property. It may include initial stabilization work, where necessary, as well as ongoing maintenance and repair of the historic materials and features.

Rehabilitation
the act or process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions or features of the property which are significant to its historical and cultural values.

Restoration
the act or process of accurately recovering the form, features and details of a property as it appeared at a particular period of time by means of the removal of later work or by the replacement of missing earlier work.

Reconstruction
the act or process of reproducing by new construction, the exact form, features and details of a vanished building, structure, landscape, or object as it appeared at a specific period of time and on its original site.

Sources of Additional Information

American Association of Botanical Gardens and Arboreta
Wayne, Pennsylvania
Public arboretums and botanic gardens are a terrific source of technical information; many have libraries, collect specific plants, offer classes, and conduct detailed research. The Association has published a guide, the Plant Collections Directory, which lists all participating botanic gardens and arboreta, specializations, research activities, and an index of plant families, genera, and species. For information, contact the American Association of Botanic Gardens and Arboreta, 786 Church Rd., Wayne, PA 19087.

Antique Plant Newsletter
Dover, Delaware
The newsletter contains a wealth of information on sources of plant material as well as "who's doing what." It is published and edited by Dr. Arthur O. Tucker, Dept. of Agriculture and Natural Resources, Delaware State College, Dover, DE 19901.

Frederick Law Olmsted National Historic Site, NPS
Brookline, Massachusetts
The Olmsted Site conducts annual workshops for horticulturists, gardeners and managers working in historic landscapes in the northeast. For information, contact Charles Pepper, Supervisory Horticulturist, Olmsted NHS, 99 Warren Street, Brookline, MA 02146.

Heirloom Vegetable Garden Project, Cornell University
Ithaca, New York
The project conducts research on historic varieties and have produced an interesting bulletin on heirloom vegetables. For information, contact Robert Becker, Heirloom Vegetable Garden Project, 157 Plant Science Building, Cornell University, Ithaca, NY 14853.

Massachusetts Horticultural Society
Boston, Massachusetts
The MHS library is extensive, including historic nursery catalogs, journal, and horticultural texts. For information, contact Walter Punch, Librarian, 300 Massachusetts Avenue, Boston, MA 02115.

National Agricultural Library
Beltsville, Maryland
In addition to being an excellent agricultural library, the USDA library

has a rare book room with many historic horticultural texts. Contact: Special Collections, National Agricultural Library, 10301 Baltimore Blvd., Beltsville, MD 20705-2351.

National Arboretum
Washington, DC
The National Arboretum maintains a germplasm lab for fruits, ornamentals and food crops and an extensive herbarium. Ongoing research on many genera is helping to produce hardy, varieties. Occasionally, historic species are propagated and introduced back into cultivation through the nursery trade. For information on programs and facilities, contact: National Arboretum, 3501 New York Avenue, NE, Washington, DC 20001.

Old House Gardens
Ann Arbor, Michigan
Scott Kunst has prepared an excellent "Source List for Historic Seeds and Plants" including general catalogs, ornamentals (annuals, perennials, shrubs, trees, spring and summer bulbs, and old roses), house plants, edible and useful plants (fruits and vegetables) as well as plant search services. For information contact Scott Kunst, Old House Gardens, 536 Third Street, Ann Arbor, MI 48103.

Soil Conservation Service
SCS manages 26 plant materials centers and have recently developed a cooperative agreement with the National Park Service to share technical information on native plant material for revegetation. For further information, contact: William R. Beavers, Natural Resource Specialist, DSC, 12795 West Alameda Parkway, P.O. Box 25287, Denver, CO 80225-0287.

Thomas Jefferson Center for Historic Plants
Charlottesville, Virginia
The center documents, collects, propagates and sells historic plant varieties found in American gardens prior to 1900, including many of the plants used by Thomas Jefferson. Contact: Mr. John T. Fitzpatrick, Director, The Thomas Jefferson Center for Historic Plants, Monticello, P.O. Box 316, Charlottesville, VA 22902.

Seed Saver's Exchange
Decorah, Iowa
The Exchange produces a biannual publication listing sources and locations of heirloom vegetables and herbs. For information, contact Kent Whealy, P.O. Box 70, Decorah, IA 52101.

University of Delaware Library
Newark, Delaware
The library has a substantial collection of historic horticultural texts and nursery catalogs, specializing in late 19th to early 20th century publication. Contact the University Library, Special Collections, University of Delaware, Newark, DE 19717.

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(continued on page 24)

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The authors wish to thank Charles Pepper, Supervisory Horticulturist at the Olmsted National Historic Site and John Fitzpatrick of the Thomas Jefferson Center for Historic Plants for technical information as well as Scott Kunst and Arthur Tucker for their published sources of information.

Update

Letters

Dear Editor:

We were glad to see the subject of Historic Structure Reports (HSRs) covered in the *CRM Bulletin* (Vol. 13, No. 4). The purpose and use of the HSR needs both more attention and—if possible—agreement. Both the ideal and "real world" need to be considered. Ideally, a study should be done on every resource. In the real world, however, funding is available to do a study only when there is a **critical need** to do it.

A problem has existed in current and past NPS-28 descriptions of this study type, and this needs careful definition. Some of the major aspects are: level of information must be adequate for the proposed undertaking; major research on materials or methods is needed (we think of the major work on Tumacacori which involved basic adobe preservation methods); preservation needs exist which will require integrating multi-professional fields into a complex undertaking for one structure or a group of similar structures.

In the past, the need for HSRs has been linked to restoration as a treatment, but the need is really most closely associated with preservation. Under the past Park Restoration and Improvement Program (PRIP) effort many projects of basic stabilization/preservation were accomplished and many were "easy projects." This left many complex projects still to be done. However, very few restoration projects are undertaken any more (due in part to funding restrictions) and the focus is clearly on basic preservation. The last major projects funded in this region occurred during the American Bicentennial (Tumacacori and Fort Bowie), for cultural projects do not do well in the line item program. Review of the Regional Cultural Resource Summary Report of 1987 clearly shows this.

So, why do HSRs? They need to be done in order to get the information in a manner that allows the accomplishment of complex projects in phases over a period of 5 to 15 years! A basic aspect of doing HSRs is to obtain the answers to do the work and not recommendations to do more studies. HSRs must provide the information to allow accomplishment of the work either by day labor or to proceed directly into contract documents (drawings/specifications). Since each historic structure is different, and its preservation needs are different, it is difficult—if not impossible—to address in great detail what a HSR should contain. The current level of guidance in NPS-28 is good as long as we recognize that the document provides **guidelines** and **guidance,** and no more.

Concern has often been expressed about the cost and time to do HSRs, and we suspect that failure to closely define the preservation needs and products expected in the task directive may be a problem. Related to this may also be the need to consider whether a HSR is really necessary or if it is being done simply to have a HSR.

A basic problem we feel is the view of HSRs which often is linked to a major construction or line item project and hence many offices see a HSR taking three years to accomplish with multi-year funding. This has not been the case in the past few years. Funding from one-year sources, grants or donations is more likely to be the case. The link to 35,06,36,37 funding is not "real world" and causes a lot of confusion.

It was good to see the discussion of HSRs in the *CRM Bulletin,* for too often programs continue with no self-analysis or consideration of the basics or purpose.

Tom Mulhern
Chief, Park Historic Preservation
Western Region

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

Outside Cover Photograph: ***Aerial view over taro fields at Ke'anae, Maui, Hawaii*** **Elizabeth Anderson, Maui County Planning Office. Inside Cover Photograph:** ***Bed of taro*** **Author, 1995.**

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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 environ-mental 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.

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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.

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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

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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.

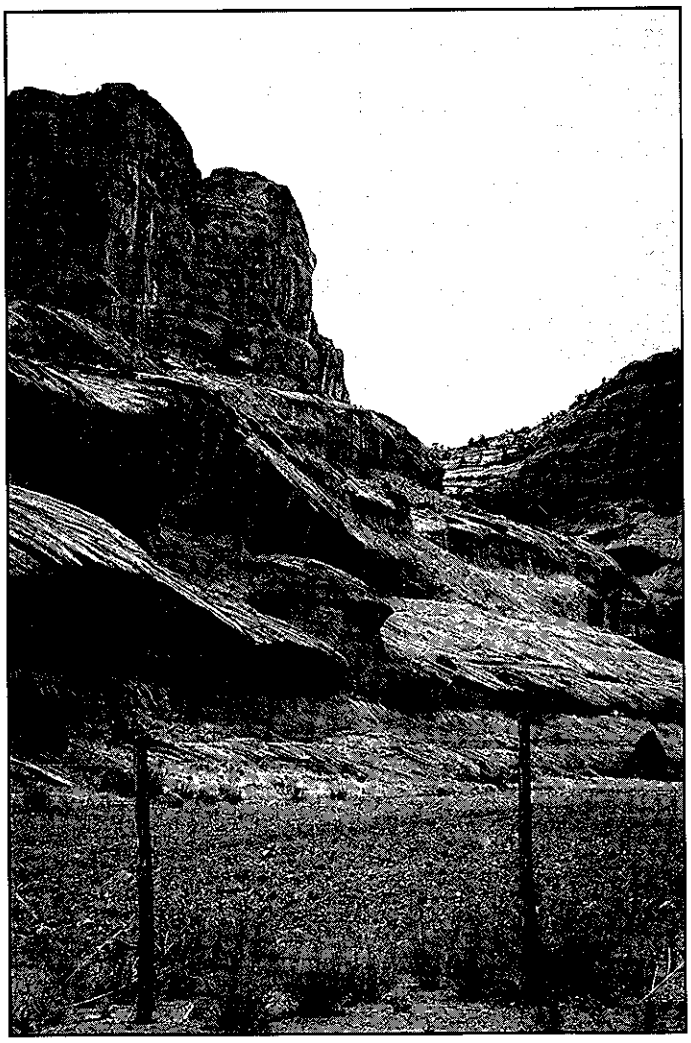
Some Factors to Consider When Selecting An Appropriate Treatment for a Cultural Landscape Project

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.

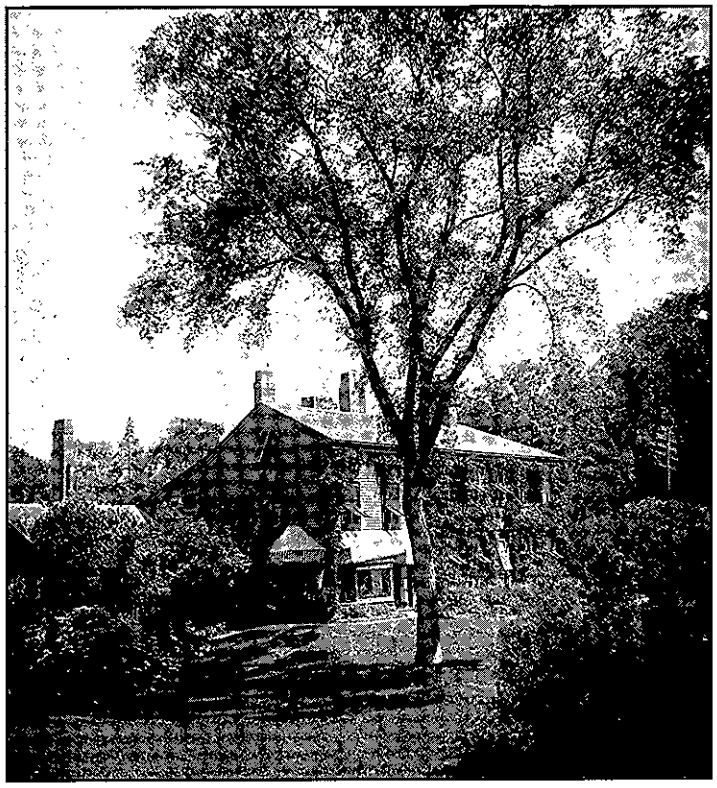
Change and Continuity. There is a balance between change and continuity in all cultural resources. Change is inherent in cultural landscapes; it results from both natural processes and human activities. Sometimes that change is subtle, barely perceptible as with the geomorphological effects on landform. 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.



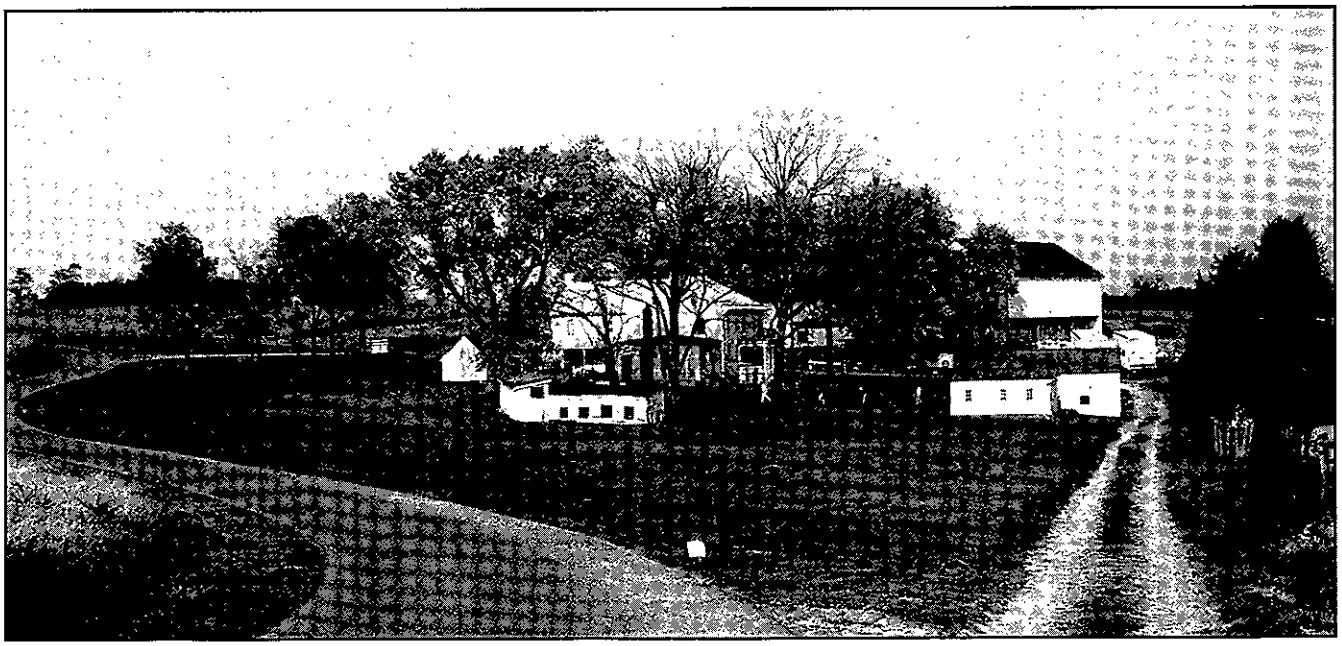
A remarkable record of human occupation exists at Canyon de Chelly National Monument in Chinle, Arizona--a vast mosaic of human activity through time, up to the present-day Navajo. Through preservation, an emphasis is placed on the cultural continuum, thus accommodating change and continuity. (author,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



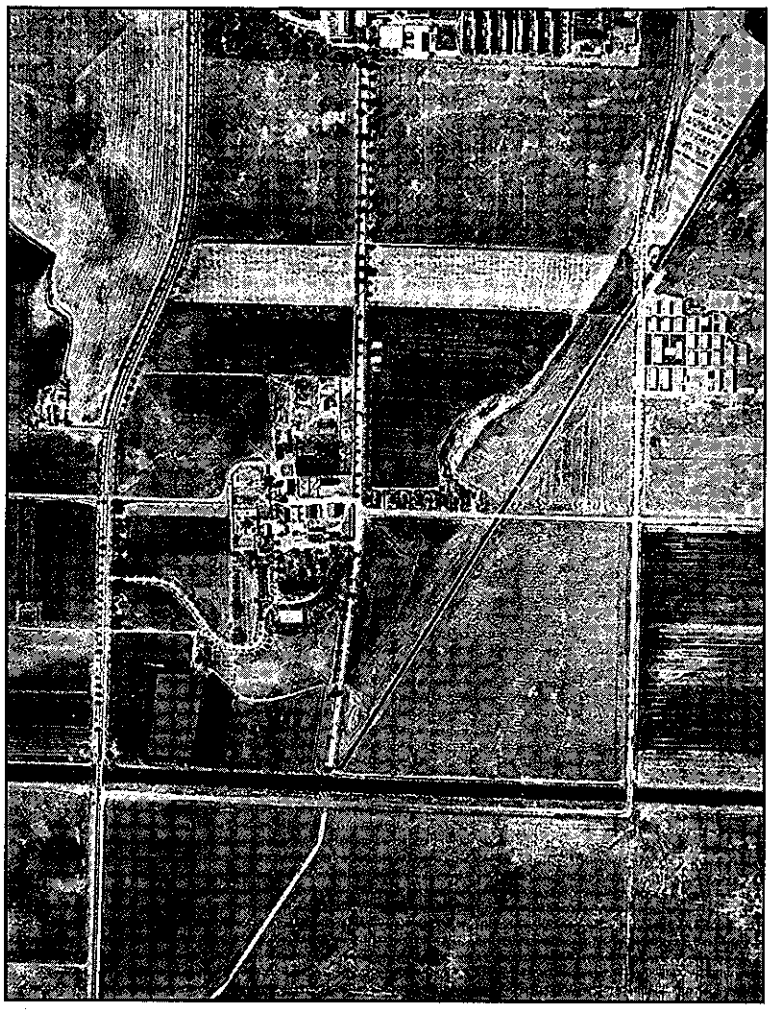
"Fairsted," in Brookline, Massachusetts, was the home and office of Frederick Law Olmsted, Sr., his sons, and his successors from 1883-1979. Olmsted is widely recognized as the founder of the profession of landscape architecture in the United States. As a historic property, Olmsted's home and office, 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)

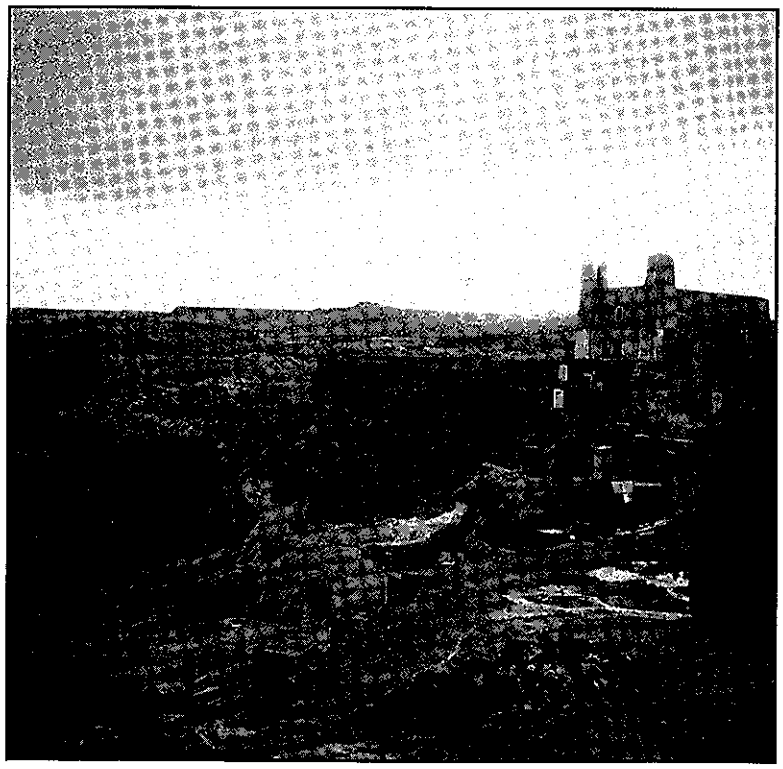


Before a treatment was selected for the Piper Farm at Antietam Battlefield, it was important to understand that the farm complex had a high level of integrity for its turn-of-the-century development. In fact, if the landscape was "restored" to the period of the battle, it would have resulted in the removal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

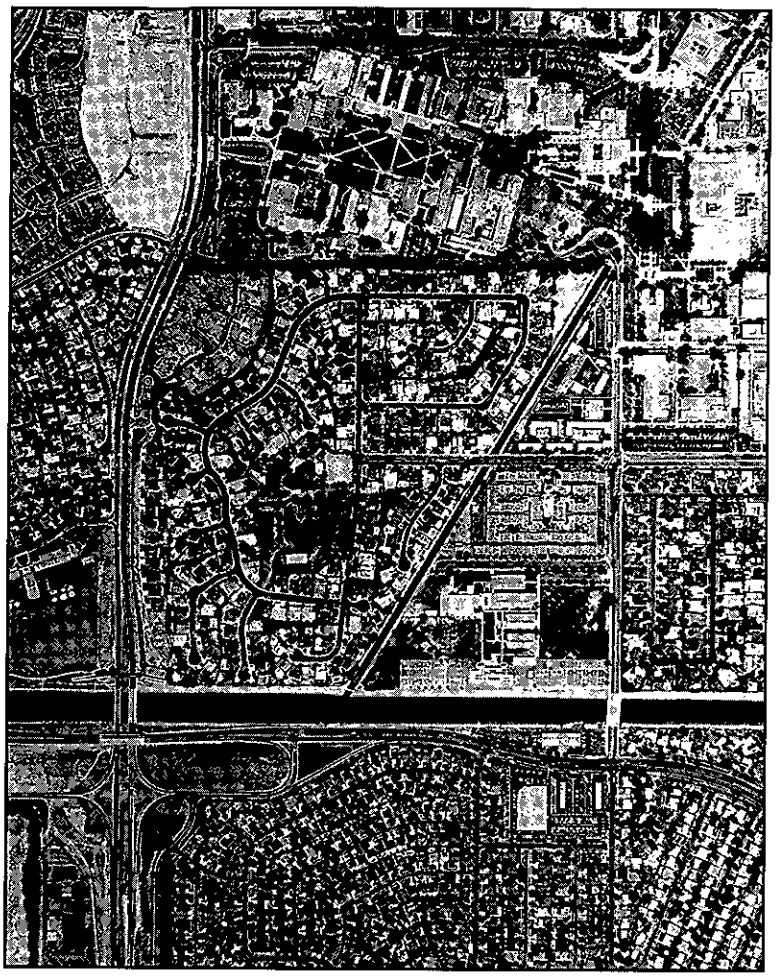




Two aerial photographs [center top left and right] of the changing geographical context at Rancho Los Alamitos taken a half century apart, from expansive farm lands to suburban subdivision-- is eminently clear. This dramatic change to the property's context will have an effect on future planning and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

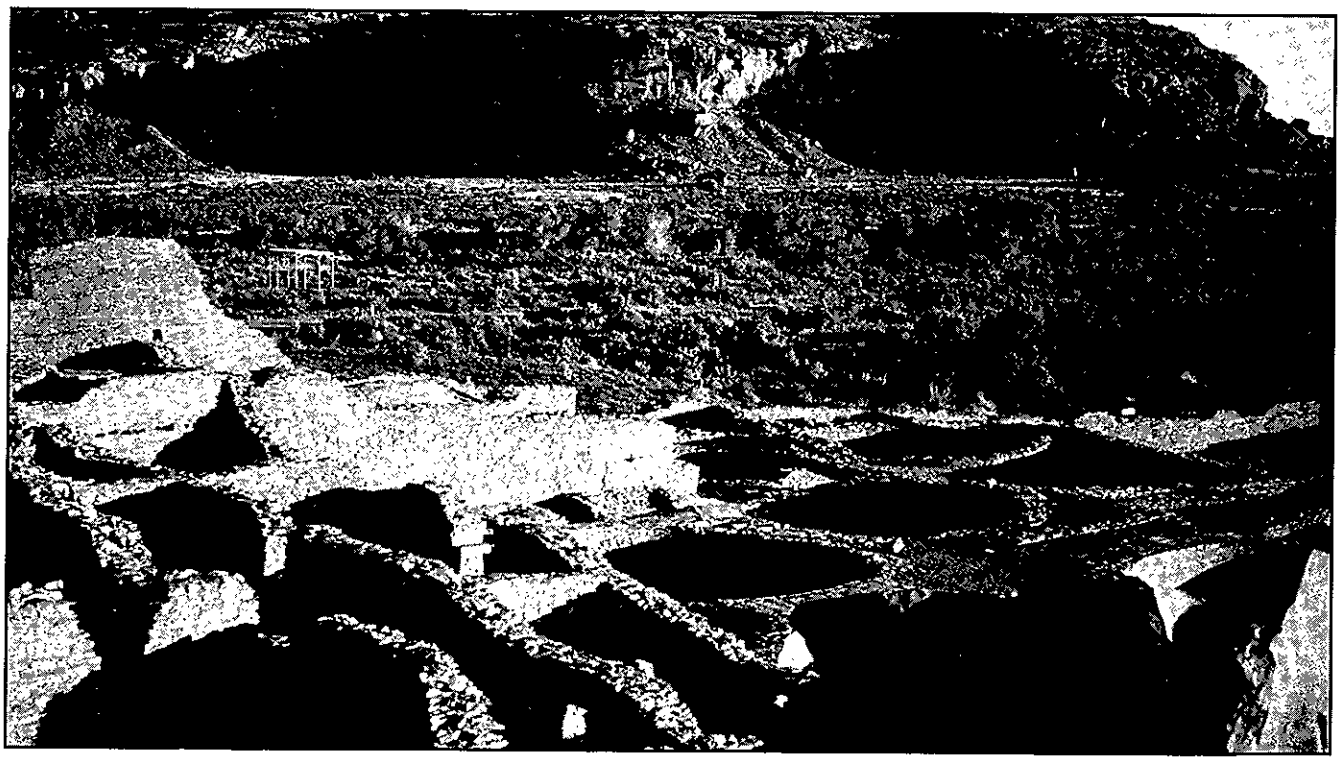
Acoma Pueblo, [opposite] located 60 miles west of Albuquerque, New Mexico, is one of the oldest, continuously inhabited villages in the United States, dating back over 1,000 years. Many of its historic uses are still evident in the village today as reflected by the traditional construction of adobe-masonry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

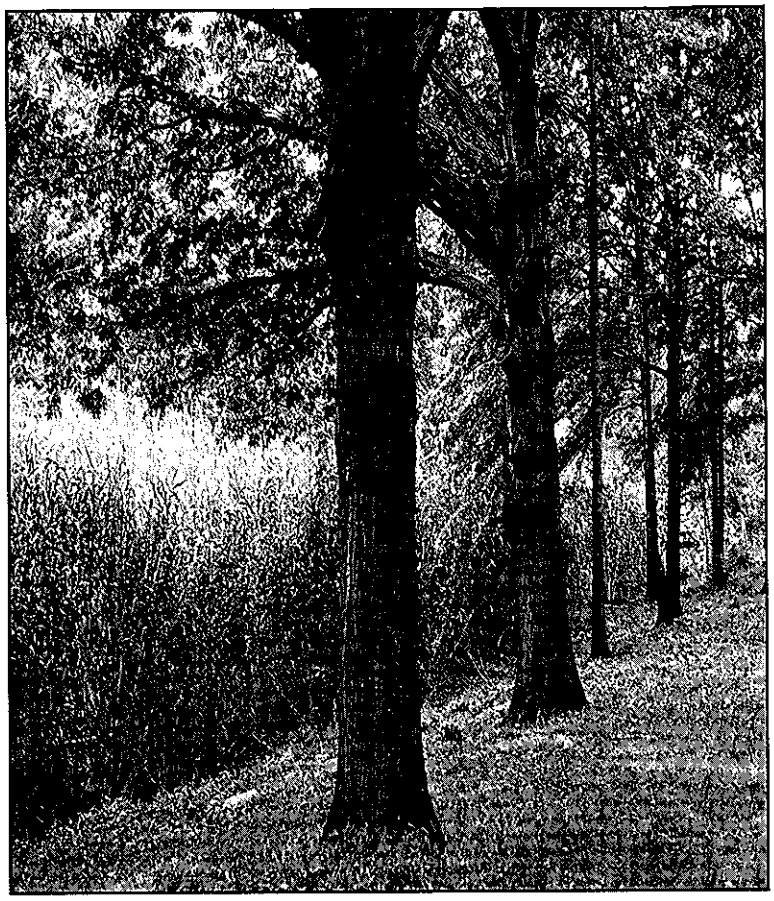


Archeological Resources. Prehistoric and historic archeological resources may be found in cultural landscapes above and below the ground [below] and even under water. Examples of prehistoric archeological resources include prehistoric mounds built by Native-Americans. Examples of historic archeological 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.

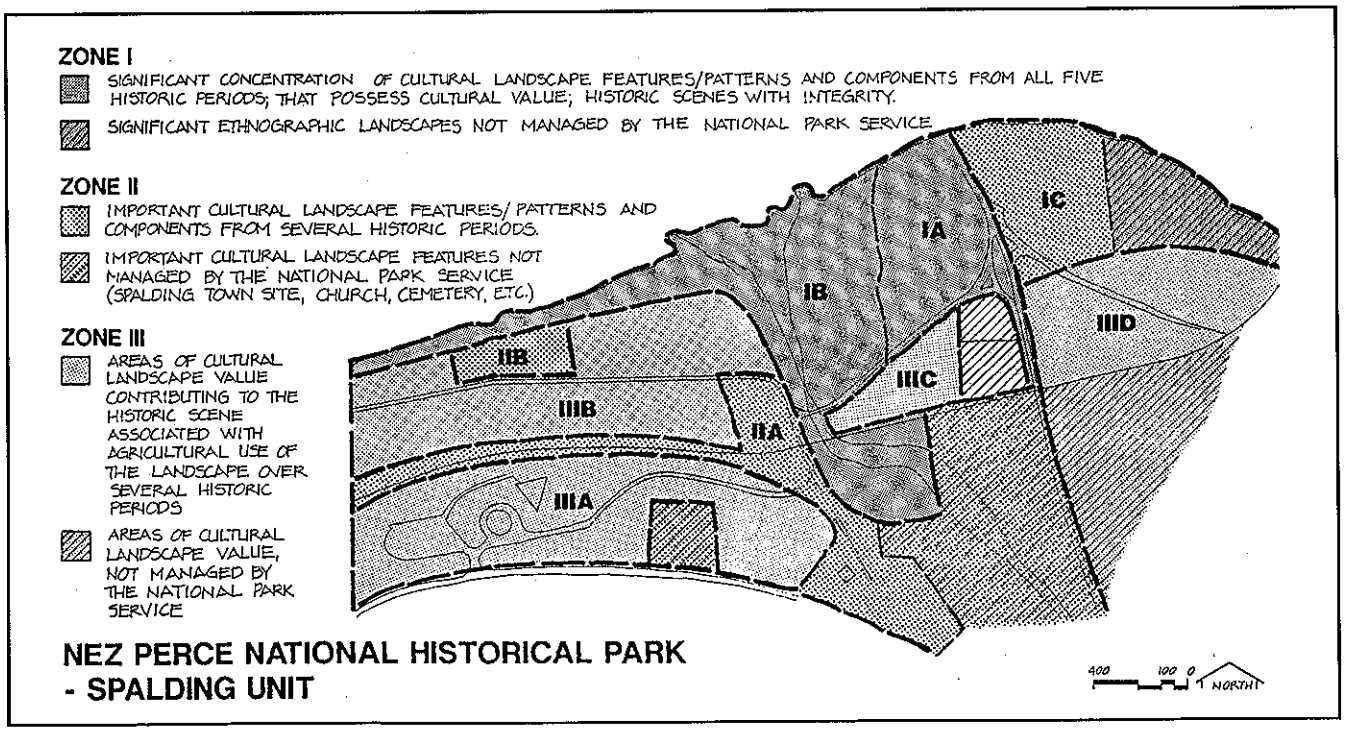
Natural Systems. Cultural landscapes often derive their character from a human response to natural features and systems. The significance of these natural resources may be based on their cultural associations and from their inherent ecological values. Natural resources form natural systems that are interdependent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



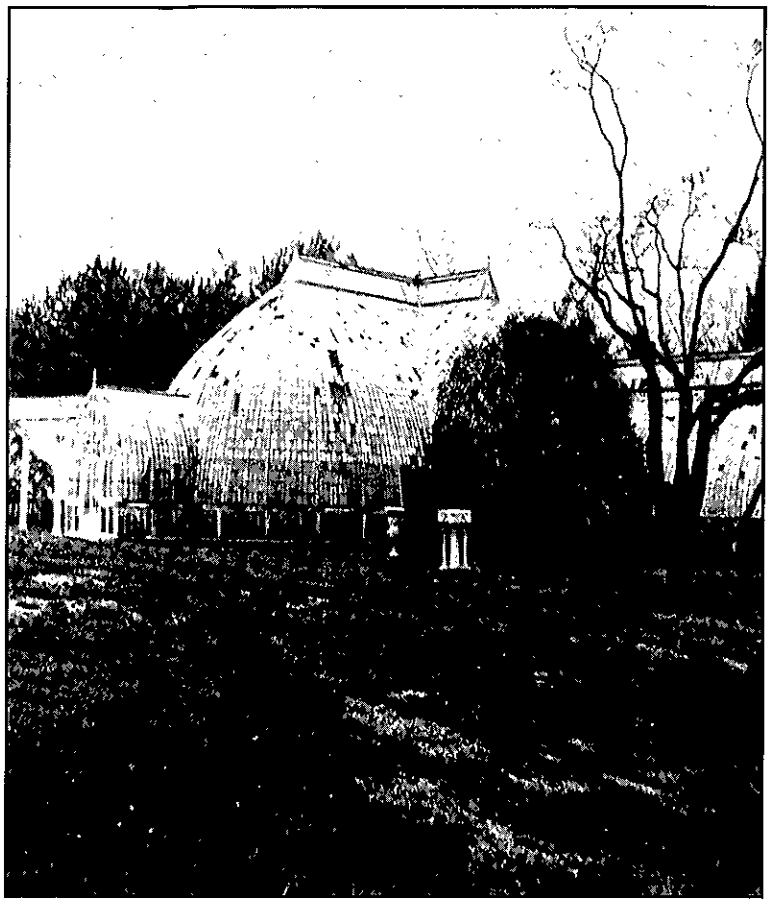
property. For example, these systems can include geology, hydrology, plant and animal habitats, and climate. Some of these natural resources are particularly susceptible to disturbances caused by changes in landscape management. Many natural resources such as wetlands or rare species fall under local, 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.

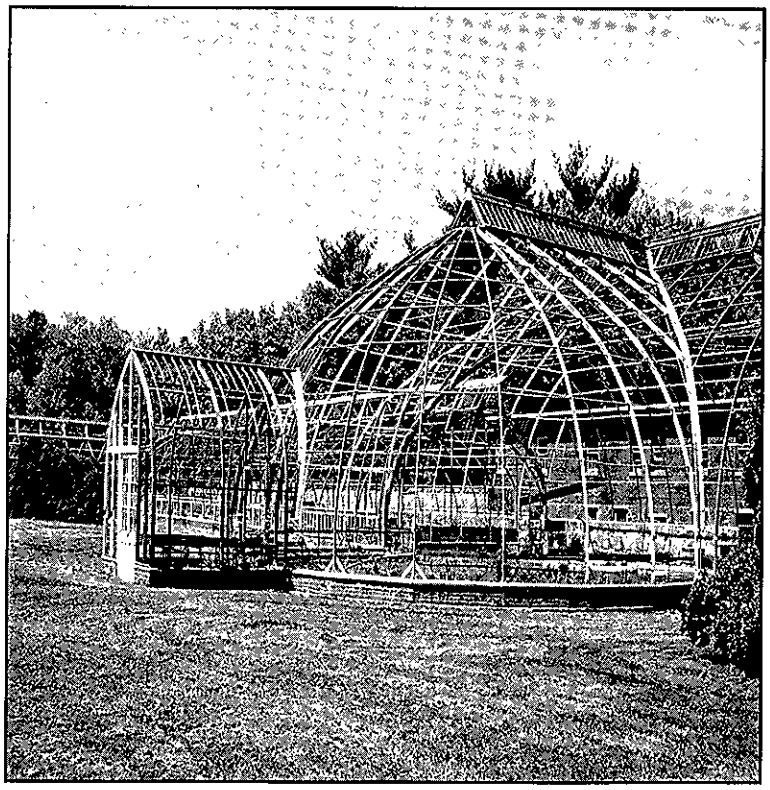


Invasive plant materials such as Phragmites [opposite] have overtaken sections of the water's edge along the Emerald Necklace Parks in Boston, Massachusetts diminishing the park's historic character. While developing a rehabilitation plan for the parks, both natural systems and cultural resource values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





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)

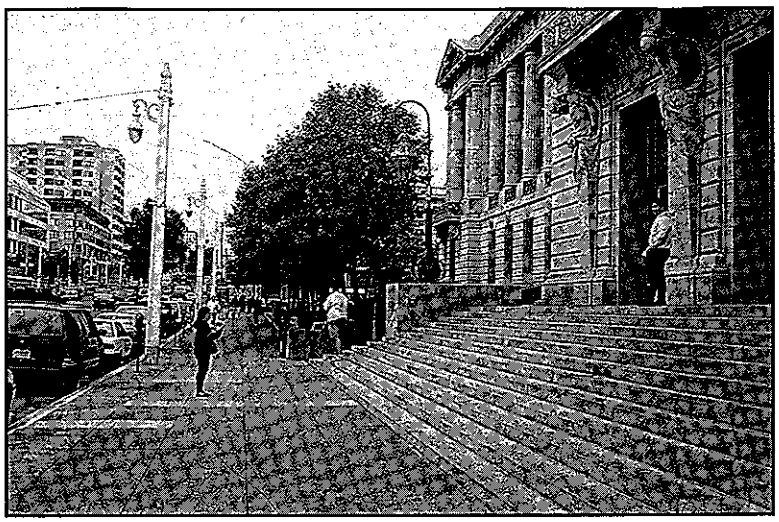
Management and Maintenance. Management strategies are long-term and comprehensive. They can be one of the means for implementing a landscape preservation plan. Maintenance tasks can be day-to-day, seasonal, or cyclical, as determined by management strategies. Although routine horticultural activities, 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.

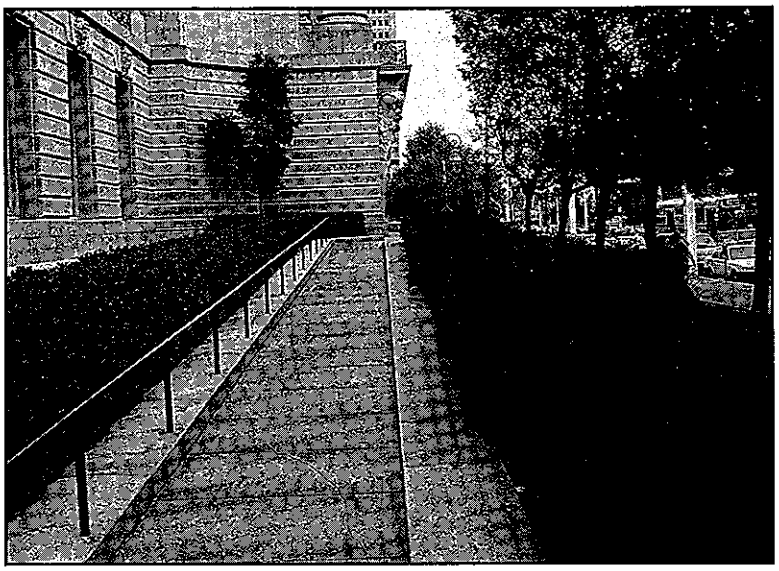
Interpretation. Interpretation can help in understanding and "reading" the landscape. The tools and techniques of interpretation can include guided walks, self-guided brochures, computer-aided tours, exhibits, and wayside stations. Interpretive goals should compliment treatment selection, reflecting 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.

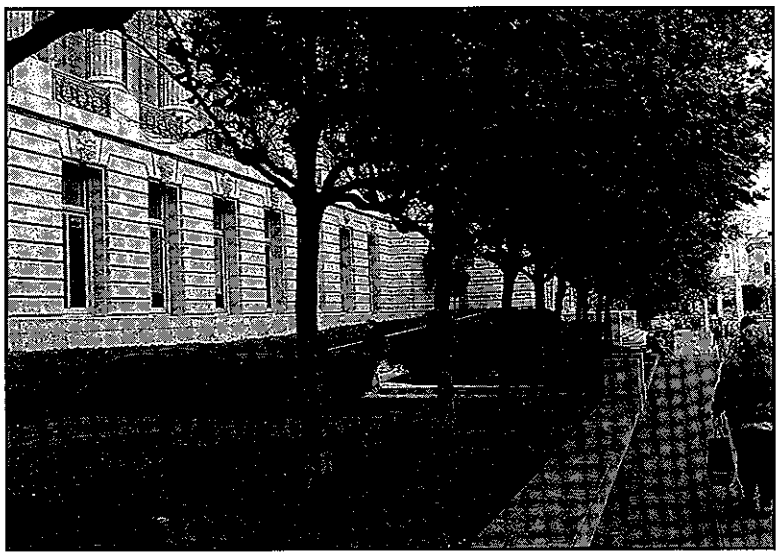
Special Requirements. Work that must be done to meet accessibility, health and safety, environmental protection or energy efficiency needs is usually not part of the overall process of protecting cultural landscapes; rather this work is assessed for its potential impact on the cultural landscape.

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.

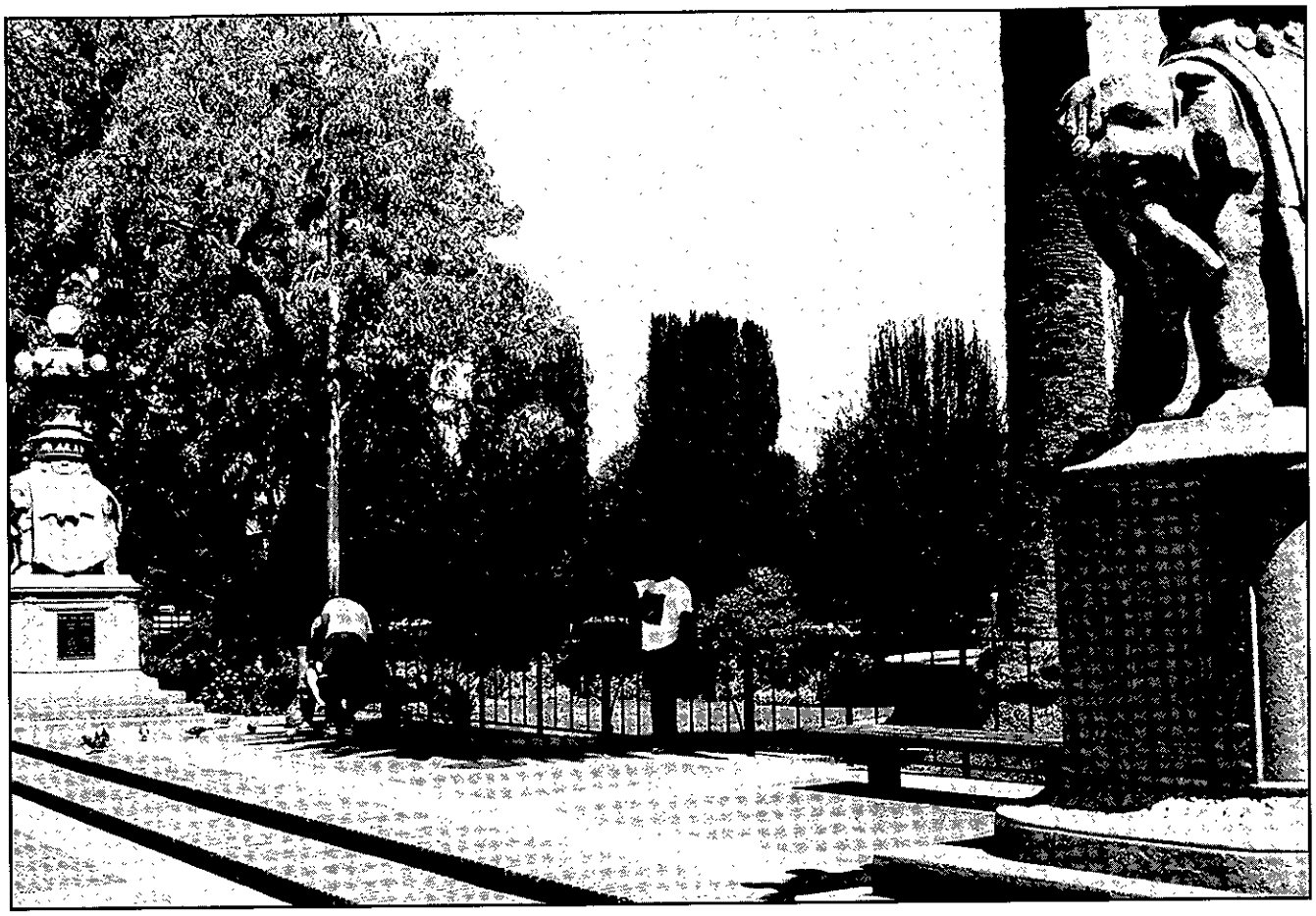
Health and Safety Considerations. In undertaking work on cultural landscapes, it is necessary to consider the impact that meeting current health and safety codes (for example, public health, life safety, fire safety, electrical, seismic, structural, and building codes) will have on character-defining 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.

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.

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.

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 though 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.

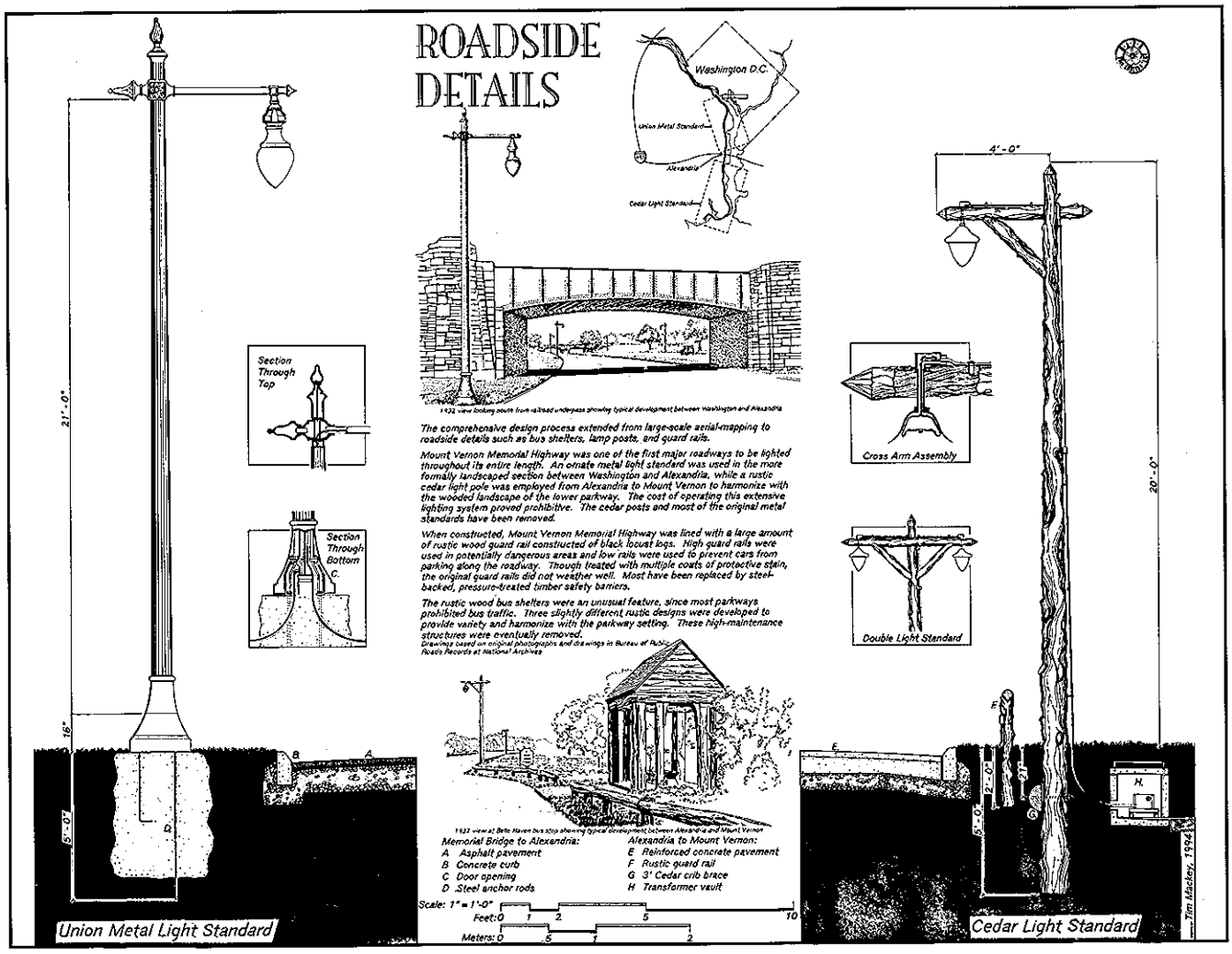
Introduction

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

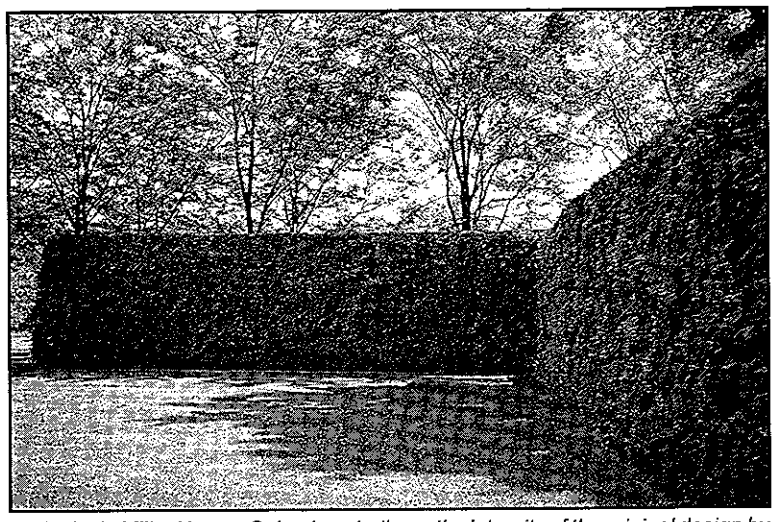
Features within a cultural landscape may need to be stabilized or protected through preliminary measures until additional work can be undertaken. ***Stabilization*** may include structural reinforcement of a rustic pergola, cabling of a tree, weatherization of a wooden garden bench, or correcting unsafe 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 leastdegree 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)

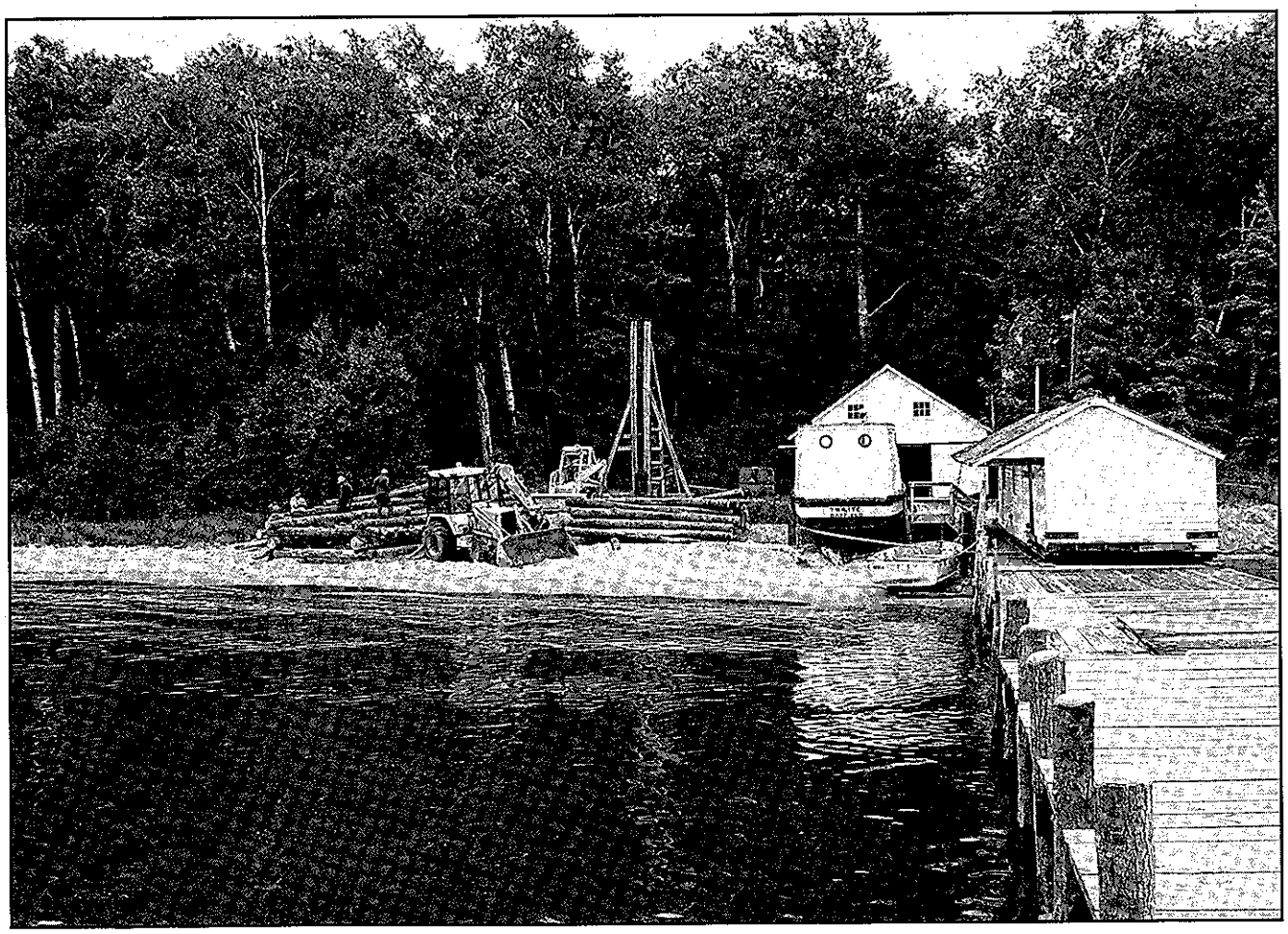
Taro patches are small hand-cultivated ponds, usually established as separate properties at the time of the Great Mahele or land division in the 1850s. In 1994, in an effort to protect this declining land use, the County of Maui, Hawaii, passed an ordinance granting tax relief to properties in taro production.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



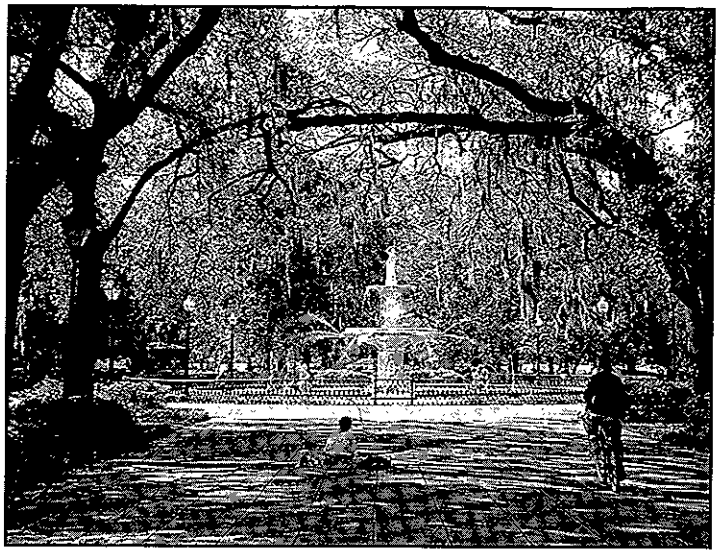
At the Irwin Miller House, Columbus, Indiana, the integrity of the original design by landscape architect Dan Kiley has been preserved by respecting the original design intent and maintaining the height of the hedges at 8'-6". (author, 1995)



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

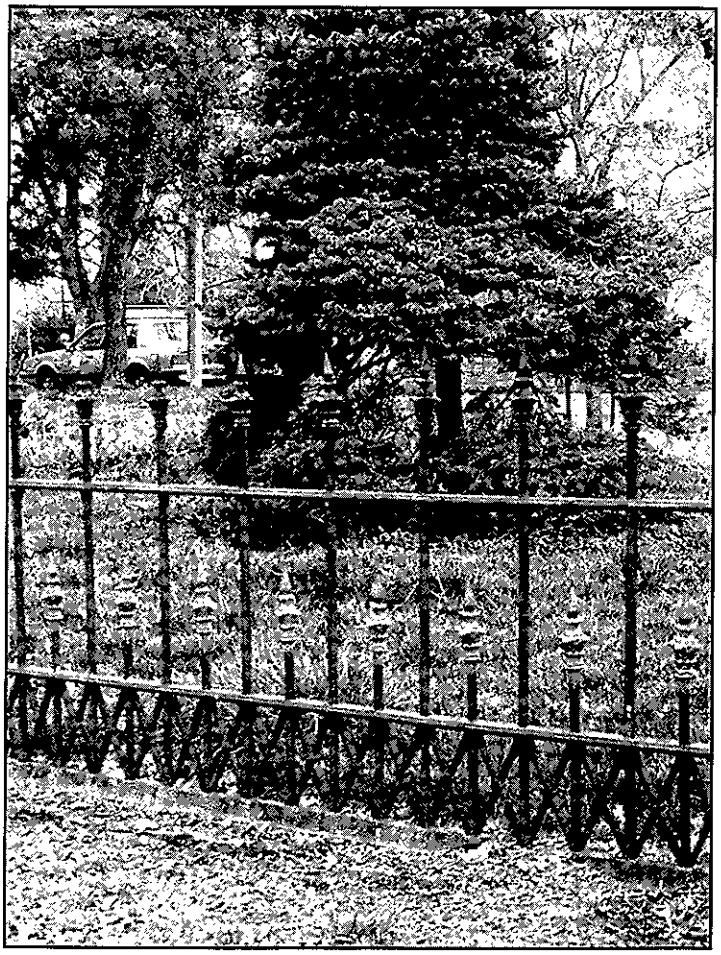
When the existing conditions of character-defining features and materials requires additional work, their ***repair*** is recommended. ***Preservation*** strives to retain the maximum amount of existing materials and features while utilizing as little new material as possible. Consequently, guidance 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.



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)

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

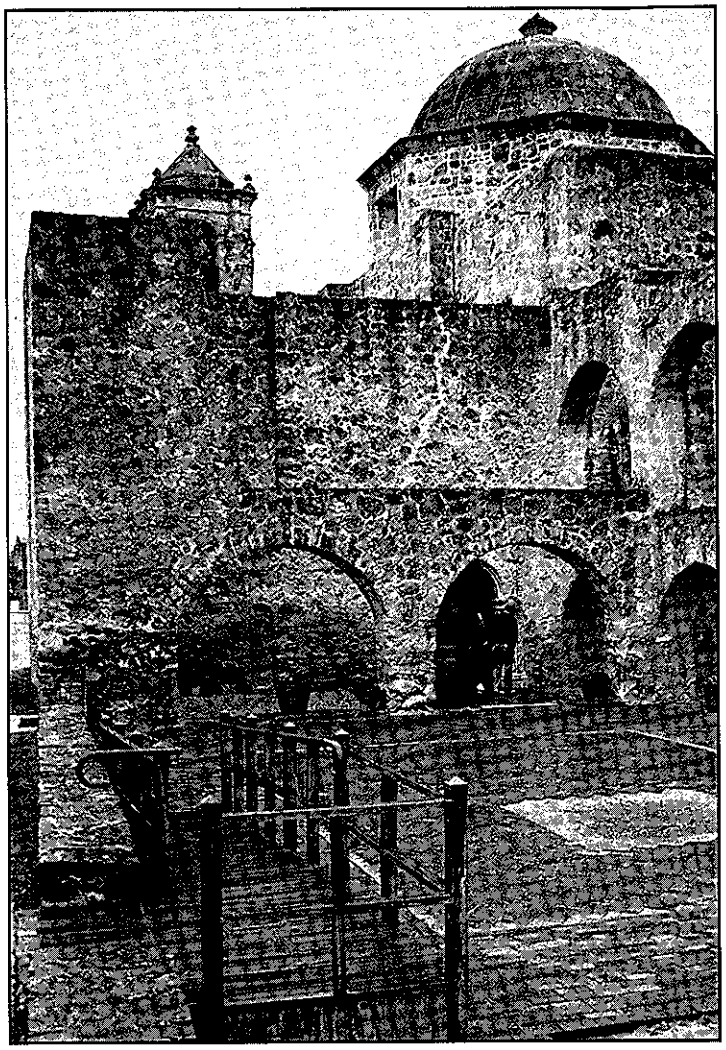


Castings were made to replace a limited number of lost finials along the perimeter fence of Lafayette Square, St. Louis, Missouri. (author, 1994)

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. Intimate and confined views cannot be appreciated from 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 of far greater width. Every accent 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, 1922

N

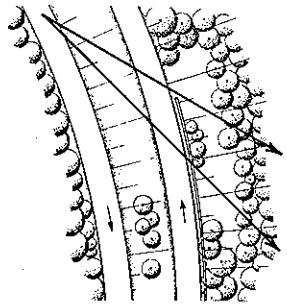
Scale: 1" = 40', 1:480

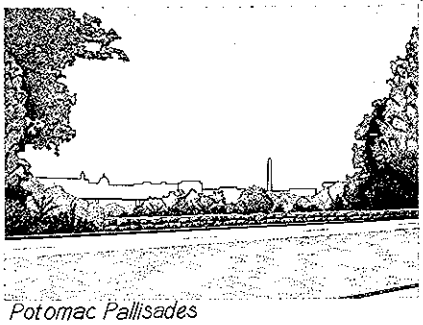
0 40 80 120 FEET 0 10 20 40 METERS

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.



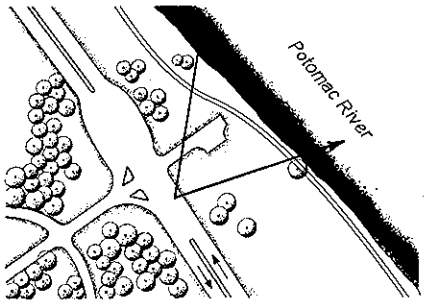


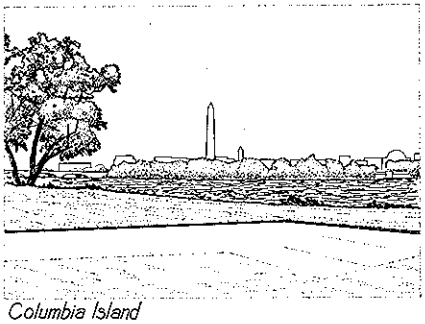
Potomac Pallisades

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.



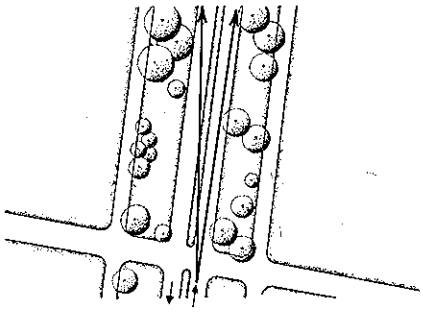


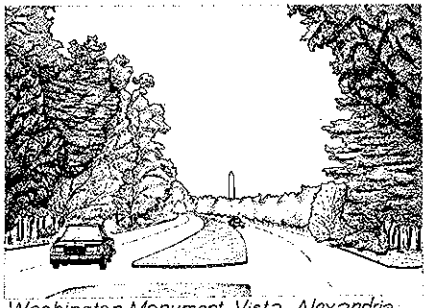
Columbia Island

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.



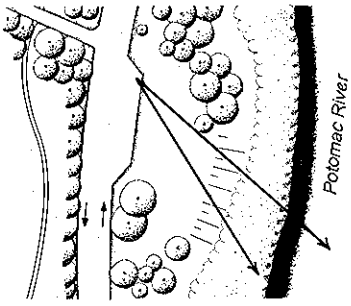


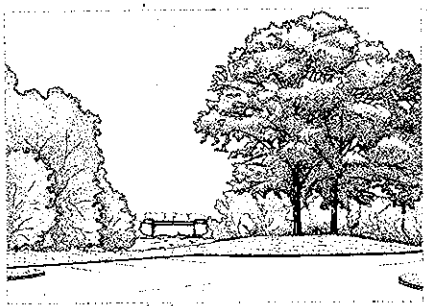
Washington Monument Vista, Alexandria

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

Anne 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.

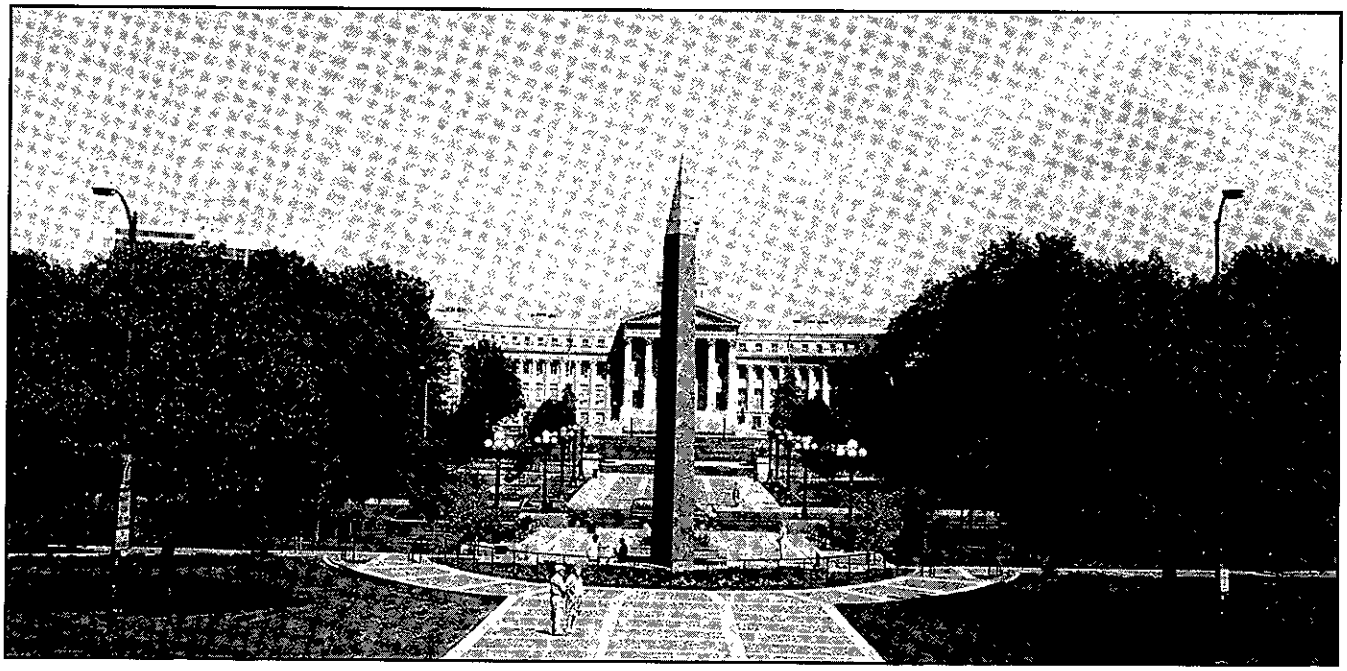
Stabilize and Protect Deteriorated Historic Materials and Features as a Preliminary Measure

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)

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

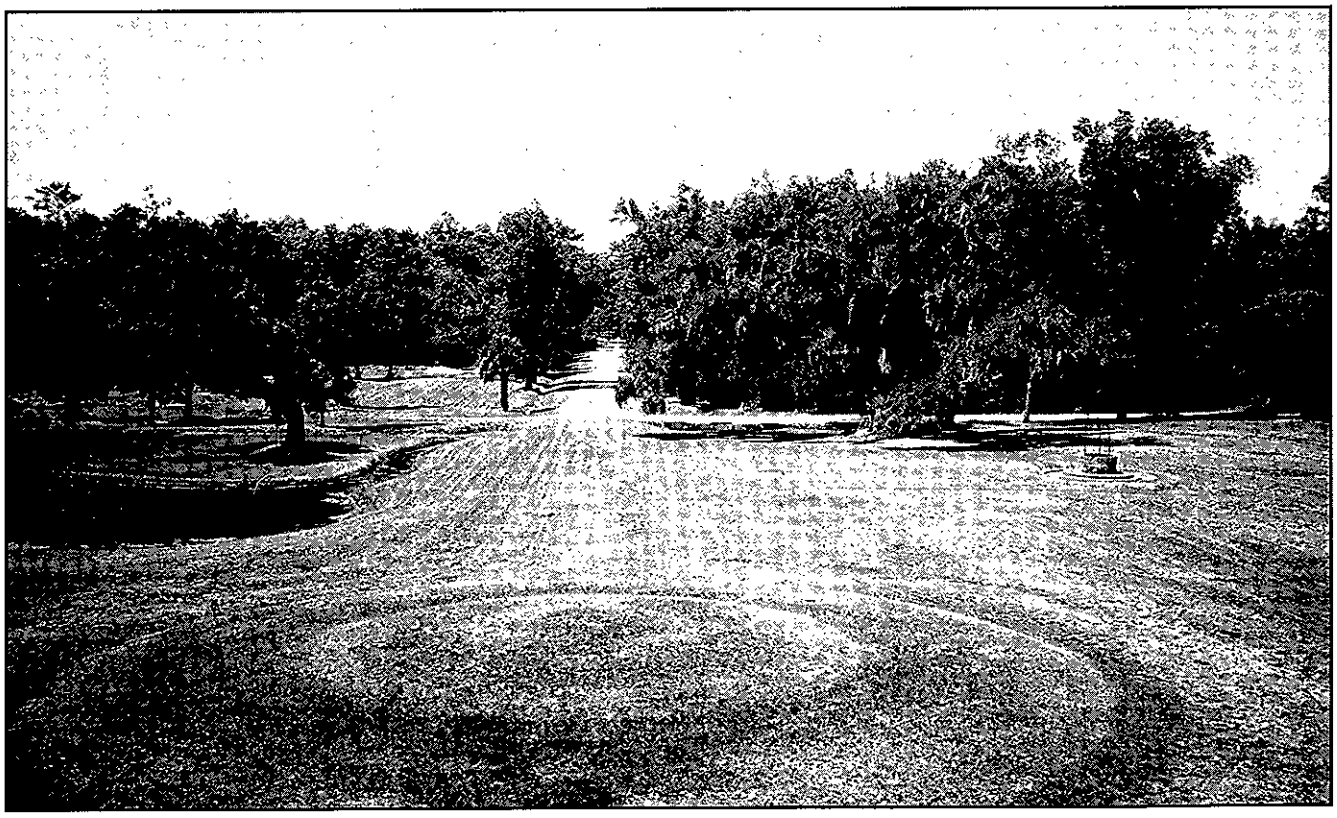
Identifying, retaining and preserving existing topography. Documenting topographic variation prior to project work, including shape, slope, elevation, aspect, and contour. For example, preparing a topographic survey.

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)

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.

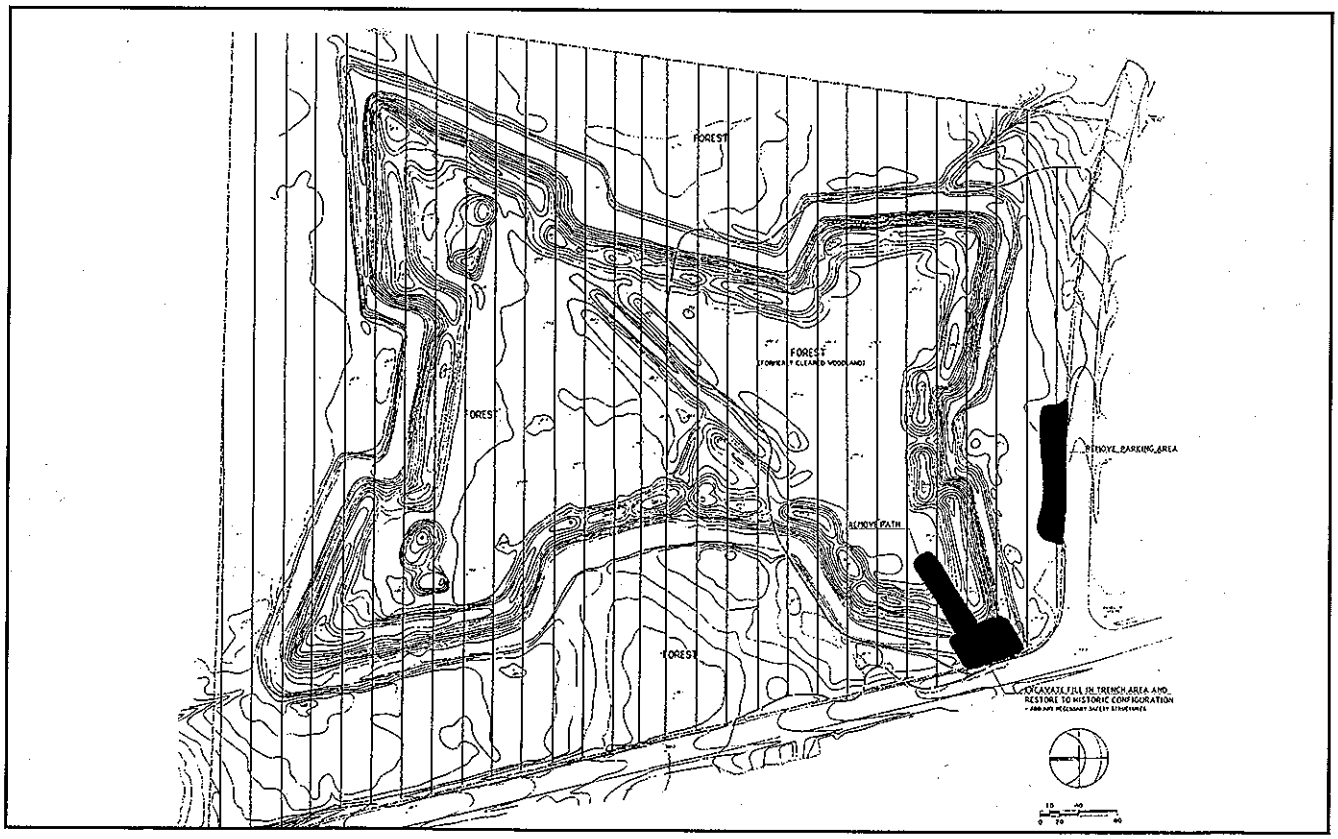
Failing to undertake preventive maintenance.

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

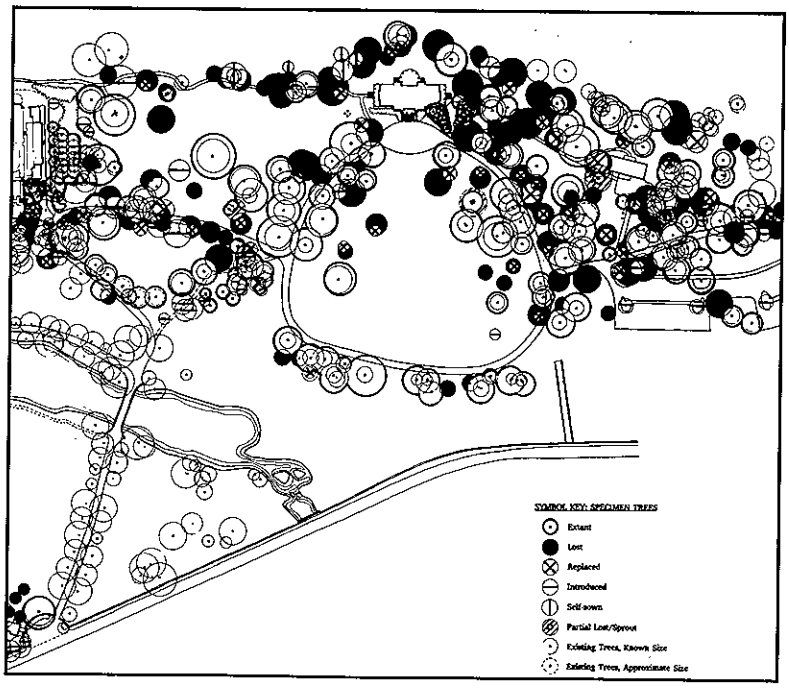
Identifying, retaining, and preserving existing vegetation; for example, woodlands, forests, trees, shrubs, crops, meadows, planting beds, vines, and ground covers. Documenting broad cover types, genus, species, caliper, and/or size, as well as color, scale, form and texture.

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

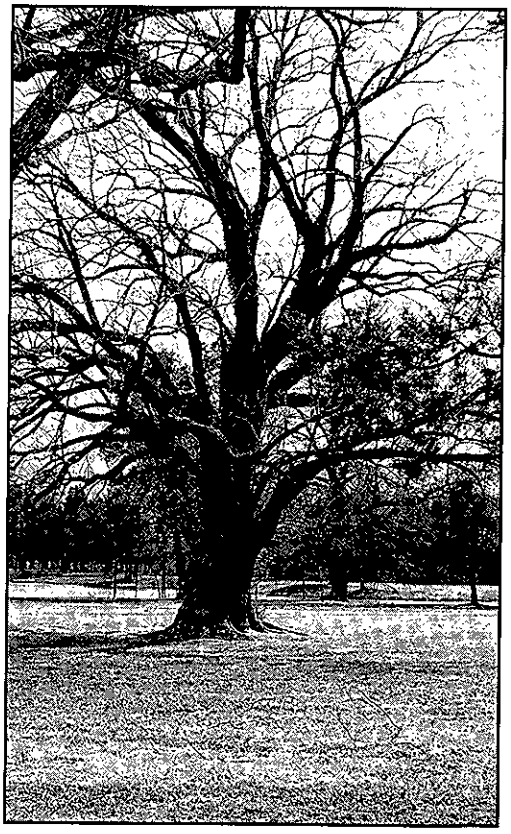
Not Recommended

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)

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.

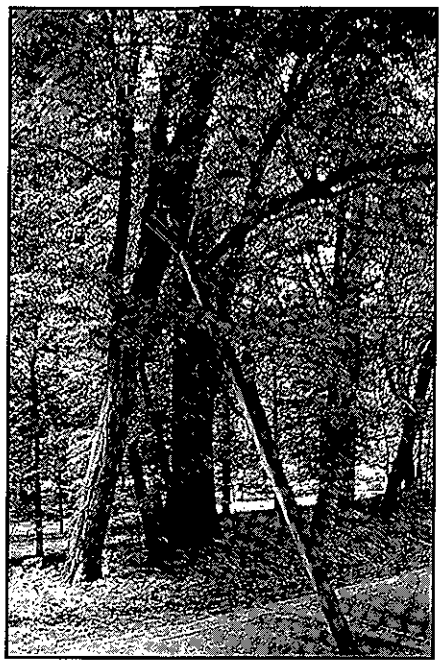
Utilizing maintenance practices and techniques that fail to recognize the uniqueness of individual plant materials. For example, rotating crops on an inappropriate schedule, or pruning plants which should be left "natural" into "shapes."

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.

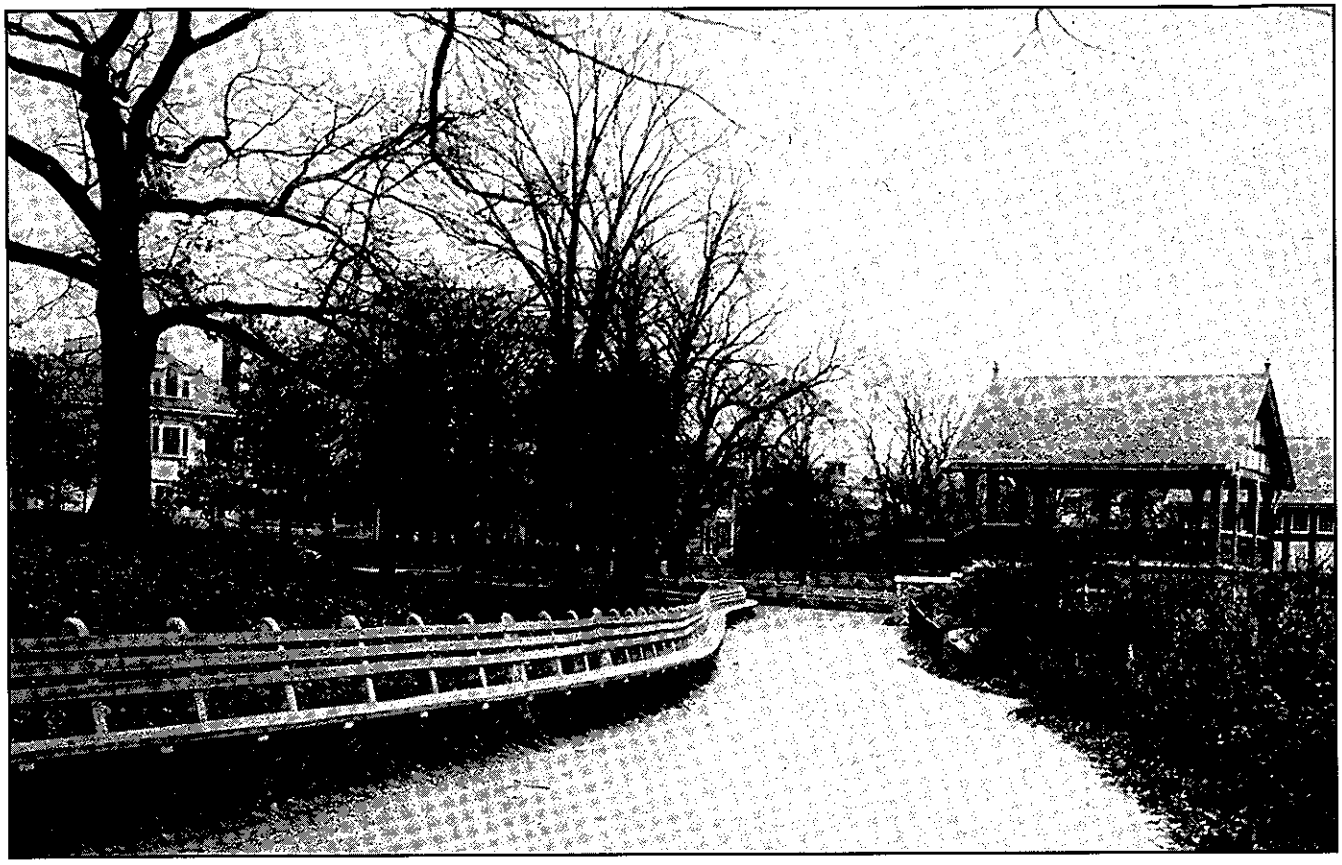
Protecting circulation features and materials by monitoring use. For example, restricting access to a prehistoric trail during periods of peak rainfall, or restricting high speed traffic from a leisure drive or parkway.

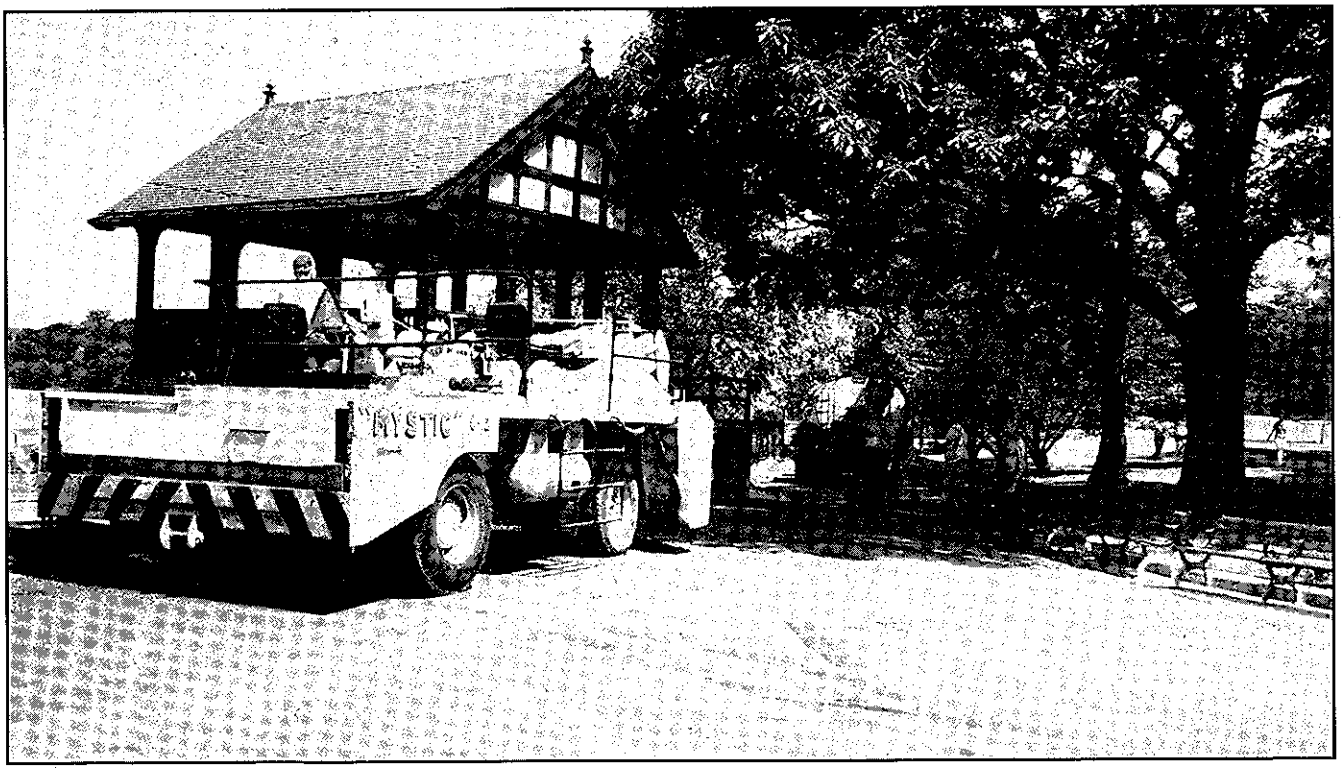
Failing to control the volume and intensity of use on circulation systems that results in damage or loss of features or materials. For example, allowing heavy loads on a historic trail.

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	*Not 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.	Executing project work that impacts circulation systems without undertaking an "existing conditions" survey.
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.	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

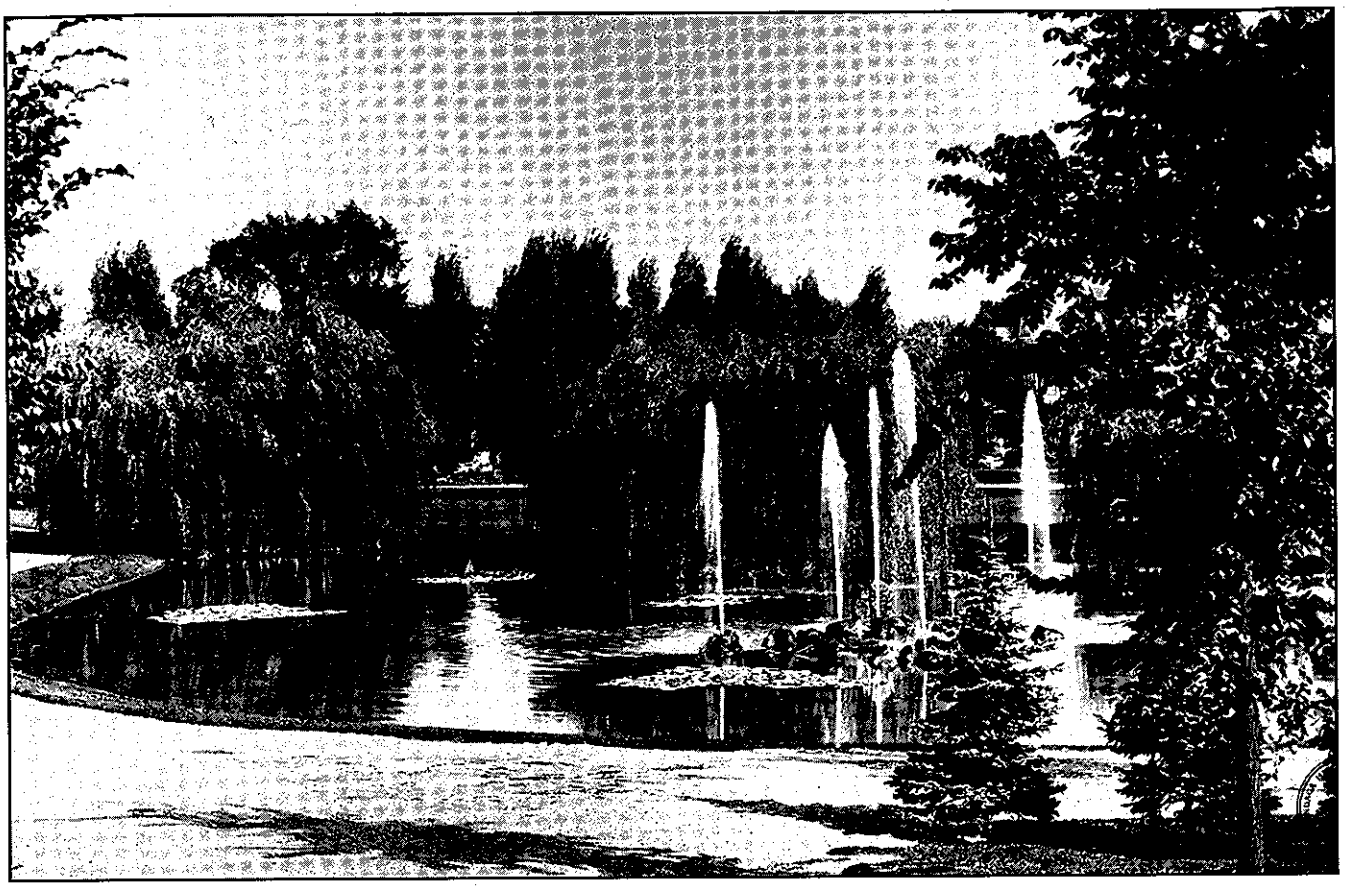
Maintaining circulation systems through non-destructive methods in daily, seasonal and cyclical tasks. This may include hand raking, top dressing, or rolling surface materials.	Failing to undertake preventive maintenance of circulation features and materials. For example, using a snow plow across a coarse textured pavement.
	Using materials such as salts and chemicals that can hasten the deterioration of surface treatments.
Utilizing maintenance practices that respect infrastructure. For example, cleaning out debris from drainage systems.	Allowing infrastructure to become dysfunctional. For example, permitting a failed drainage system to contribute to the degradation and loss of associated road surface.

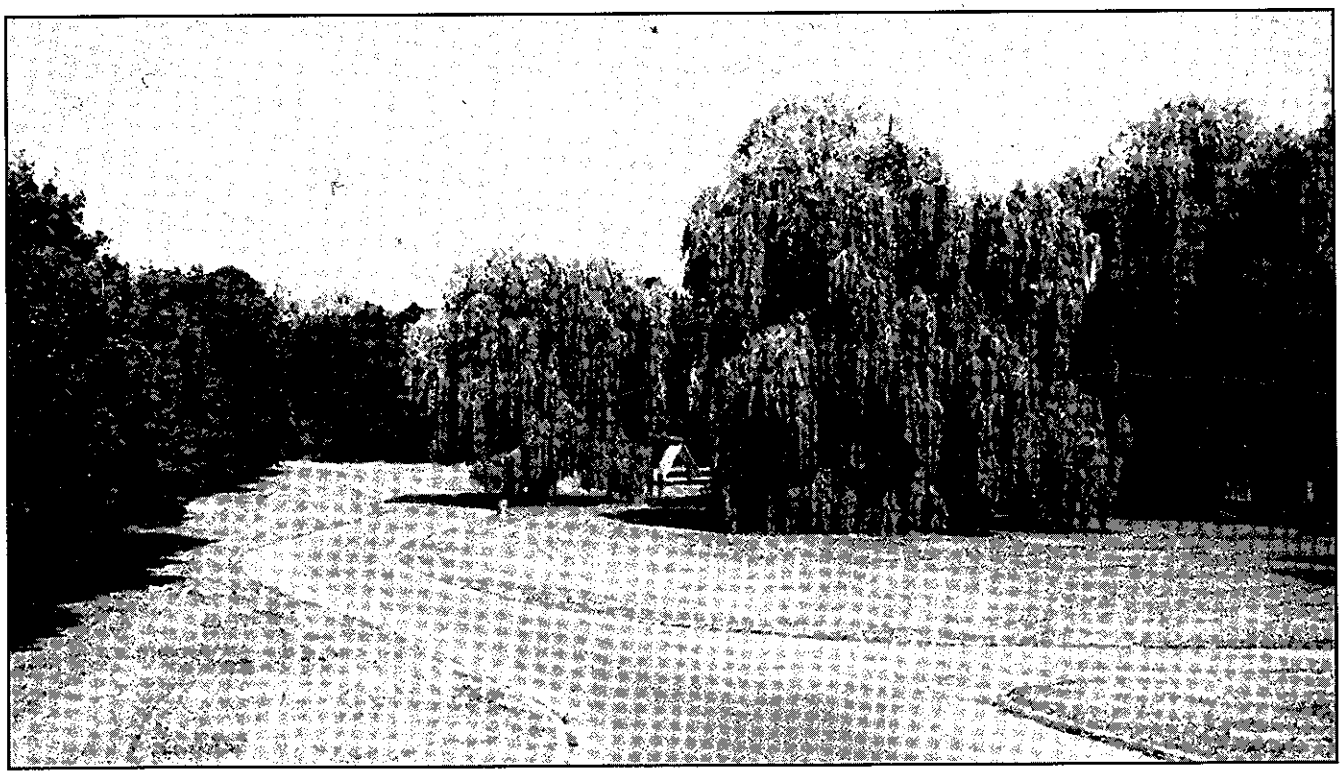
Repair Historic Materials and Features

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

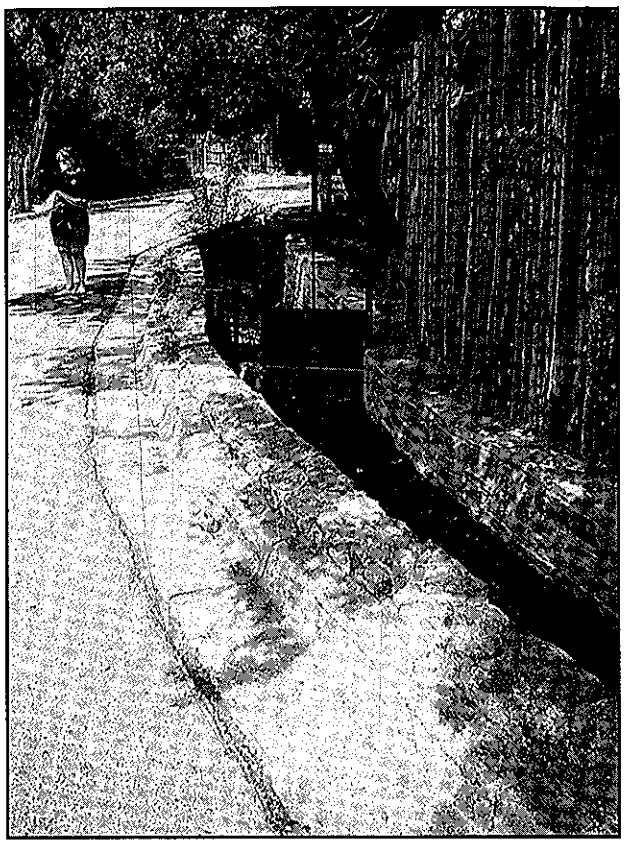
Recommended	*Not Recommended*
Identifying, retaining and preserving existing water features and water sources such as retention ponds, pools, and fountains. Documenting shape, edge and bottom condition/material; water level, movement, sound and reflective qualities; and associated plants and animal life and water quality prior to work.	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.
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	Executing project work without understanding its impact on water features. For example, placing a section of stream in a culvert or channel.

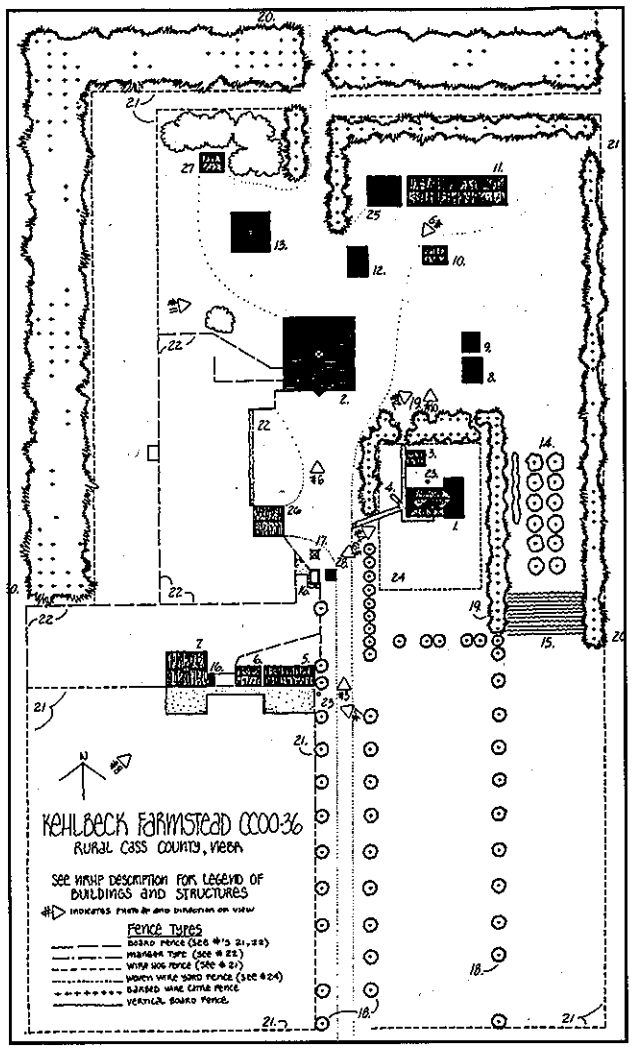
Stabilize and Protect Deteriorated Historic Features and Materials as a Preliminary Measure

Stabilizing water features by consolidating or reinforcing the form, bottom, or edge treatments. For example, bracing a slipped spill rock in a cascade.	Failing to stabilize threatened water features. For example, permitting pedestrian access to further degrade threatened embankments.
Protecting water features by controlling inappropriate volunteer plant materials. For example, cleaning a pond by removing invasive plant materials.	Allowing invasive vegetation to thrive, leading to radical changes in water quality.
Protecting water features from hazardous or toxic materials. For example, limiting agricultural fertilizers to minimize their impact on associated streams.	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.	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.
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.	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.

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

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.

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.

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

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.

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

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.

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.

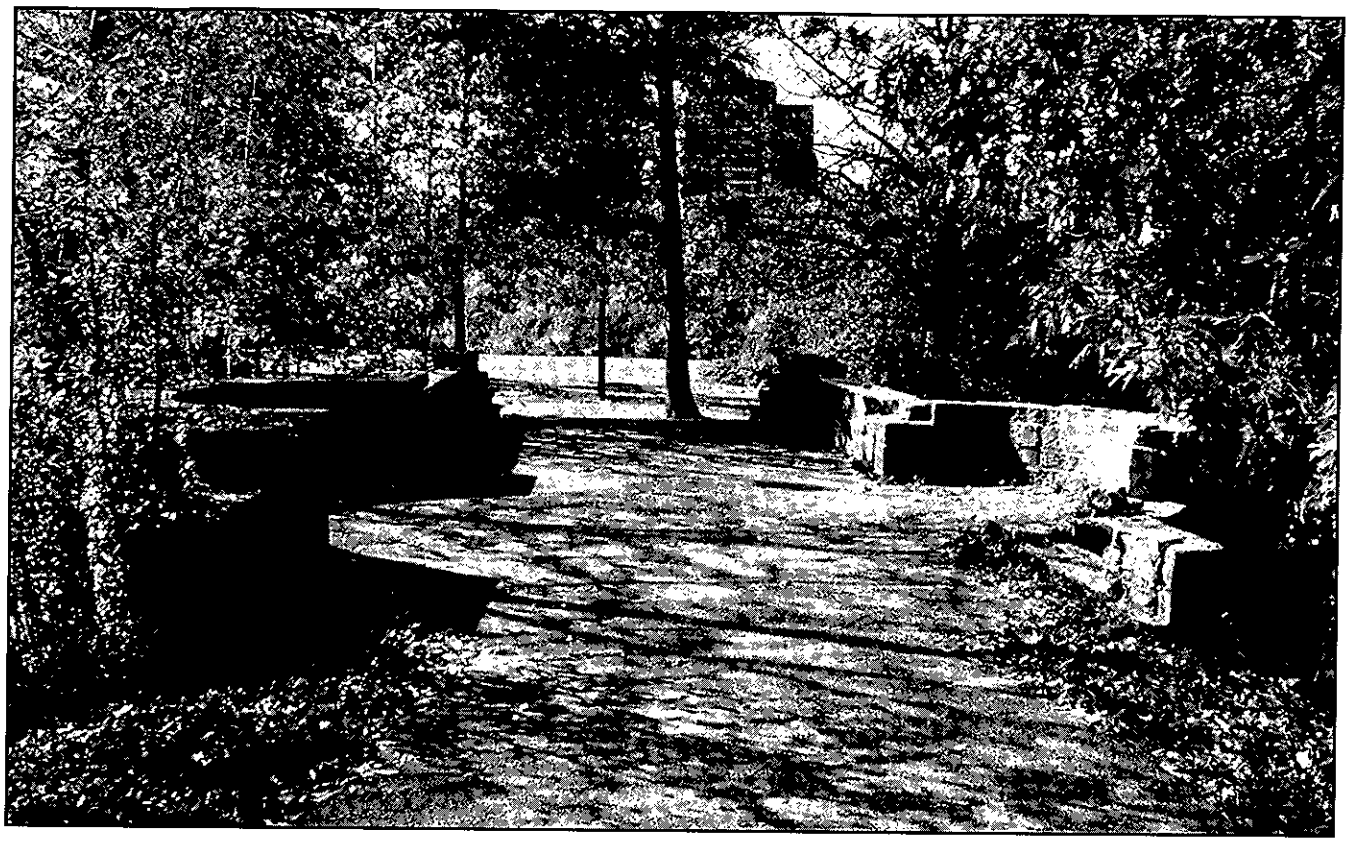
Replacing or destroying a feature of structures, furnishings or objects when repair is possible. For example, replacing a pavilion's tile roof with asphalt shingles or removing a broken historic light fixture rather than rewiring it.

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.

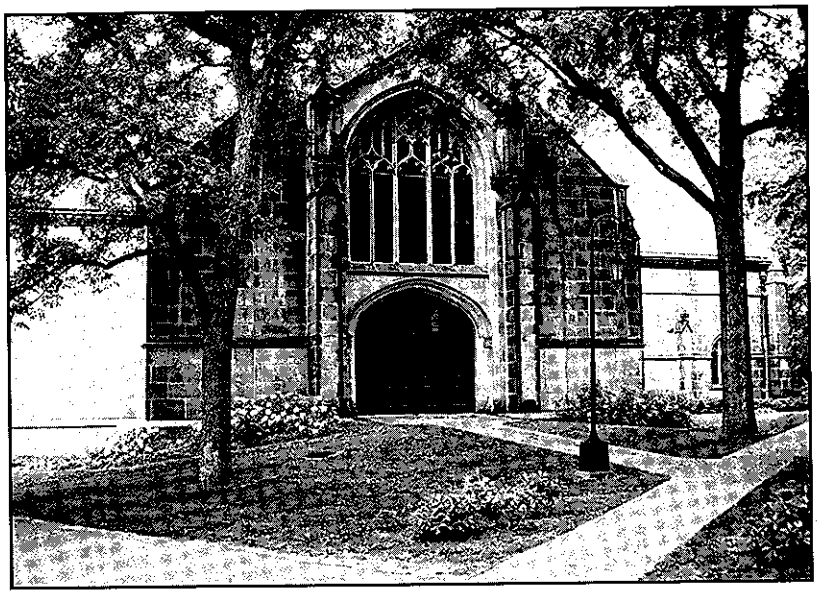
Removing or replacing features of buildings, structures, furnishings or objects with new material when historic materials are available. For example, demolishing an ice house rather than re-roofing it, or failing to save and reattach the original portion of a stone statue, using a concrete replacement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

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

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.

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.

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.

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.

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.

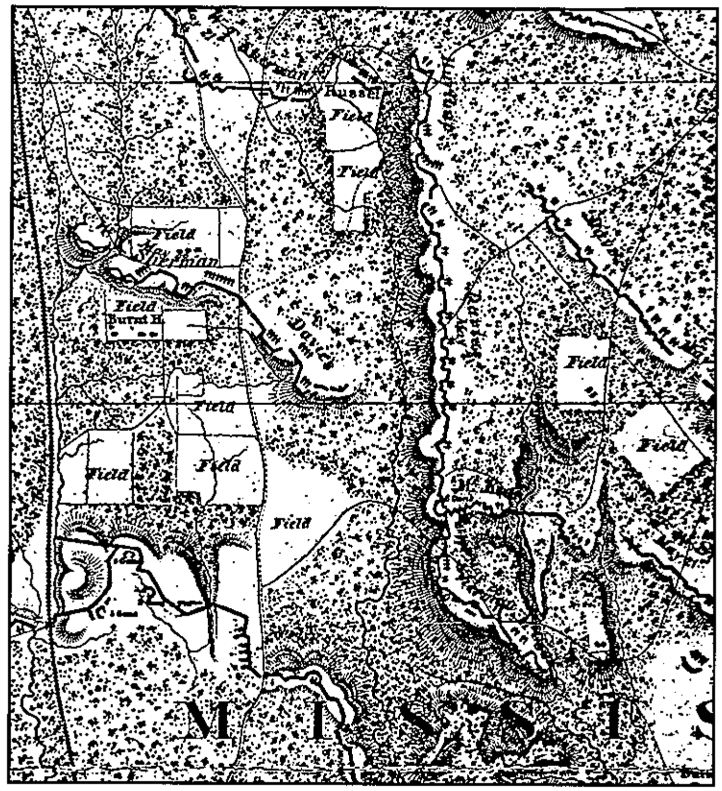
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

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.

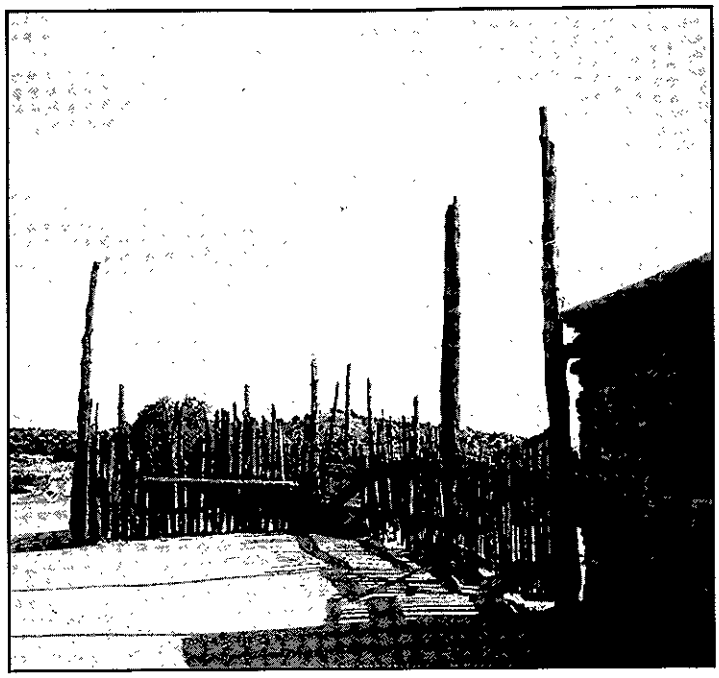
When evaluating the surviving spatial organization and land patterns of battlefield lands today, it is necessary to understand historic documents, such as this map section [top right], prior to making management decisions. This documents the 1862 entrenchments lines and the routes followed by U.S. Forces 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)

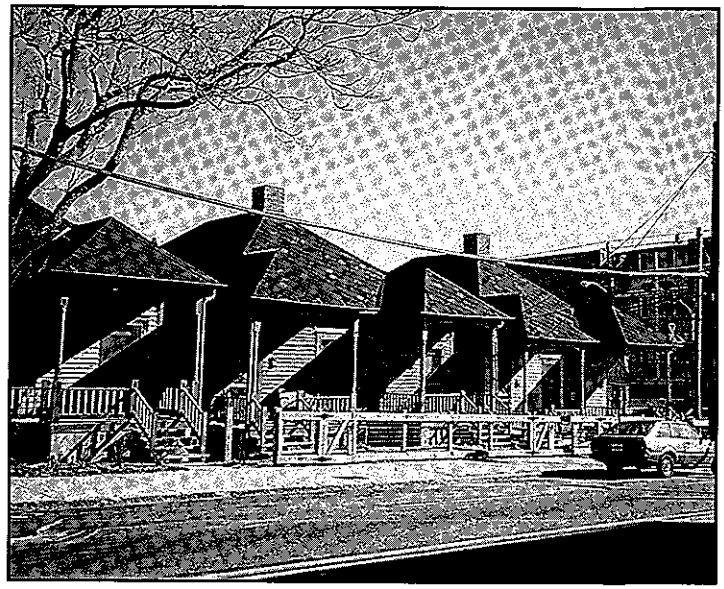
Replace Deteriorated Historic Materials and Features

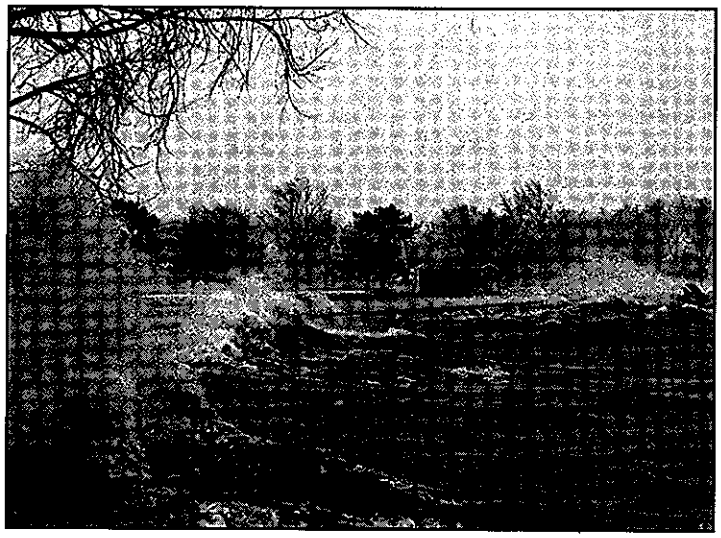
Following repair in the hierarchy, **Rehabilitation** guidance is provided for ***replacing*** an **entire** character-defining feature with new material because the level of deterioration or damage precludes repair. Examples include replacing a farm's drought-damaged pasture or replacing a corroded 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.

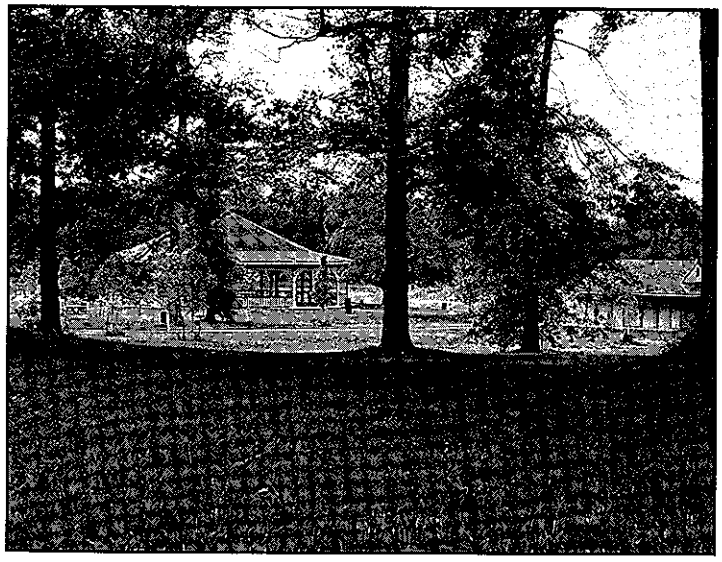
While the *Guidelines* recommend the replacement of an entire feature that is extensively deteriorated or damaged, they *never* recommend removal and replacement with new material if repair is possible.

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 Genessee 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 alterative, 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

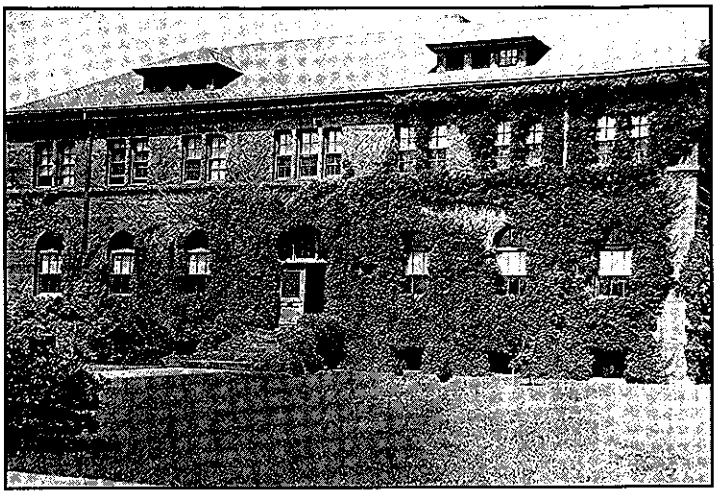
This Central Park playground had become deteriorated over time. Rather than replace the structures with standard apparatus from a catalog, the new play structures--made of traditional materials--are compatible with the park's historic character. (Central Park Conservancy)

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

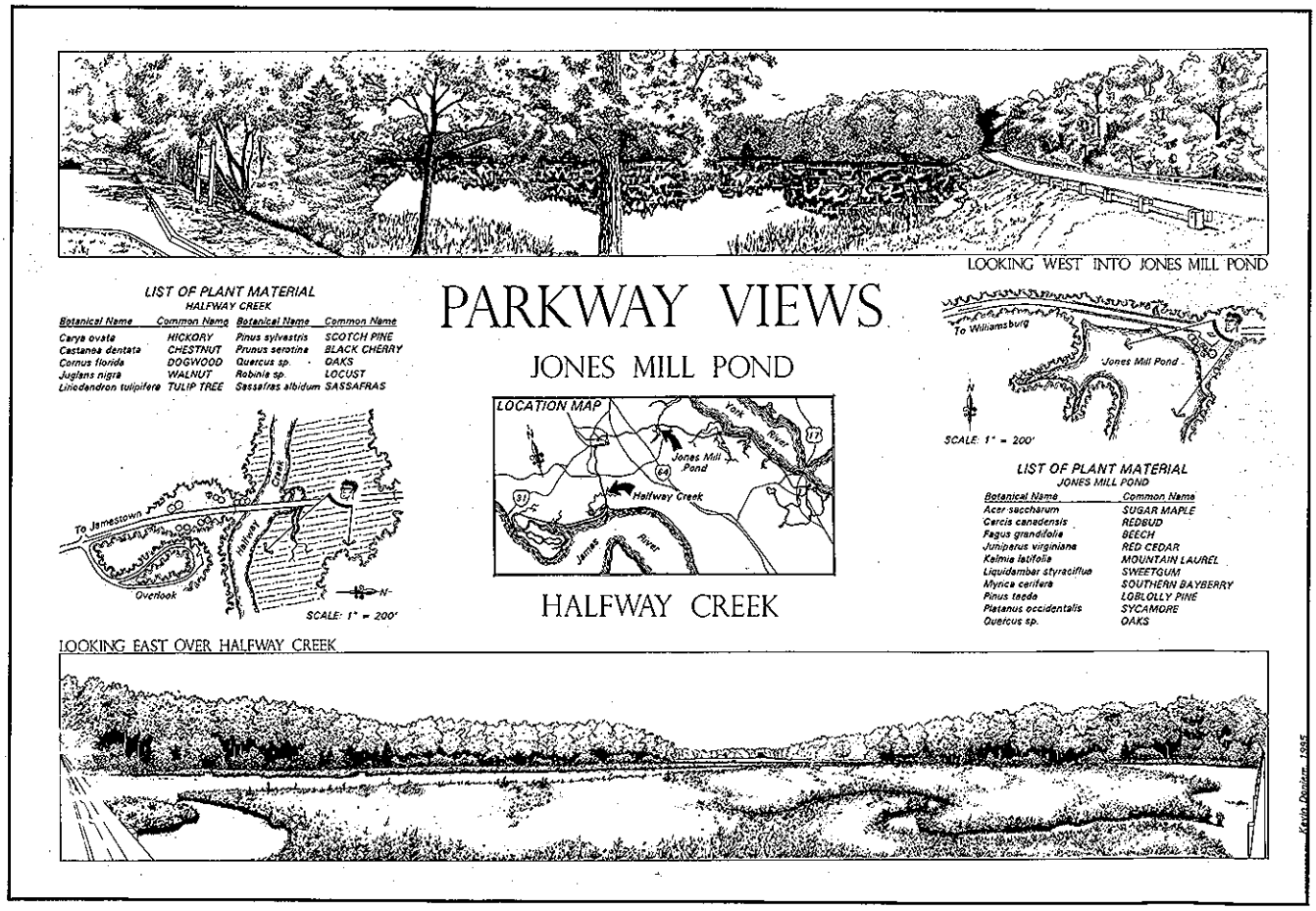
Undertaking project work without understanding the effect on existing spatial organization and land patterns. For example, constructing a structure that creates new spatial divisions or not researching an agricultural property's development history.

Protect and Maintain Historic Features and Materials

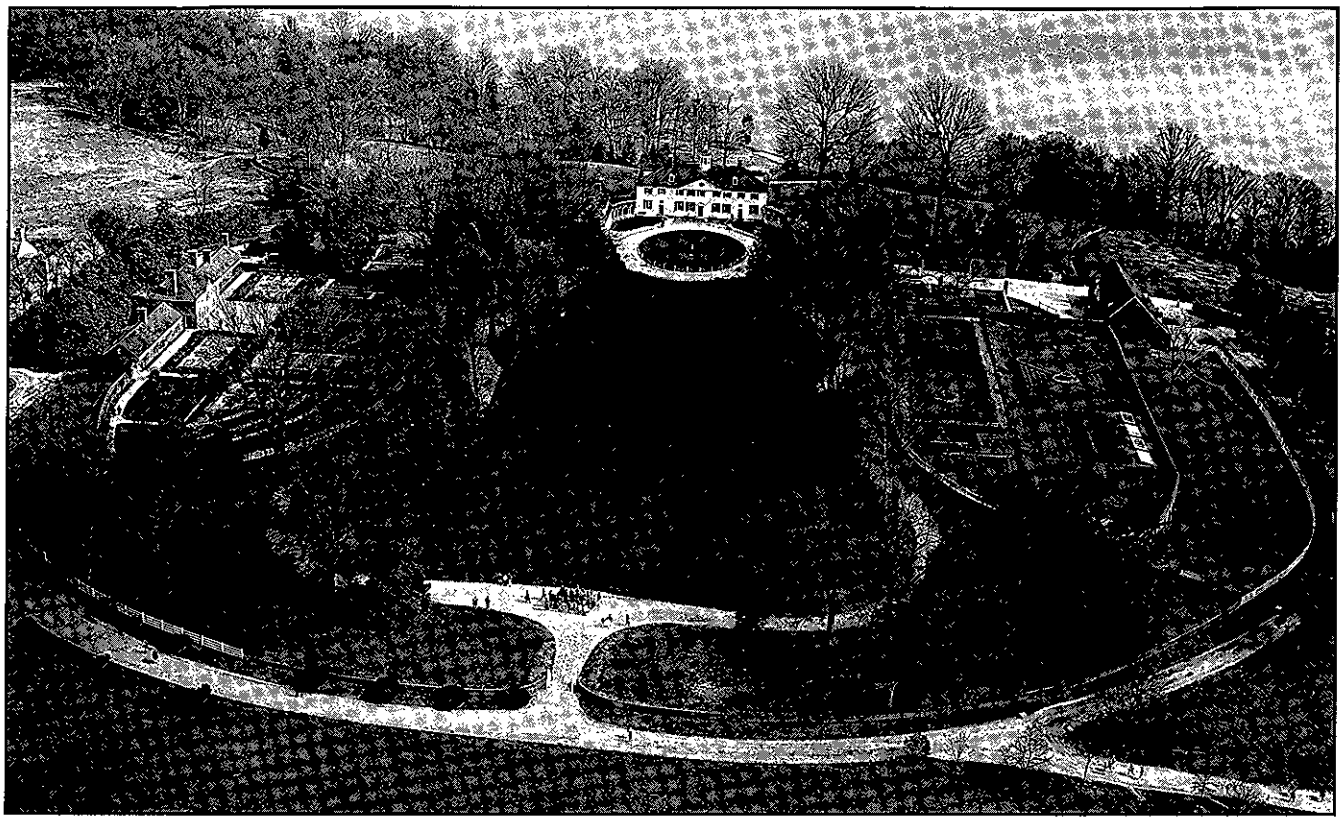
Protecting and maintaining features that define spatial organization and land patterns by non-destructive methods in daily, seasonal and cyclical tasks. For example, maintaining topography, vegetation, and structures which comprise the overall pattern of the cultural landscape.

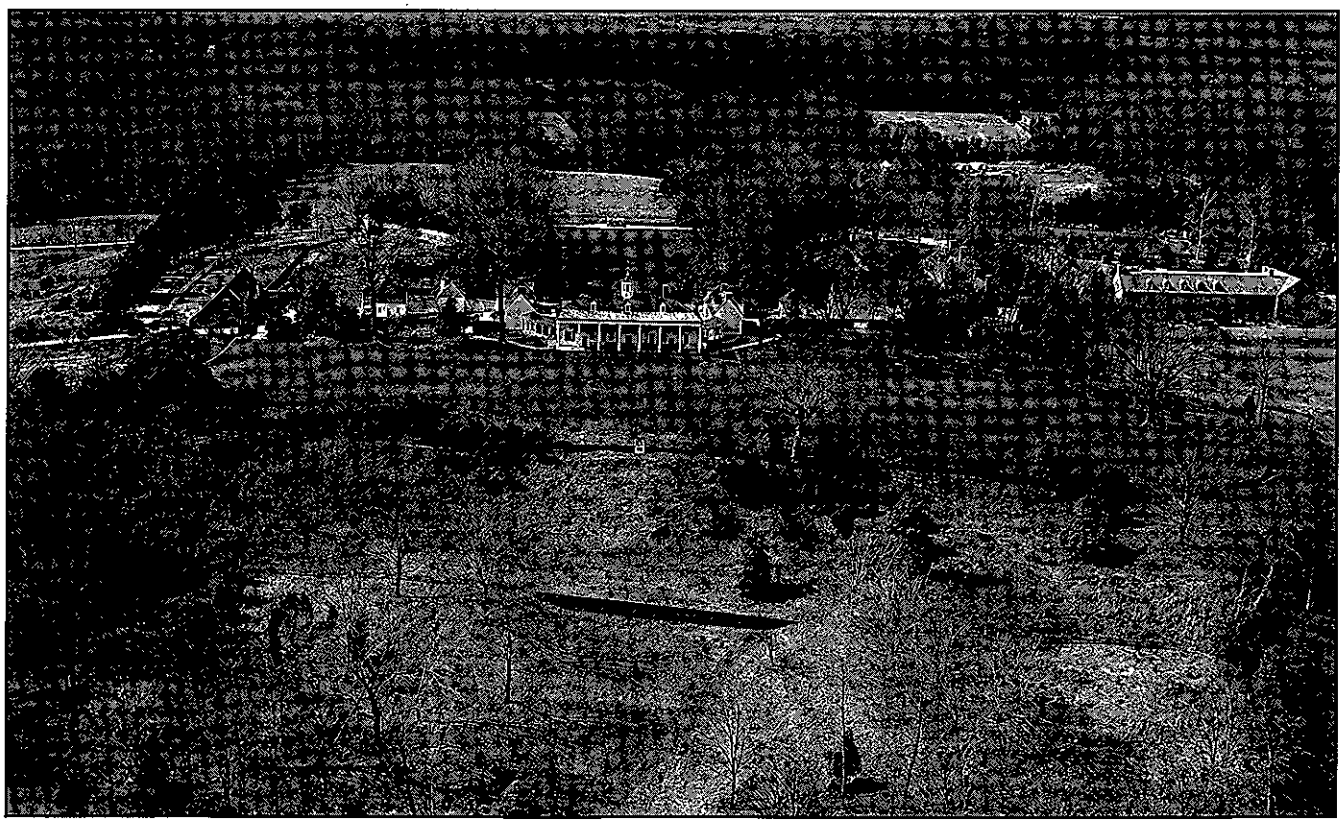
Allowing spatial organization and land patterns to be altered through incompatible development or neglect.

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)





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.

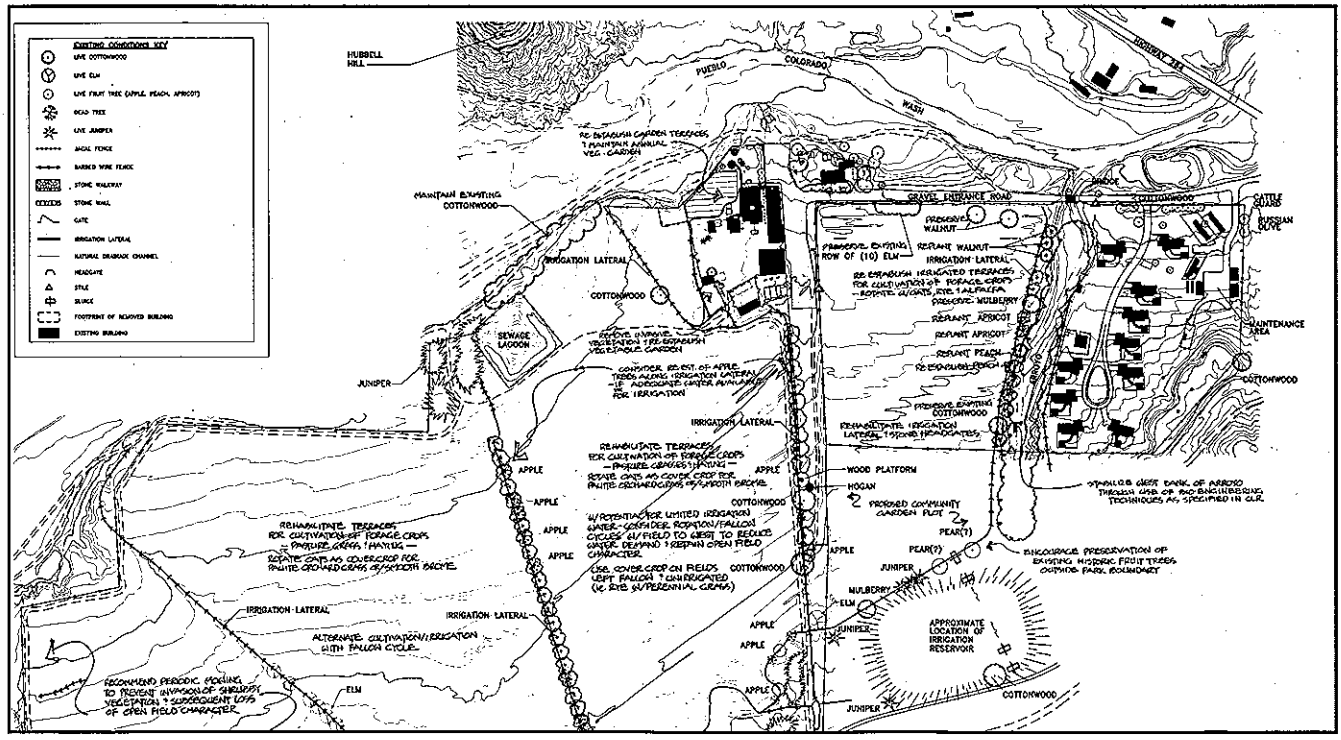
Removing a feature that is beyond repair and not replacing it; or, replacing it with a new feature that does not respect the spatial organization and land patterns.

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.

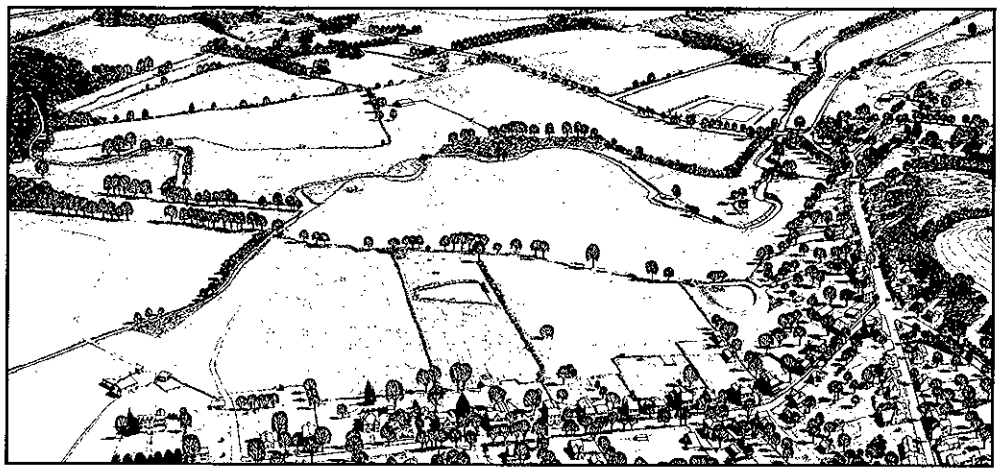
Removing non significant features which detract from or have altered the spatial organization and land patterns.

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.

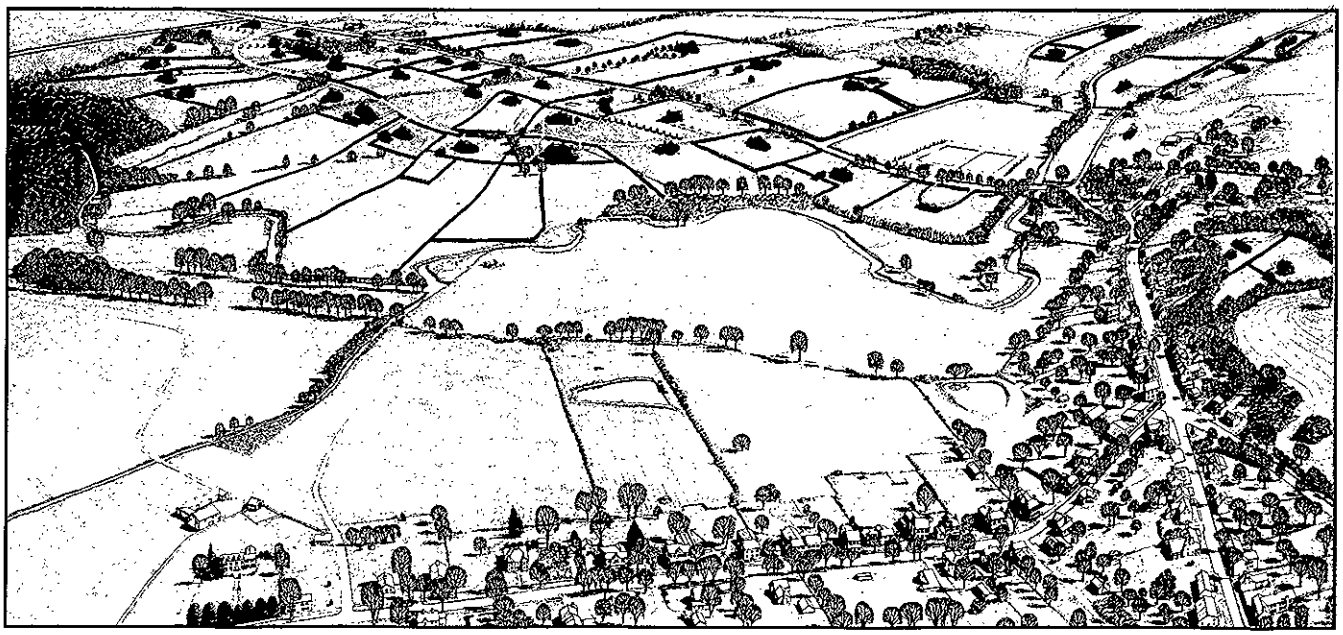
Placing a new feature where it may cause damage to, or be intrusive in spatial organization and land patterns. For example, inserting a new visitors center that blocks or alters a historic view or vista.

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

Removing 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)



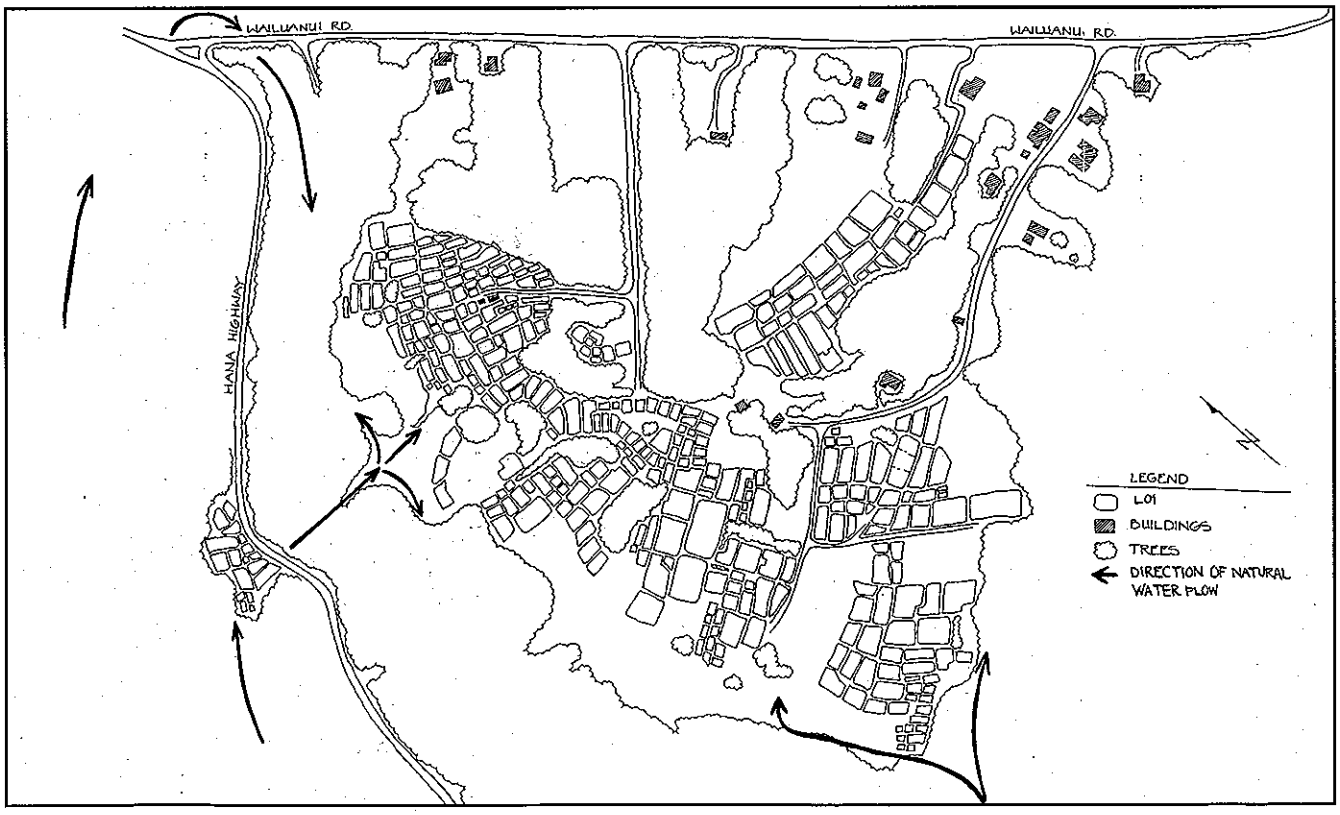
TOPOGRAPHY

Identify, Retain, and Preserve Historic Features and Materials

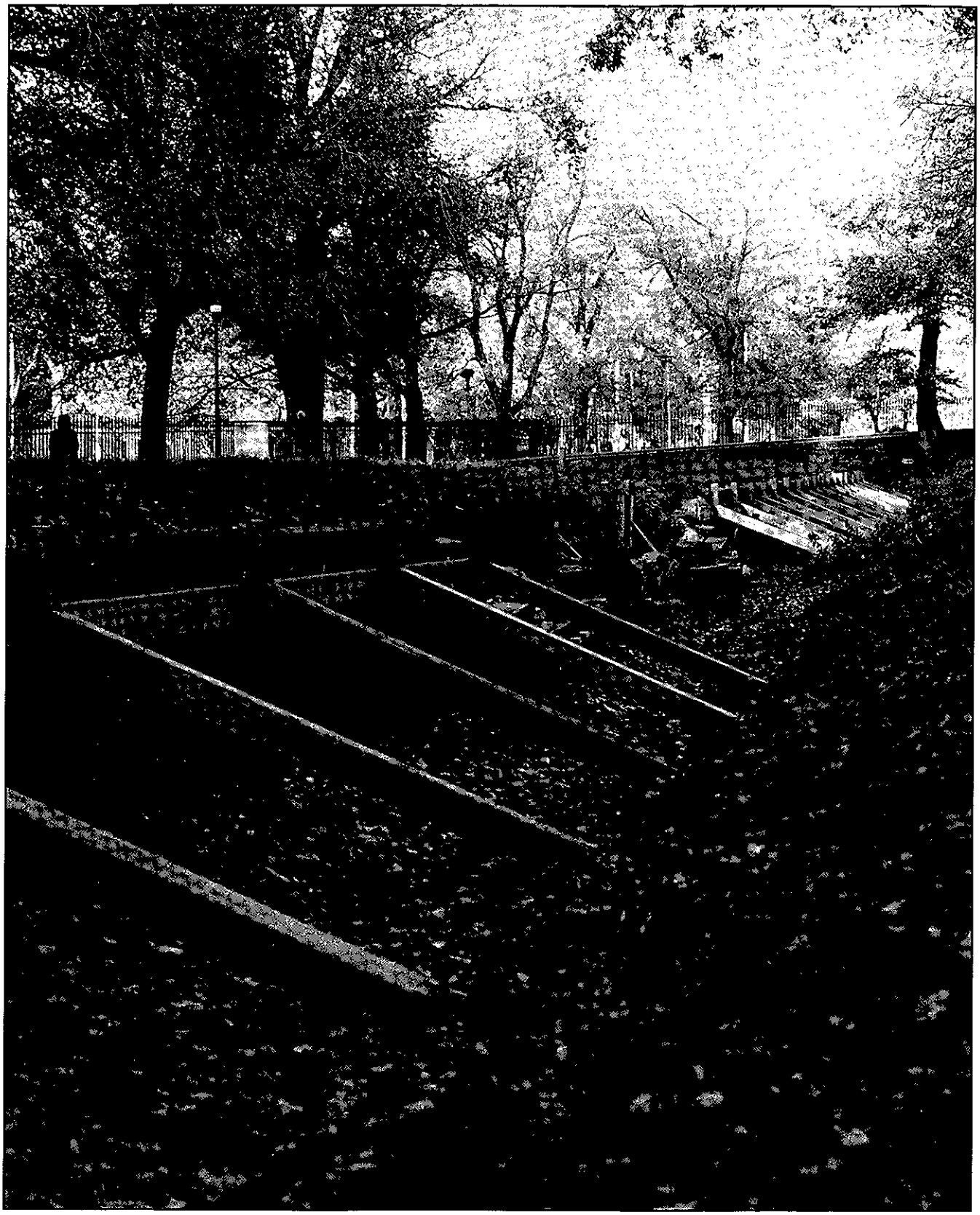
Recommended	Not Recommended
Identifying, retaining and preserving the existing topography. Documenting topographic variation prior to project work, including shape, slope, elevation, aspect, and contour. For example, preparing a topographic survey.	Undertaking project work that impacts topography without undertaking 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.	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 Wailuanui 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.

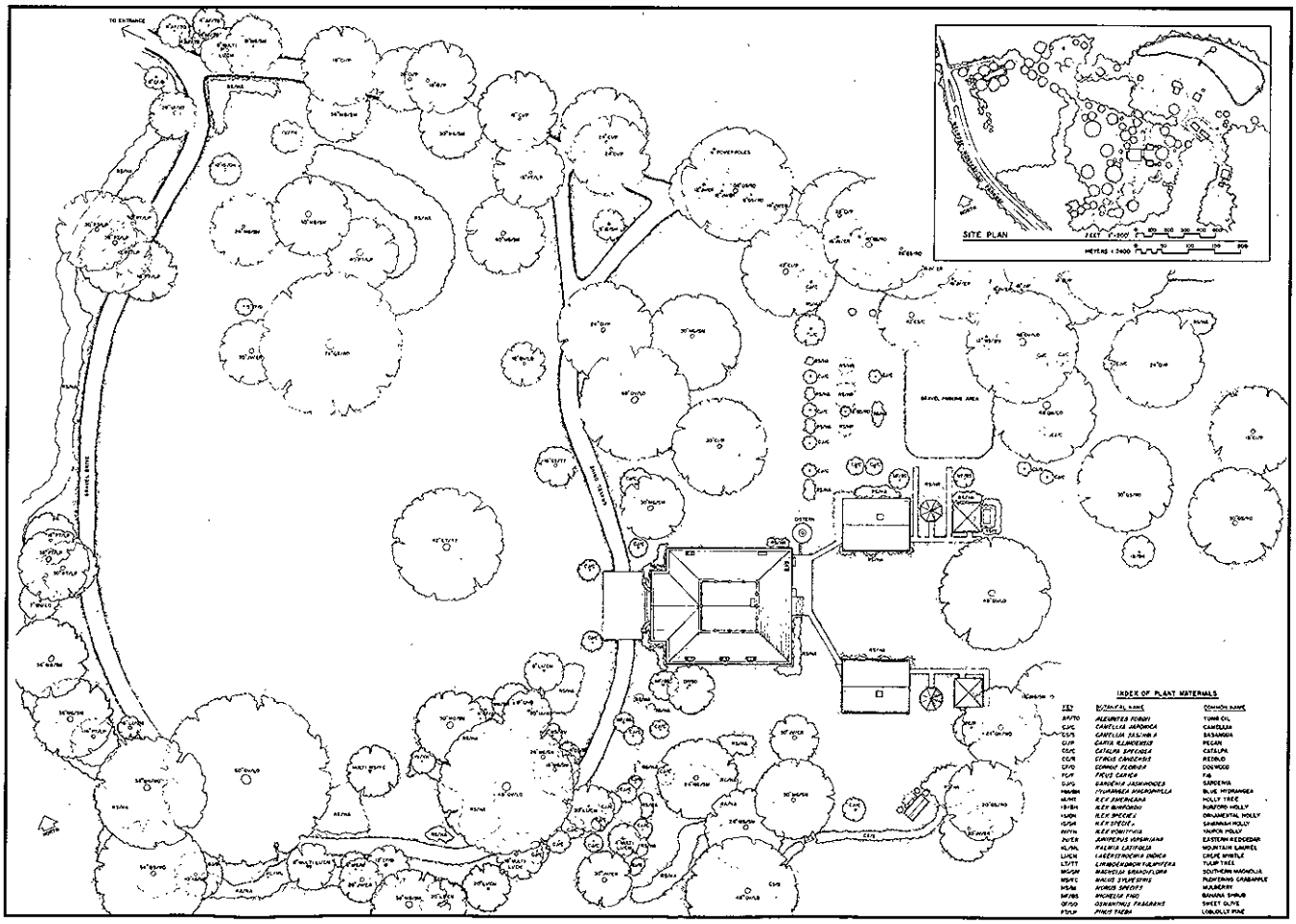
Placing a new feature where it may cause damage, or is incompatible with historic topography. For example, failing to provide proper drainage for a new feature which results in the decline or loss of topographic features.

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	*Not 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.	Undertaking project work that impacts vegetation without executing an existing conditions survey of plant material.
Evaluating the condition and determining the age of vegetation. For example, tree coring to determine age.	Undertaking project work without understanding the significance of vegetation. For example, removing roadside trees for utility installations, or indiscriminate clearing of a woodland understory.
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.	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.

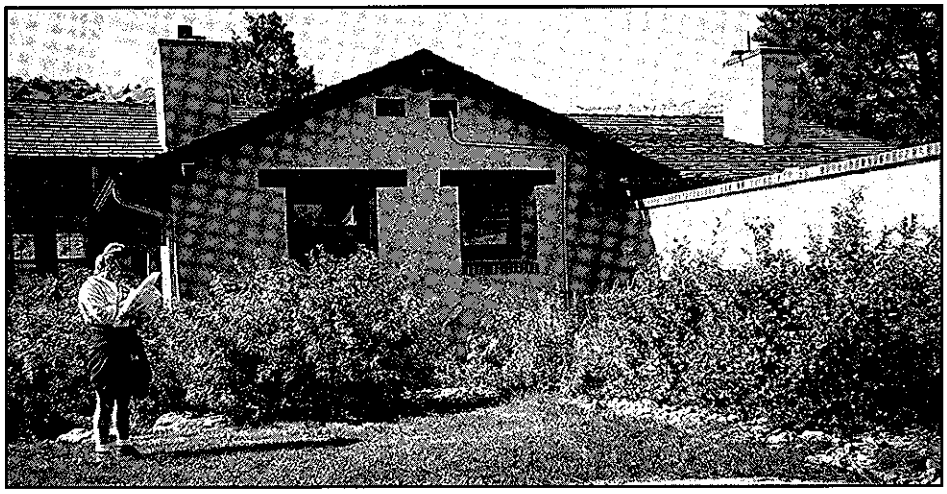
Utilizing historic horticultural and agricultural maintenance practices when those techniques are critical to maintaining the historic character of the vegetation. For example, the manual removal of dead flowers to ensure continuous bloom.

Failing to undertake preventive maintenance of vegetation.

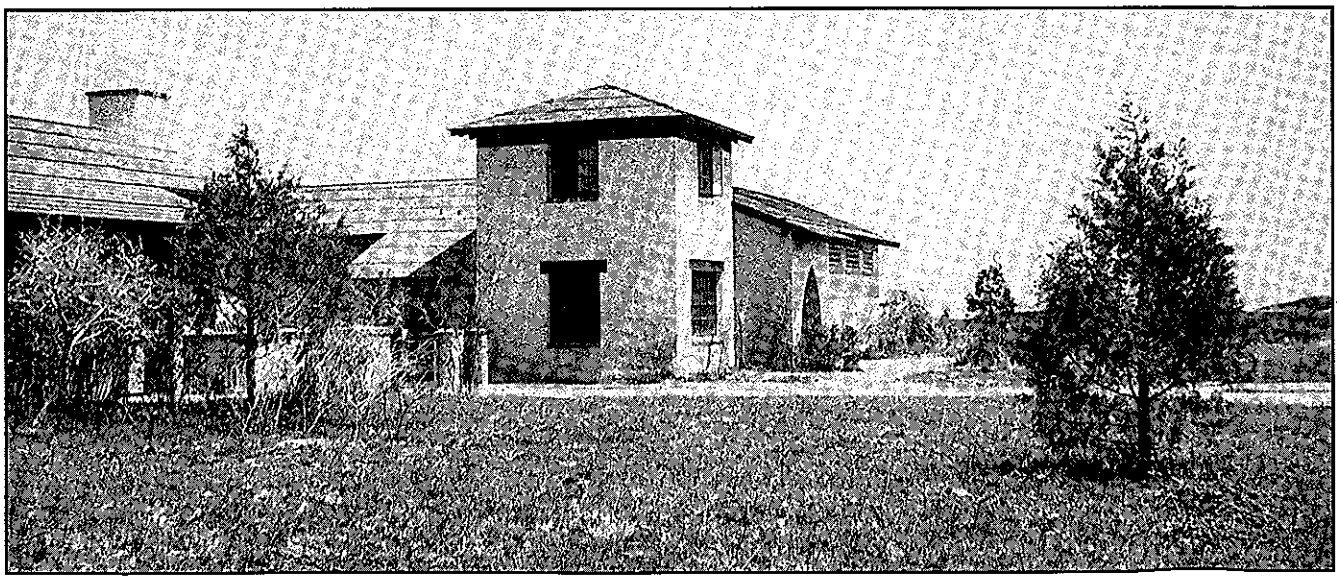
Utilizing maintenance practices and techniques which are harmful to vegetation; for example, over- or under-irrigating.

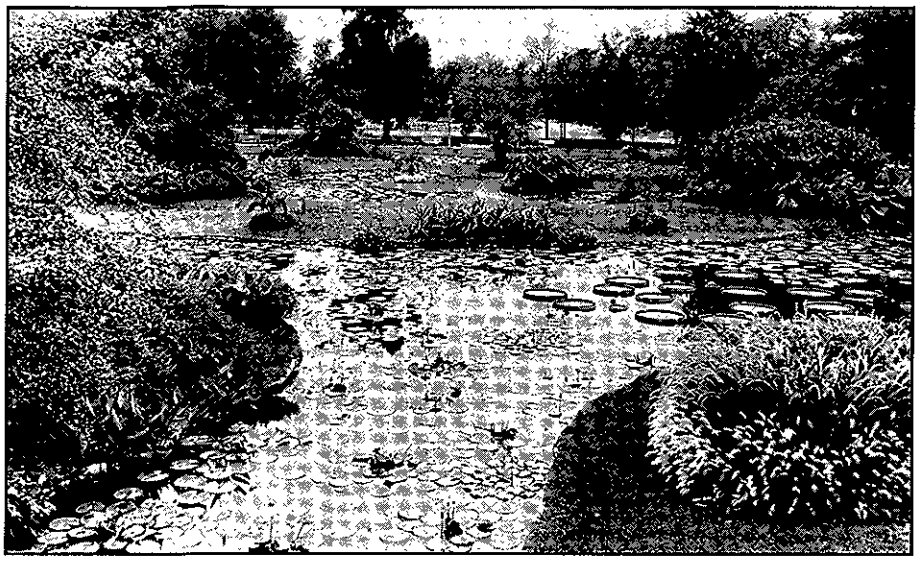
Utilizing maintenance practices and techniques that fail to recognize the uniqueness of individual plant materials. For example, utilizing soil amendments which may alter flower color or, poorly-timed pruning and/or application of insecticide which may alter fruit production.

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 bluegrass 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.

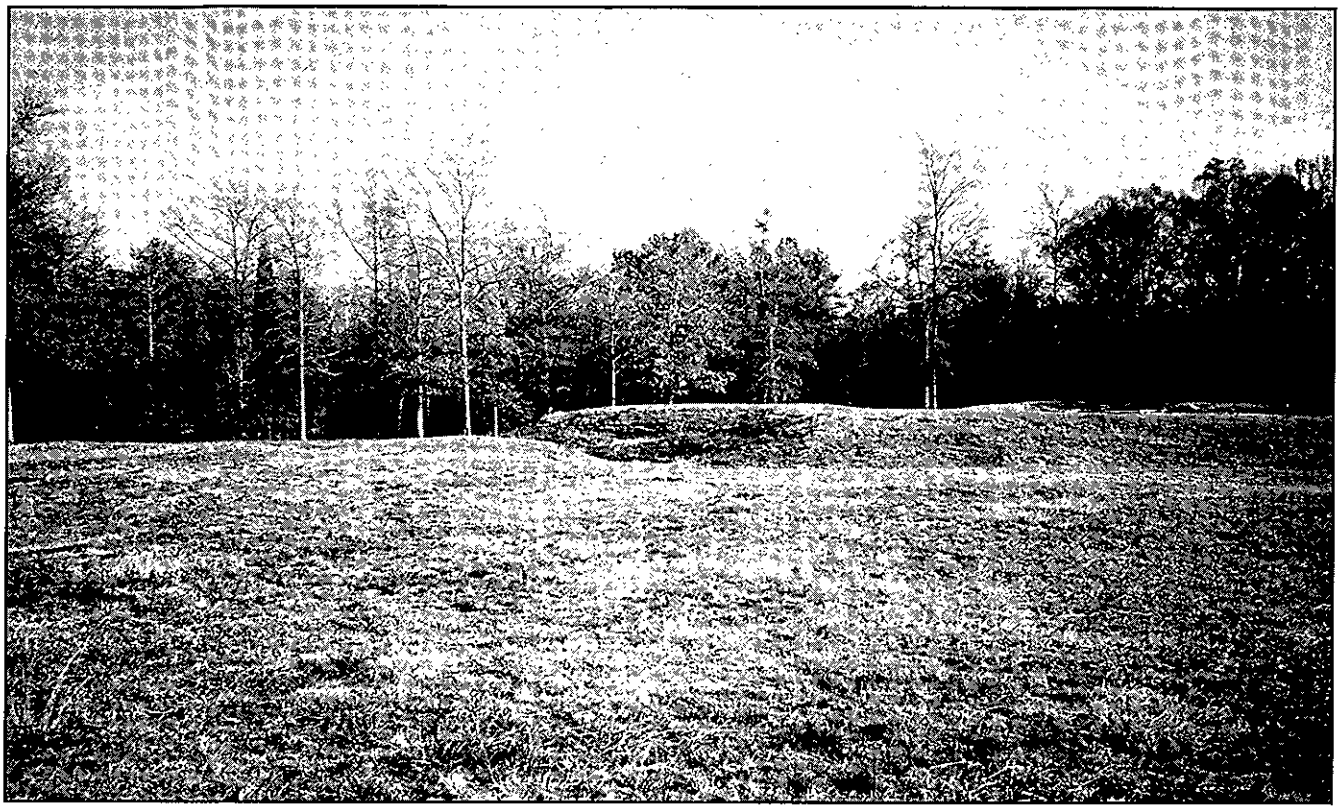
Alterations/Additions for the New Use

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.

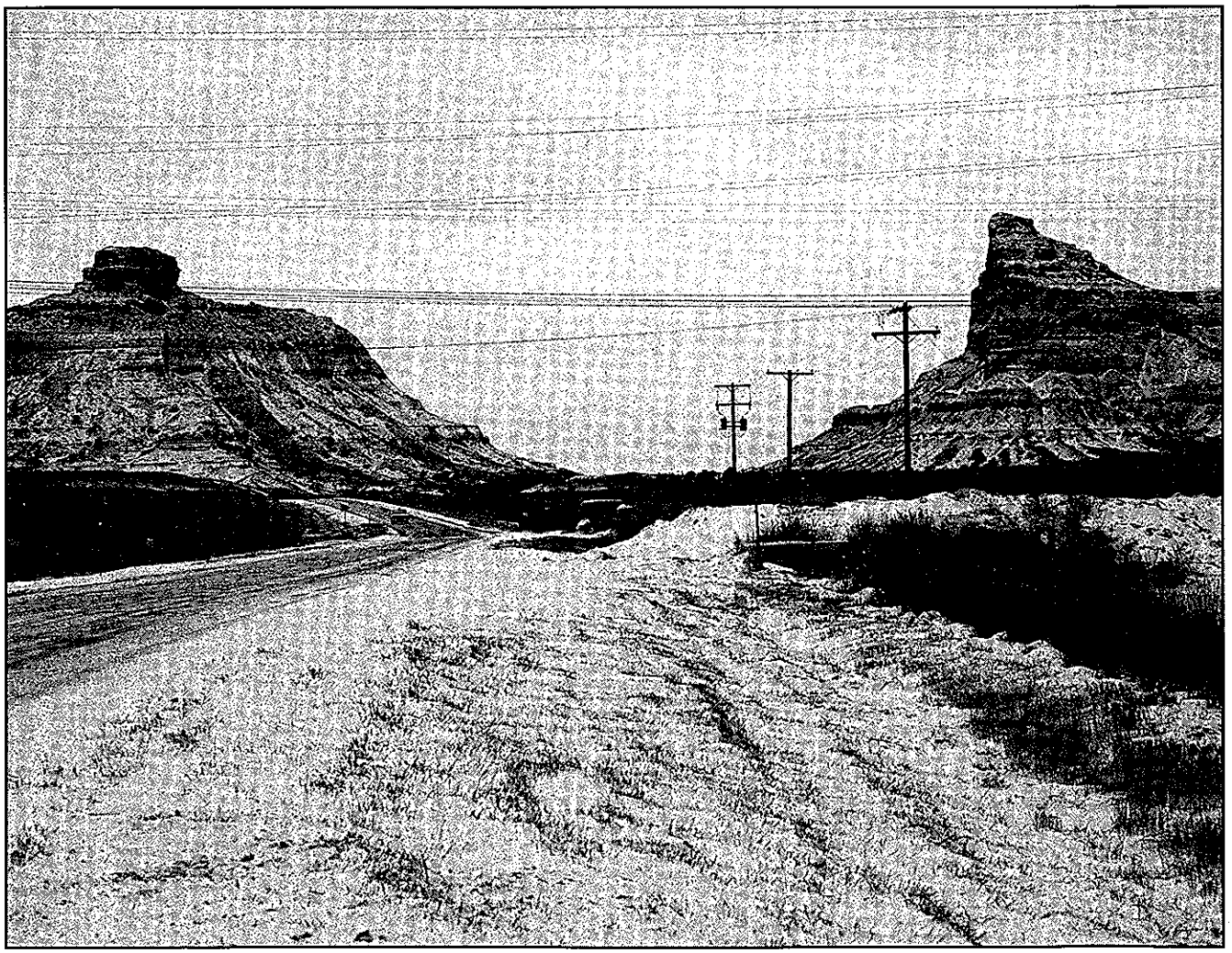
Introducing a new vegetation feature in an appropriate location, which is visually incompatible in terms of its habit, form, color, texture, bloom, fruit, fragrance, scale or context



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	Not 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.	Executing project work that impacts circulation systems without undertaking an existing conditions survey.
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.	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 allow 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.

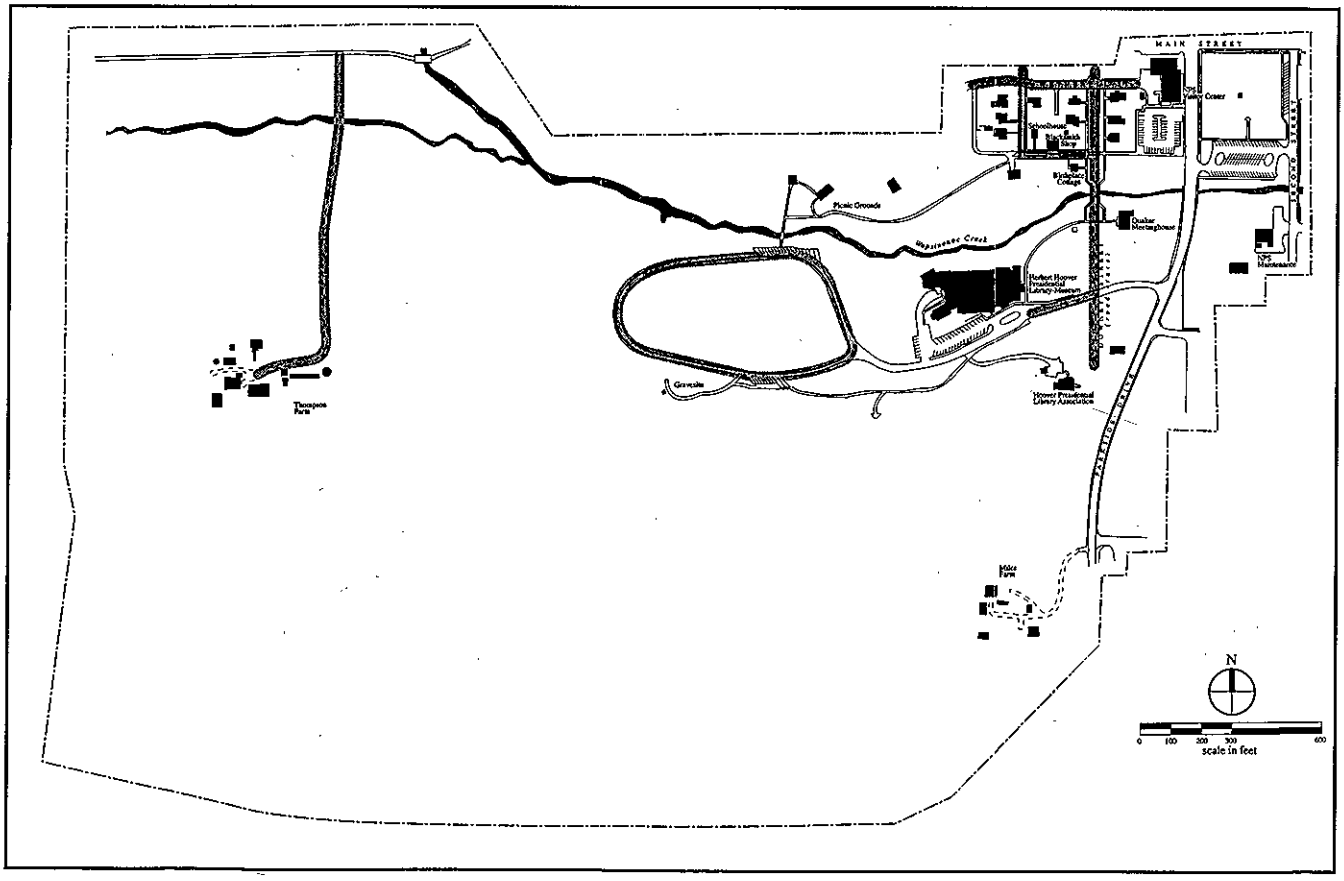
Using materials such as salts and chemicals, that can hasten the deterioration of surface treatments.

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

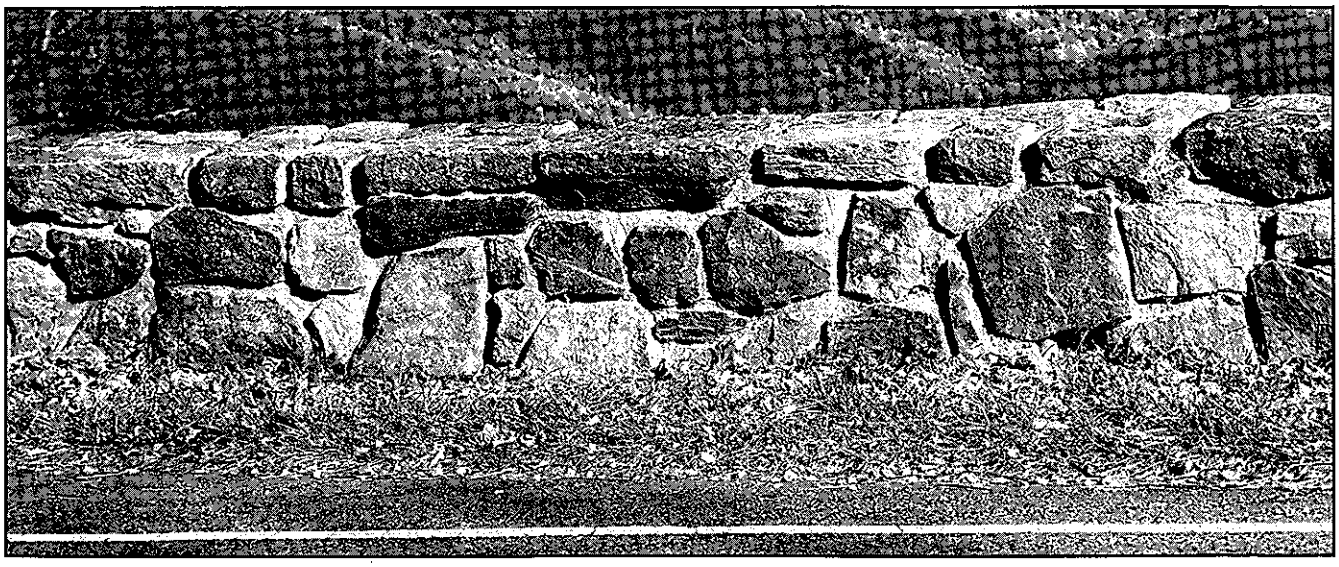
Repairing surface treatment, materials and edges. For example, by applying a traditional material to a stabilized subsurface base or patching a canal corridor retaining wall.

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.

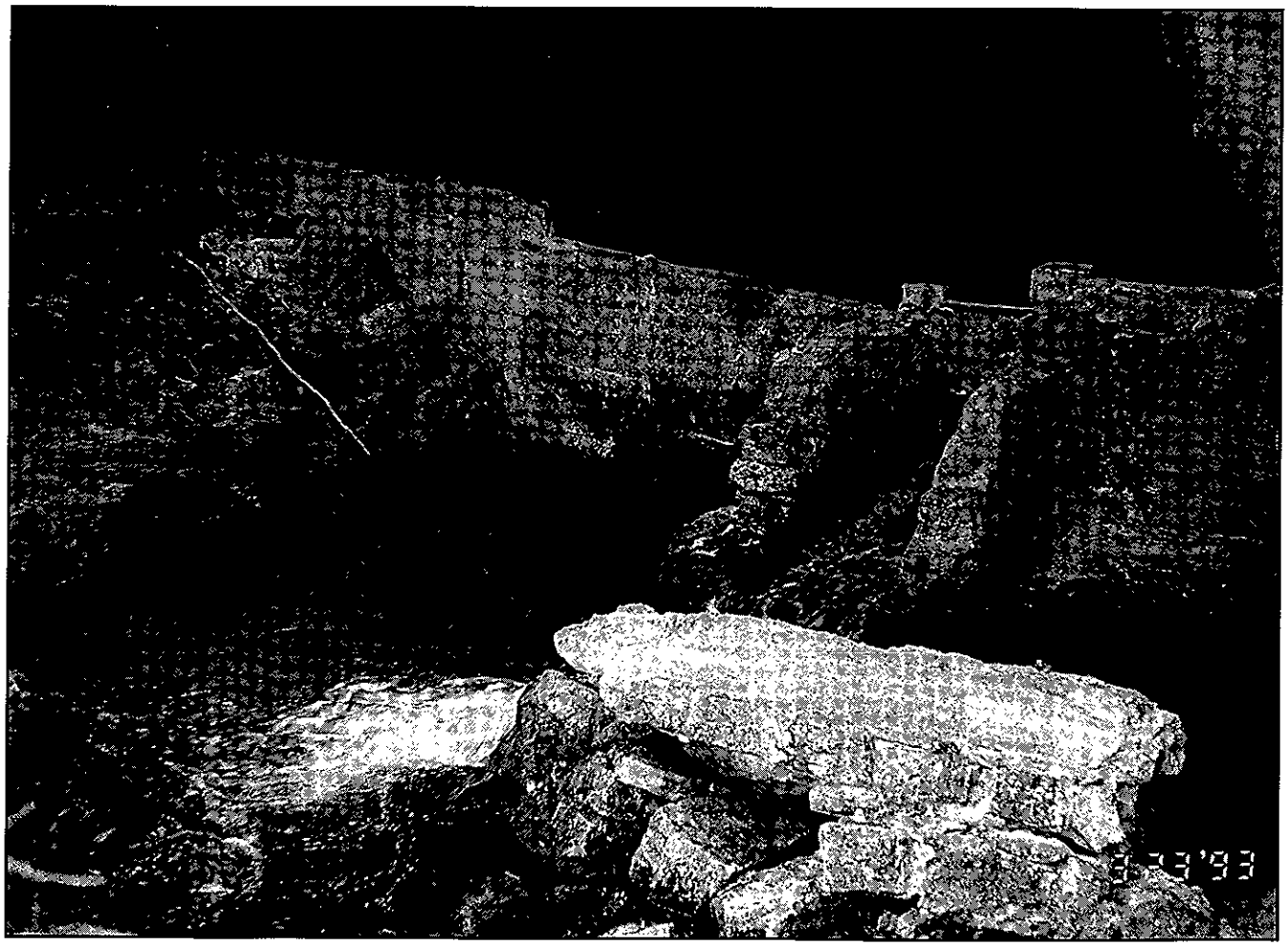
Locating any new circulation feature in such a way that it detracts from or alters the historic circulation pattern.For example, installing a new bike path when an existing historic path can accommodate the new use.

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.

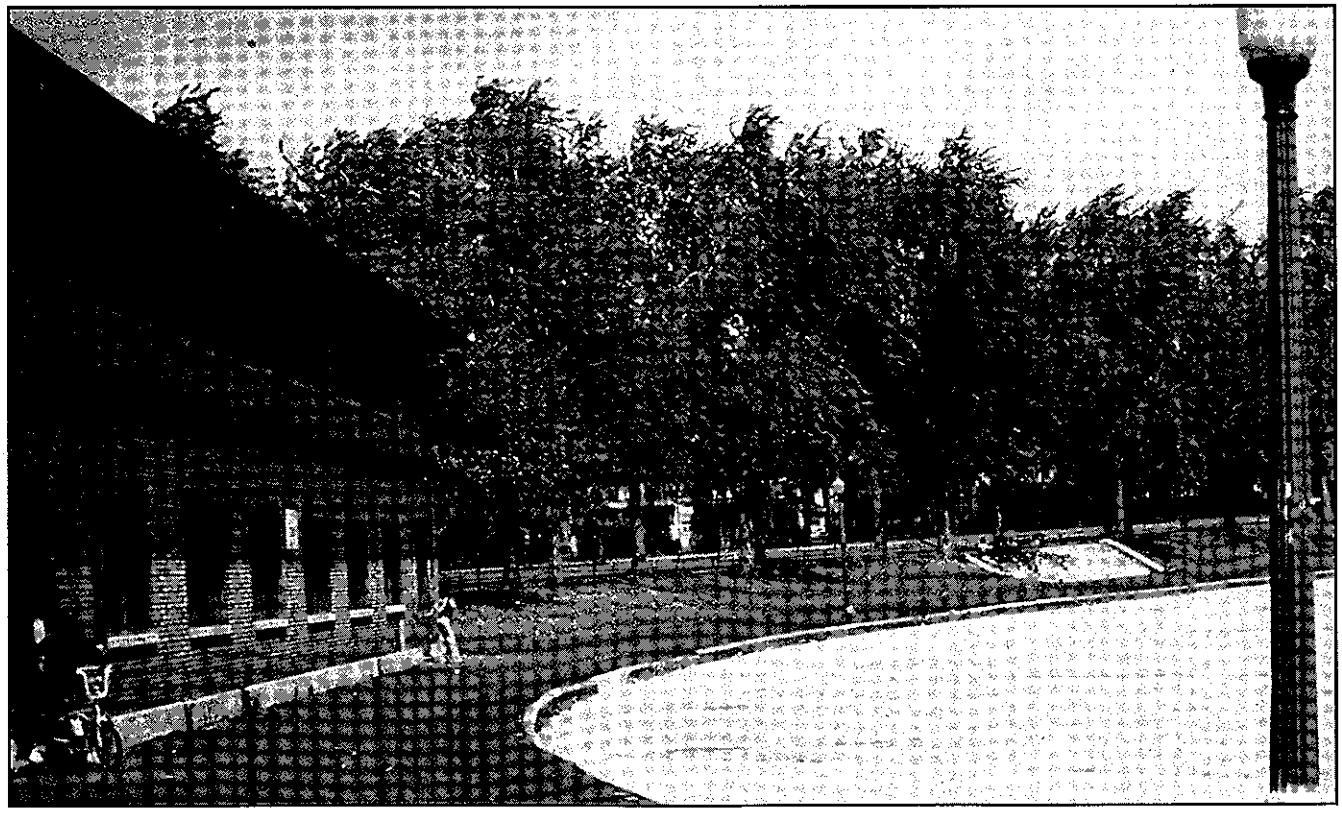
To provide access to the historic earthworks at the Stones River National Battlefield in Murfreesboro, Tennessee, an interpretive boardwalk was installed [preceding page and above] to allow visitors access to the resources while protecting the earthworks themselves. (courtesy NPS)

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

Recommended	Not 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.	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.
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.	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.

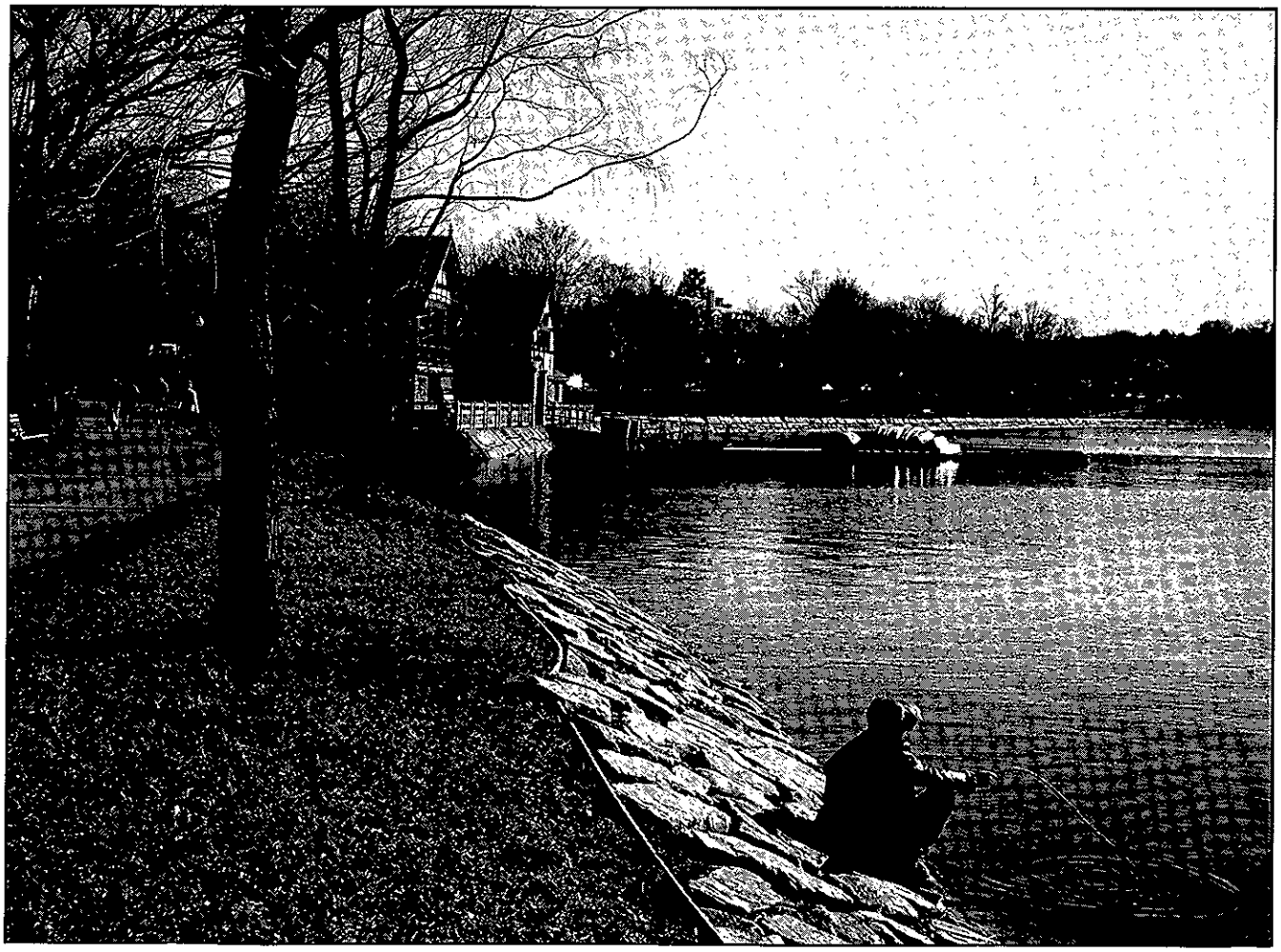
Utilizing maintenance methods which destroy or degrade water features, for example, the use of harsh chemical additives for maintaining water quality.

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

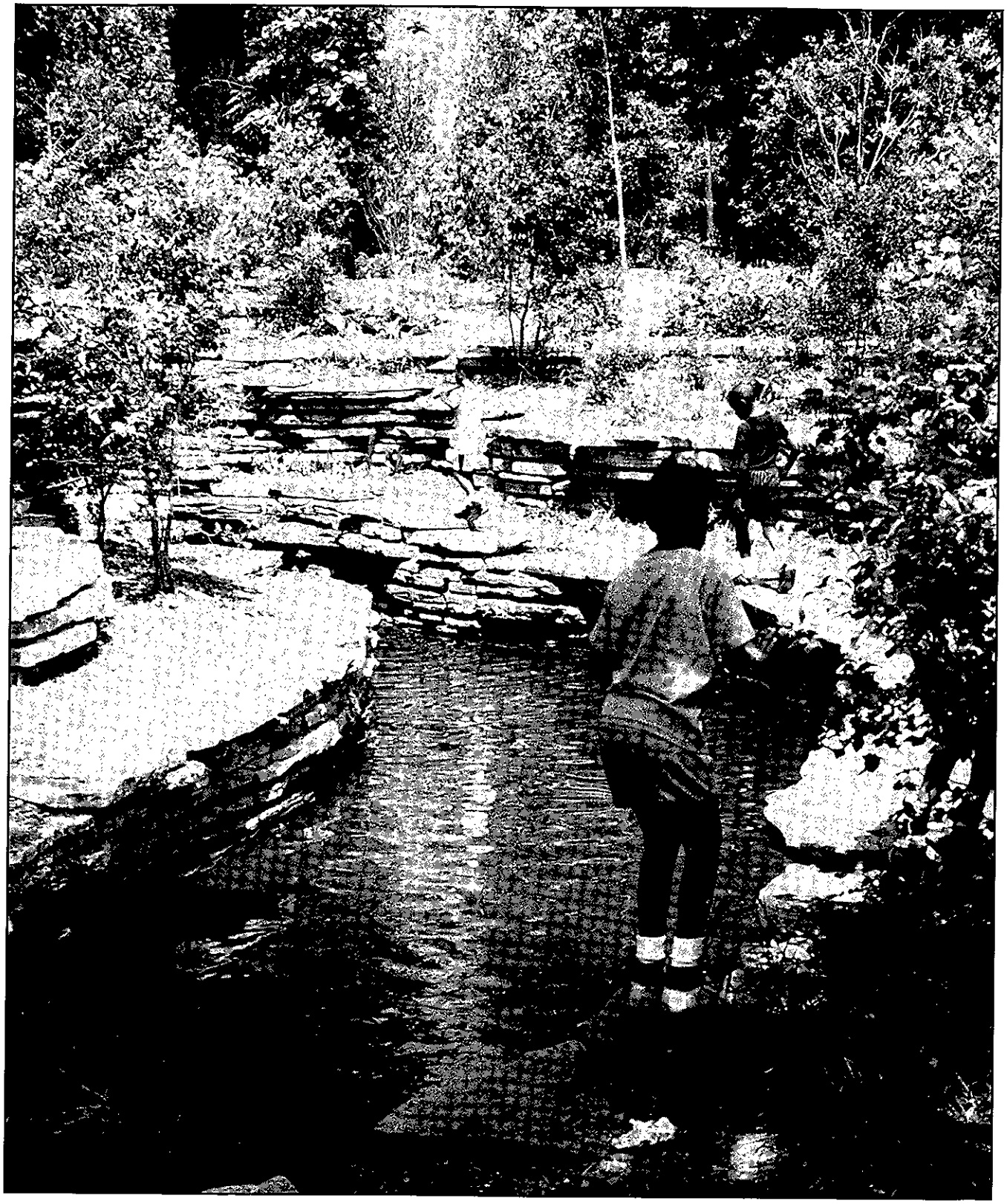
Removing a water feature that is unrepairable and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, replacing a single orifice nozzle with a spray nozzle, thus changing the fountain's historic character from a singular stem of water to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

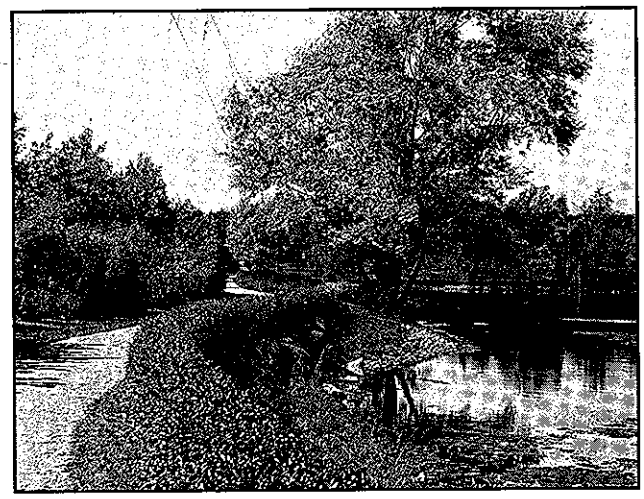
Alterations/Additions for the New Use

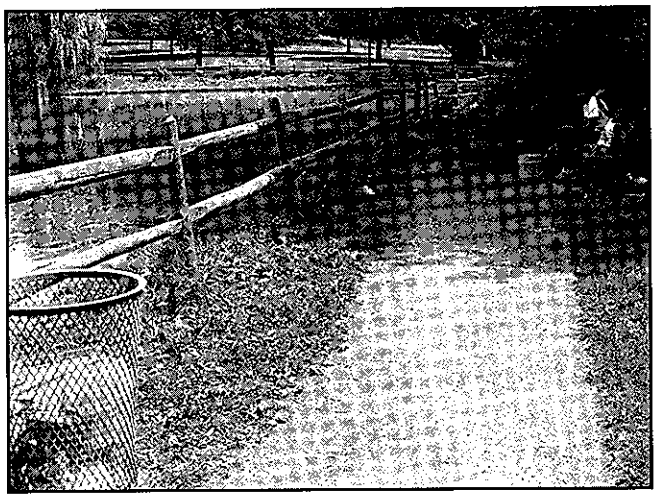
Designing and installing a compatible new water feature when required by the new use to assure the preservation of historic character of the landscape. For example, siting a new retention basin in a secondary, or non-significant space in the cultural landscape.

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.

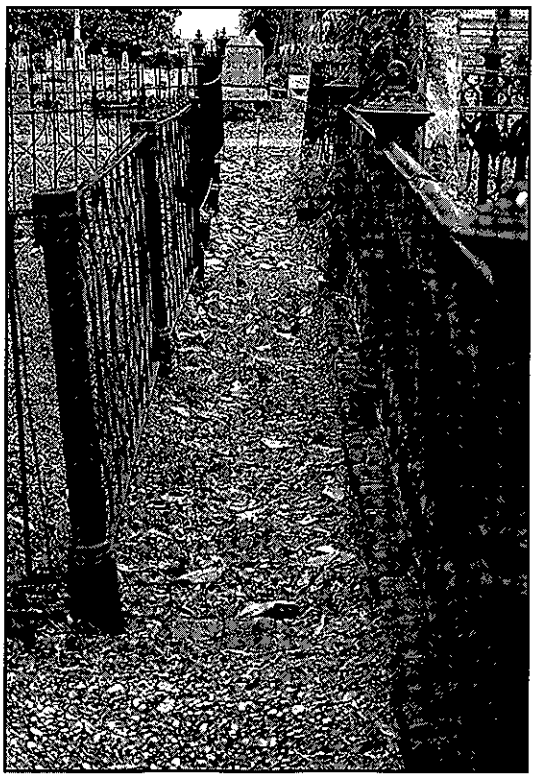


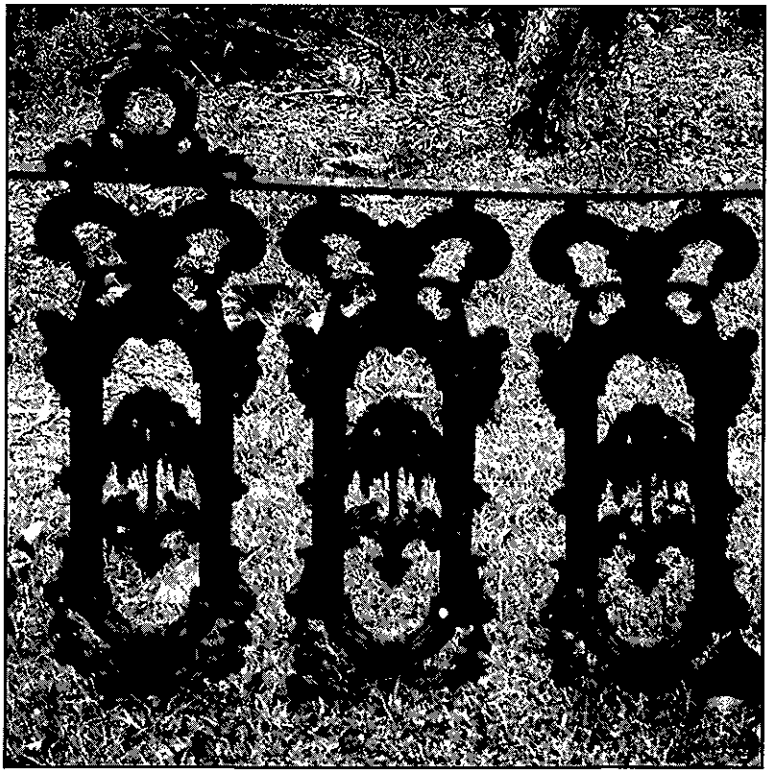


The Polly Pond in Downing Park in Newburgh, New York, had lost its historic shape over time through various reconfigurations. [top right] The pond also suffered from declining water quality and siltation. As part of a rehabilitation project, the water feature was reconfigured to better reflect its historic 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	*Not 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.	Undertaking project work that impacts buildings, structures, furnishings, and objects without executing an "existing conditions" survey.
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.	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.
Retaining the historic relationships between the landscape and its buildings, structures, furnishings and objects.	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.

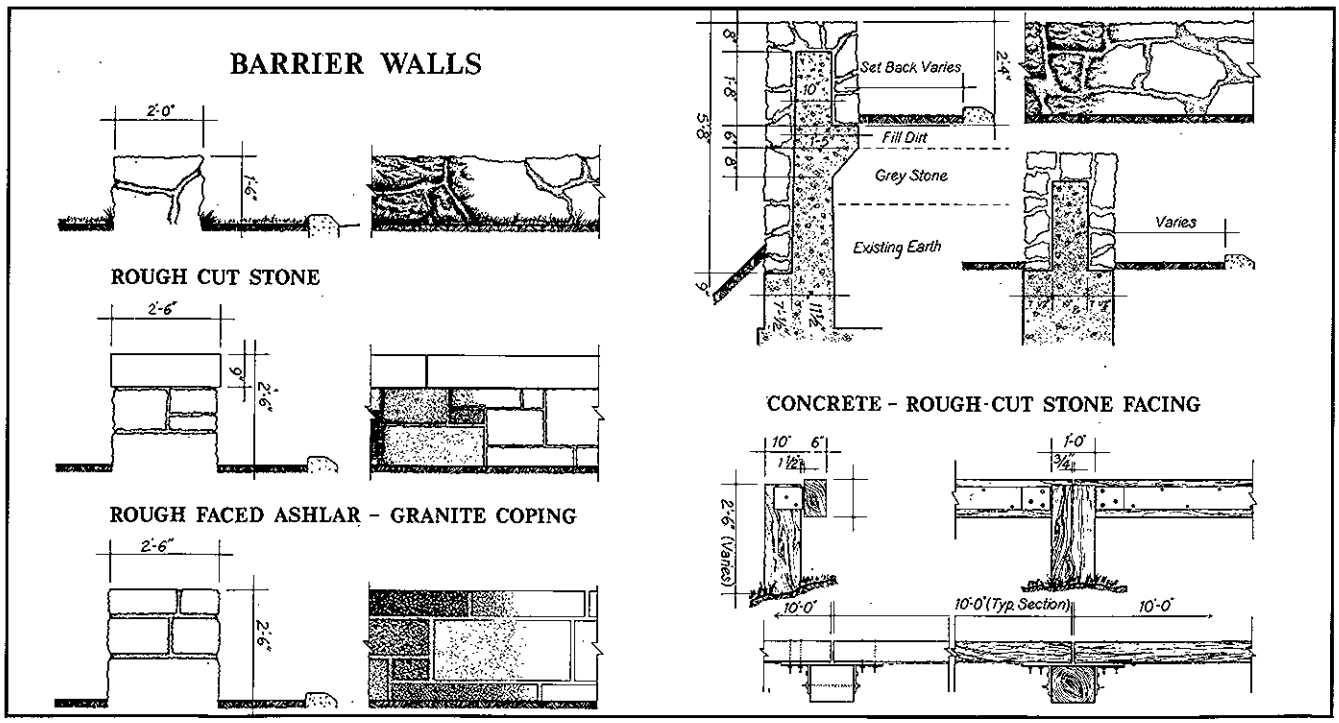
Removing a structure, furnishing, or object that is deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, removing a wooden rustic footbridge and replacing it with a concrete bridge.

Design for the Replacement of Missing Historic Features

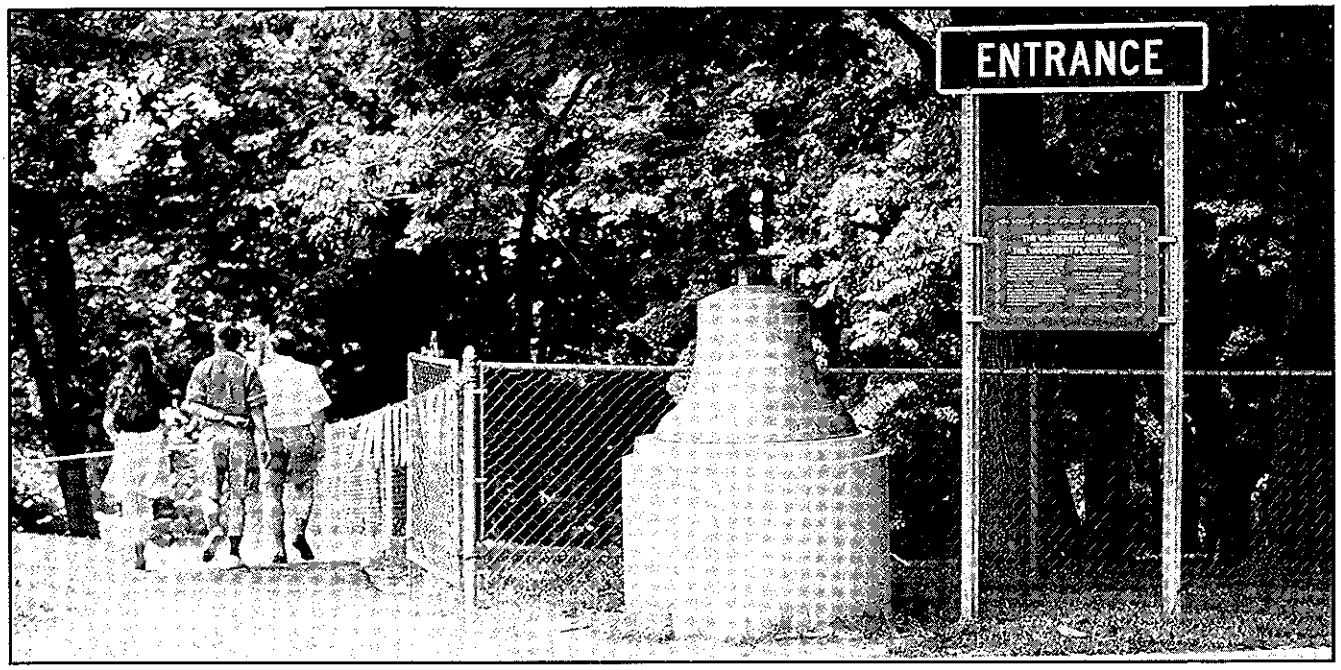
Designing and installing new structures, furnishings and objects when the historic features are missing. It may be an accurate restoration using historical, pictorial and physical documentation; or be a new design that is compatible with the historic character of the landscape. For example, replacing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

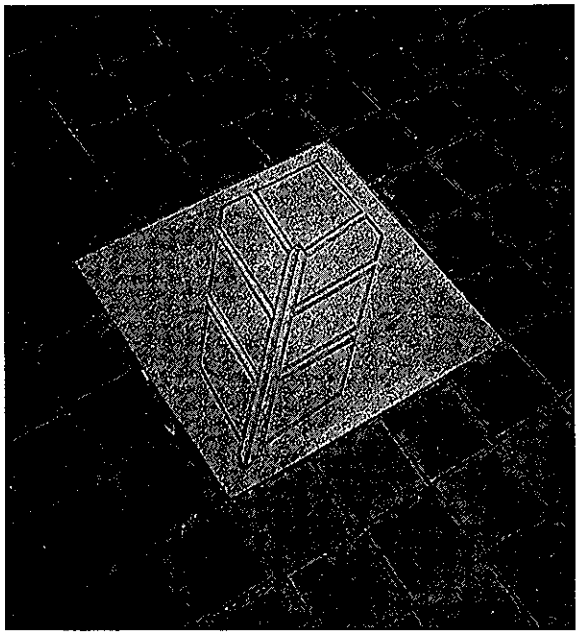
Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

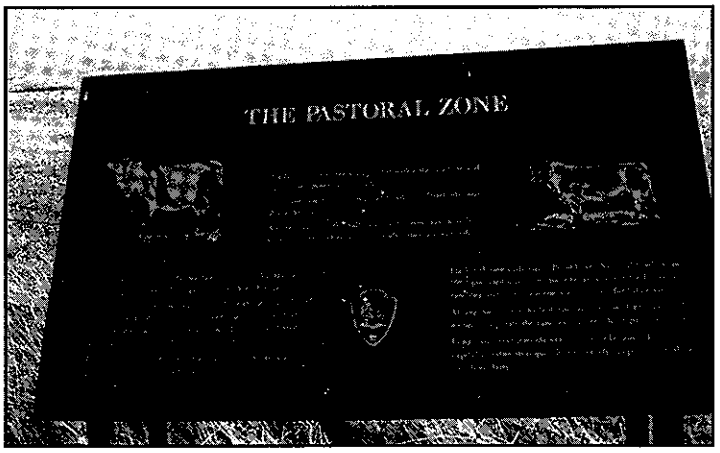
Introducing a new design that is incompatible with the historic character of the landscape. For example, replacing a lost wooden fence with chain link fence.

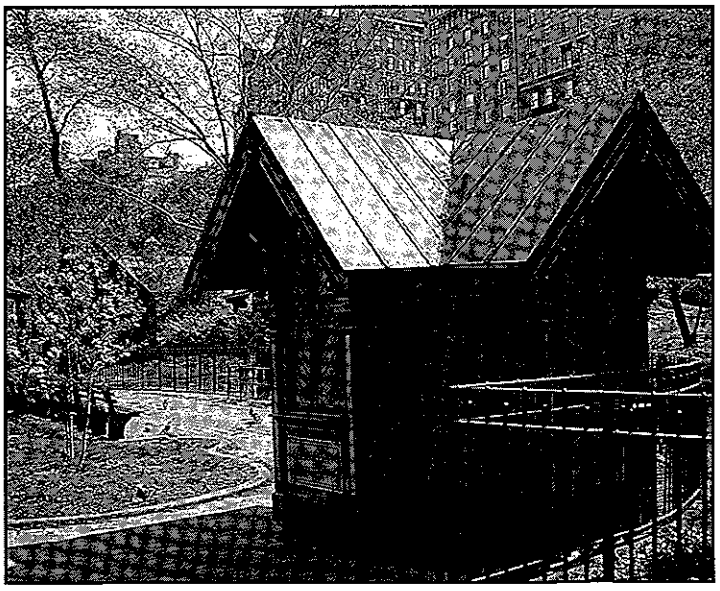


All parkway furnishings along the George Washington Parkway were inventoried prior to rehabilitation work. The parkway, which spans over forty years of construction between 1929 and 1970, includes a variety of construction techniques for its barrier walls. These construction details are now being utilized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

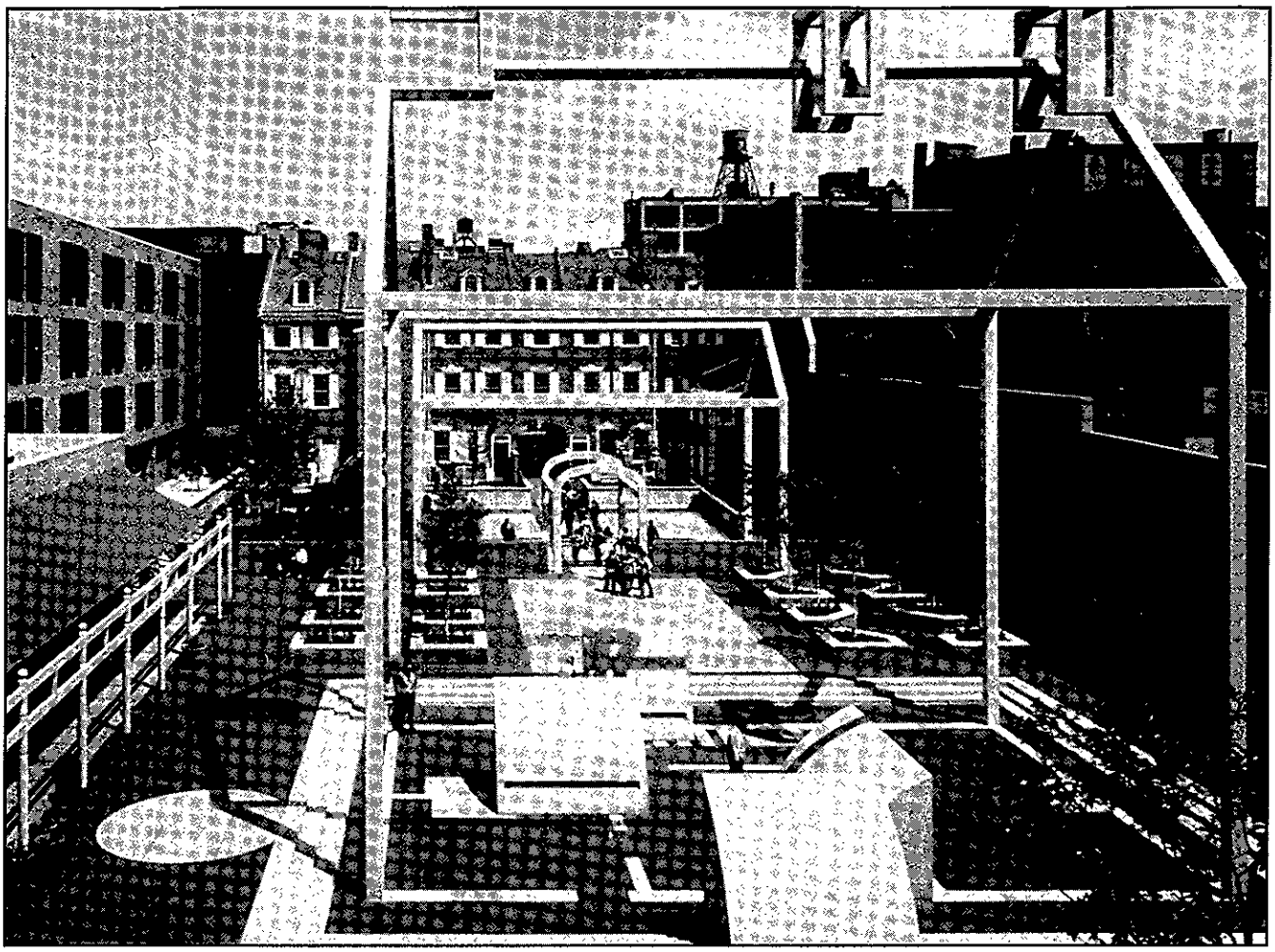


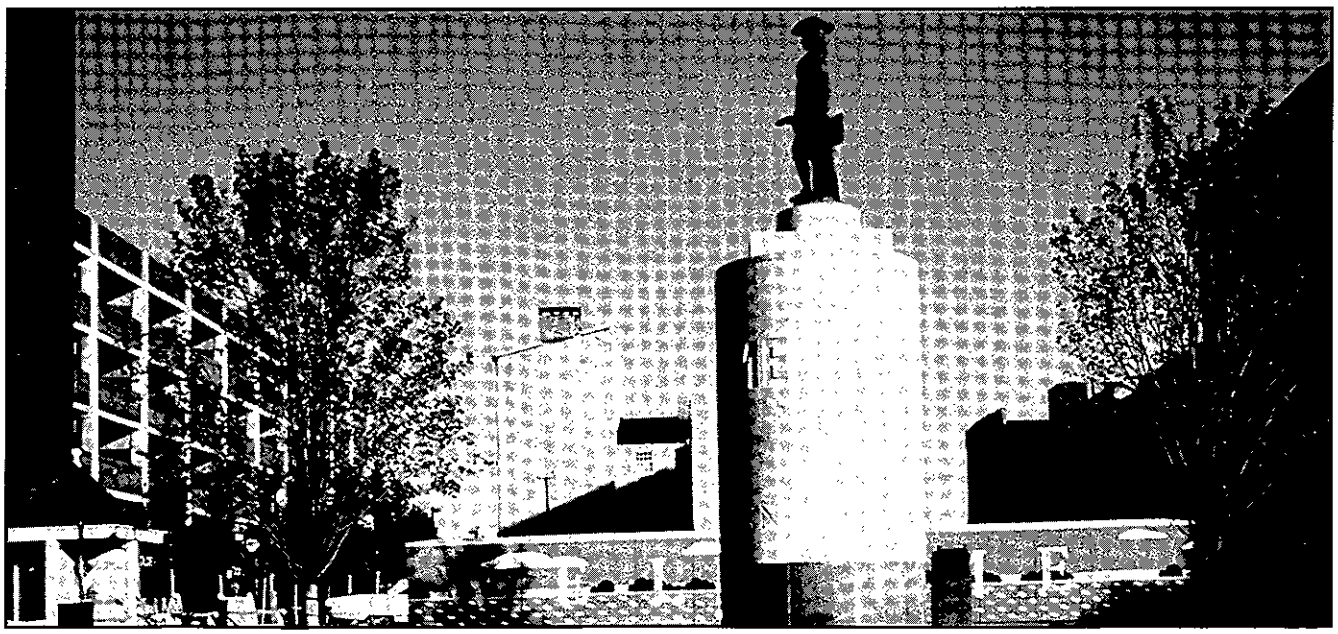






The siting and treatment of furnishings should always be carefully considered. Here at "Eagle's Nest," the Vanderbilt estate in Centerport, Long Island [top], the visitor's first impression consists of randomly sited feces, objects and signage. As illustrated by this "not recommended" example, not all 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].





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.

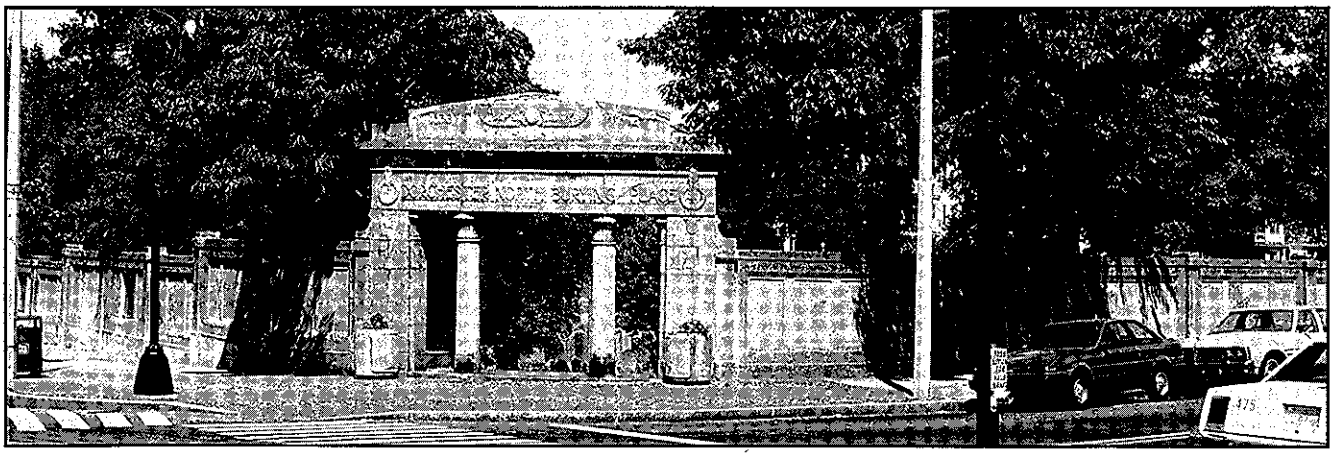
Alterations/Additions for the New Use

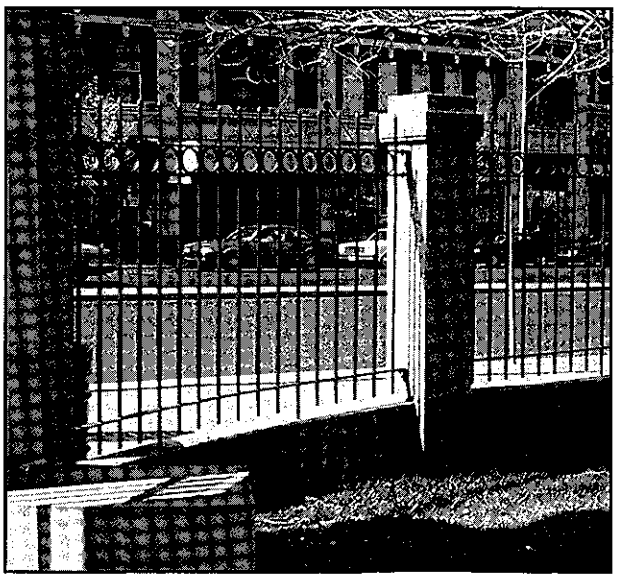
Designing and installing a new structure, furnishing or object when required by the new use, which is compatible with the preservation of the historic character of the landscape. For example, constructing a new farm outbuilding utilizing traditional building materials or installing appropriately scaled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

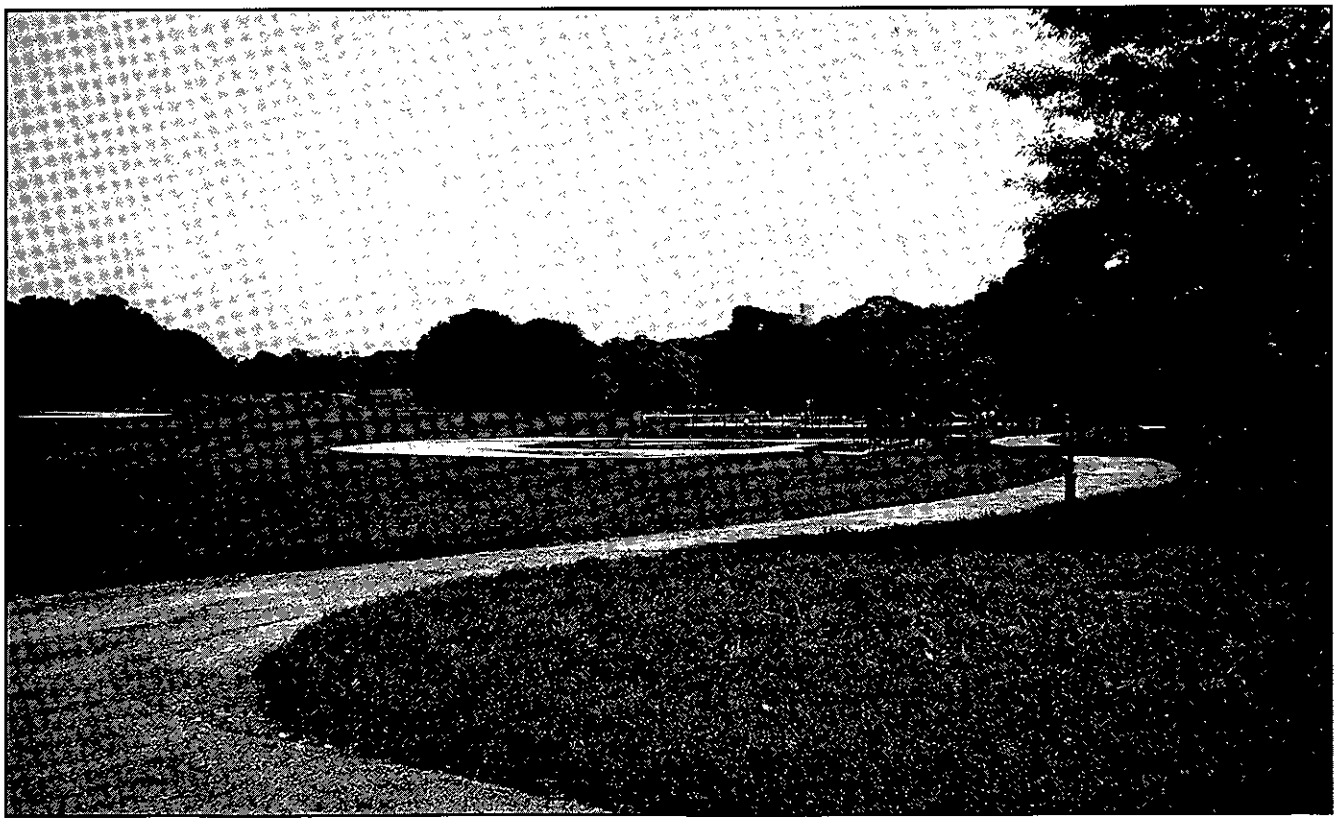
Locating any new structure, furnishing or object in such a way that it detracts from or alters the historic character of the landscape. For example, installing a "period" gazebo that was never present in the cultural landscape.

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.

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

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.

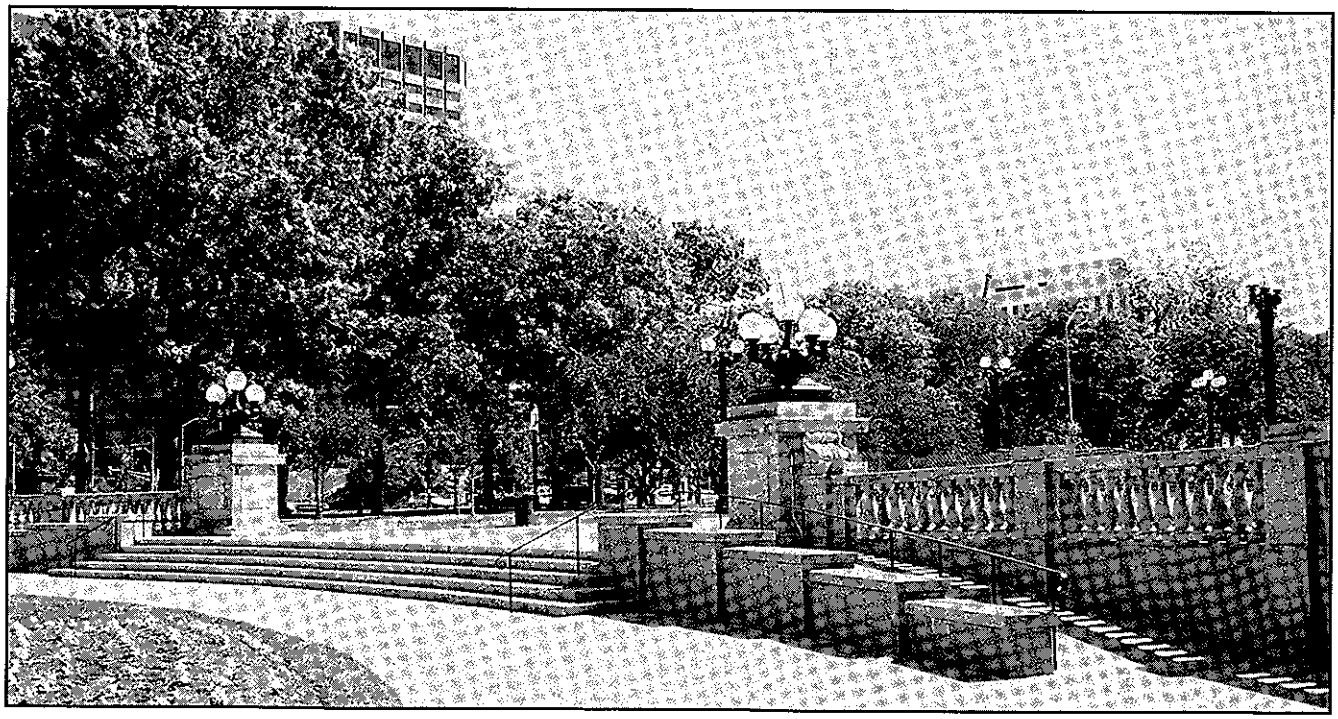
Damaging or destroying character-defining features in attempting to comply with accessibility requirements. For example, paving over gravel walks with blacktop.

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.

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

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.

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 destroyingcharacter-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.

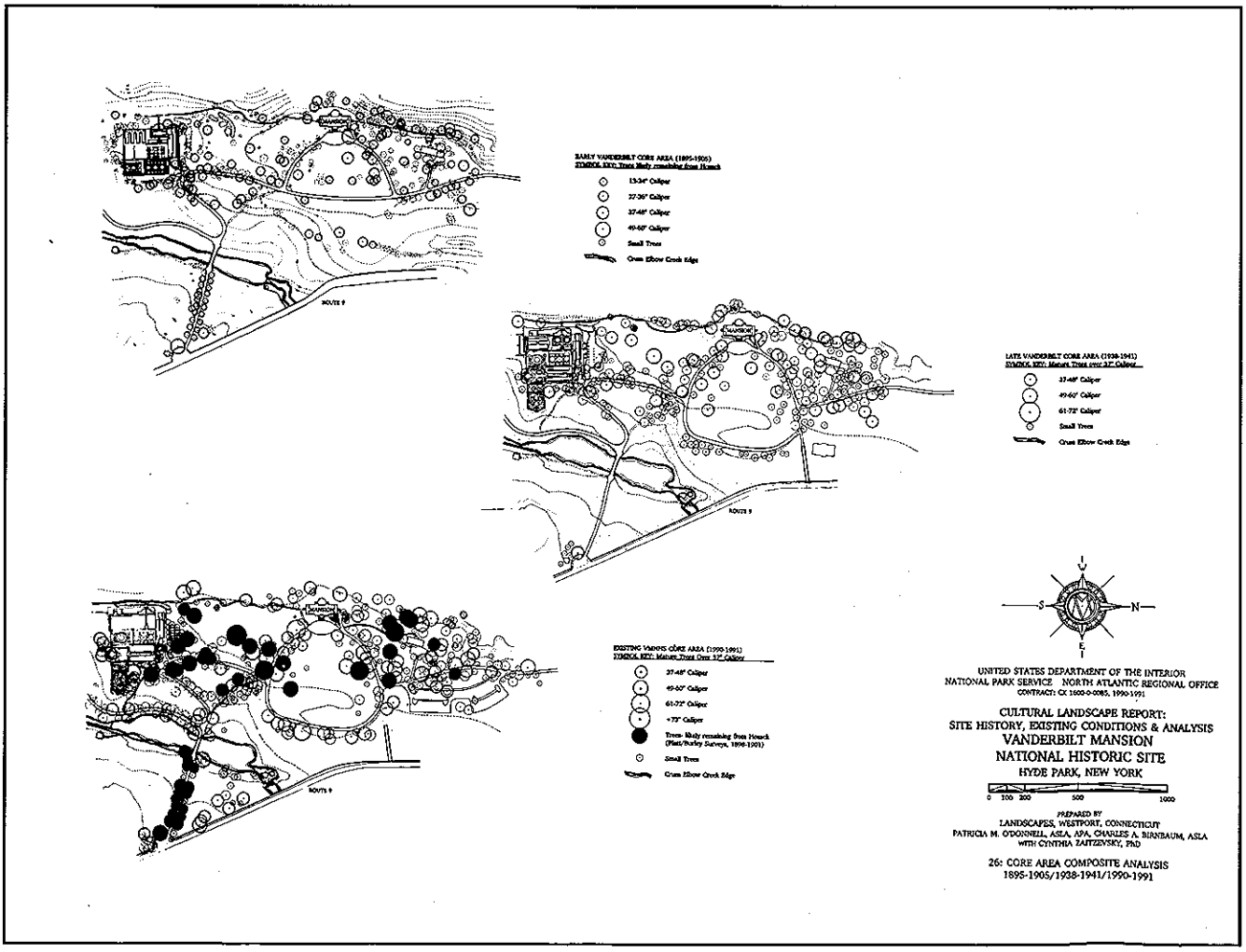
10. Designs that were never executed historically will not be constructed.

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.



Restoration of the landscape as it appeared between 1830-1939 is the selected approach for the core area of the Vanderbilt Estate. Three historic periods in its development: 1895-1905; 1938-1941; and 1990-1991, with their character-defining spatial relationships and features were noted on period plans. A high level of accuracy and detail is essential to the success of any restoration project. (LANDSCAPES)

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

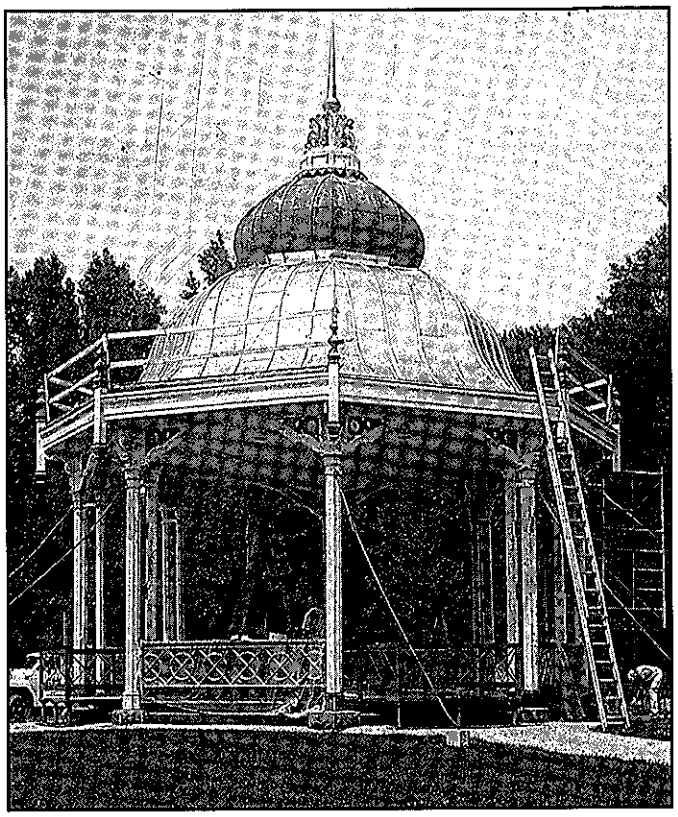
Commemorative markers, such as this one that notes the emigrant graves at Robidoux Pass on the Oregon Trail, (near Scotts Bluff National Monument, Nebraska) were installed by the Daughters of the American Revolution. The historic marker and graves have been protected with a perimeter wire-woven fence.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

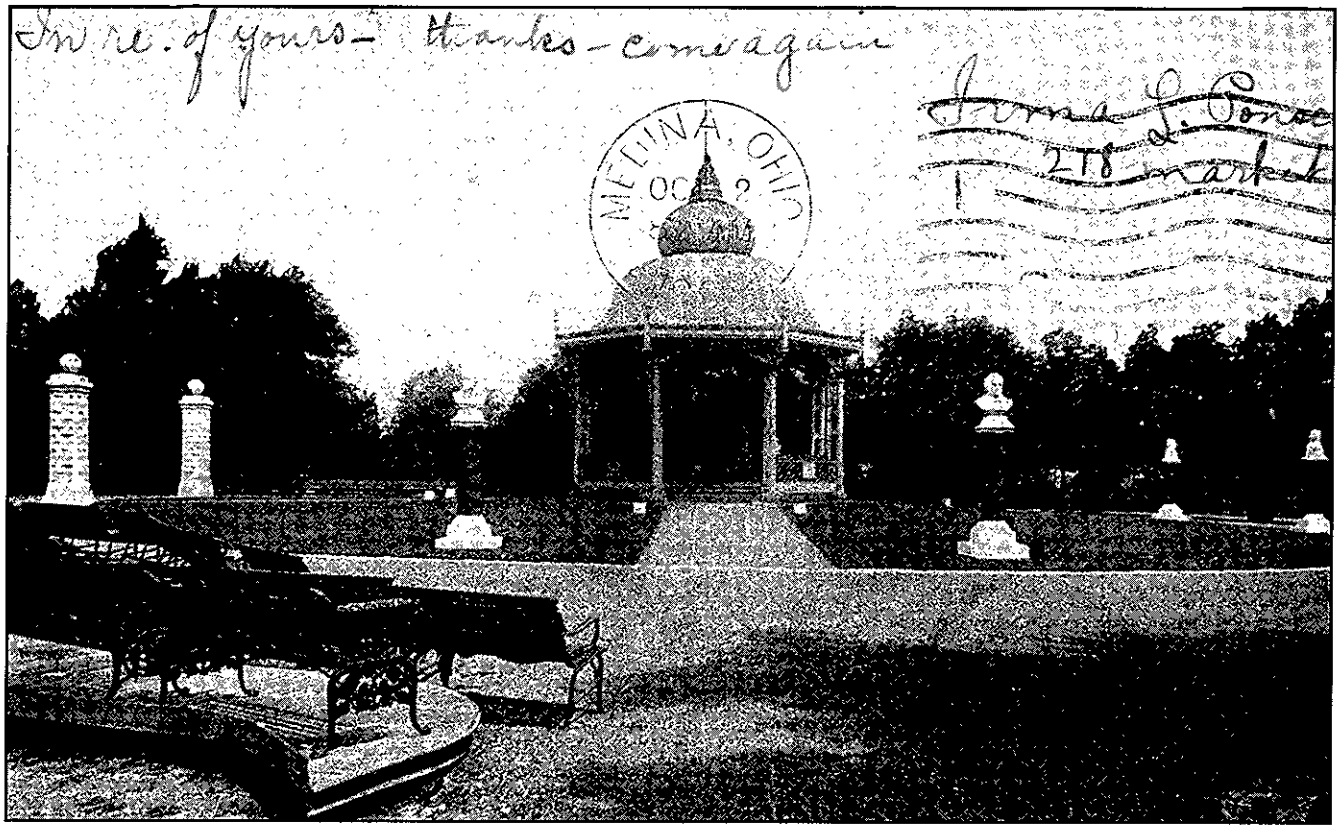
Replace Extensively Deteriorated Features from the Restoration Period

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)

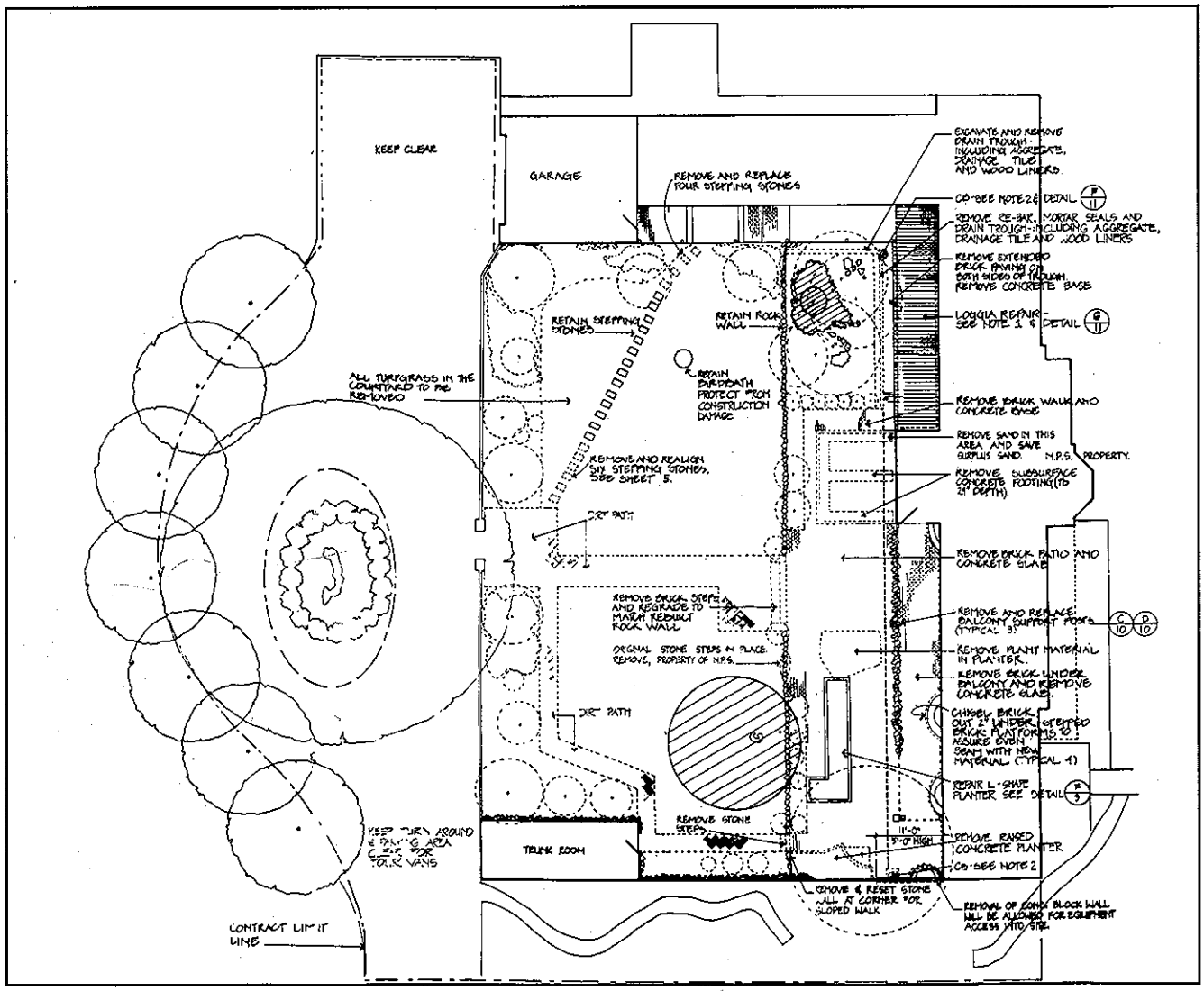
Remove Existing Features from Other Historic Periods

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

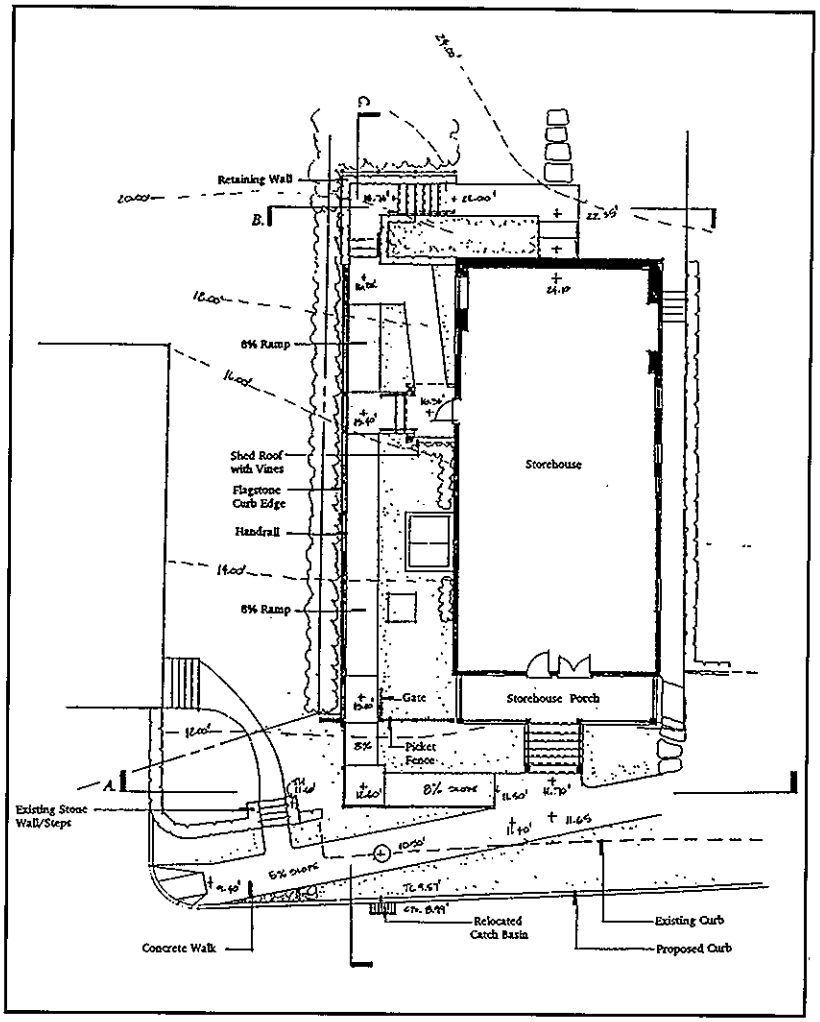
Most **Restoration** projects involve re-creating features that were significant to the landscape at a particular time, but are now missing. Examples could include a lost outbuilding, path or fence. Each missing feature should be substantiated by documentary and physical evidence. Without sufficient 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 re-creation 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

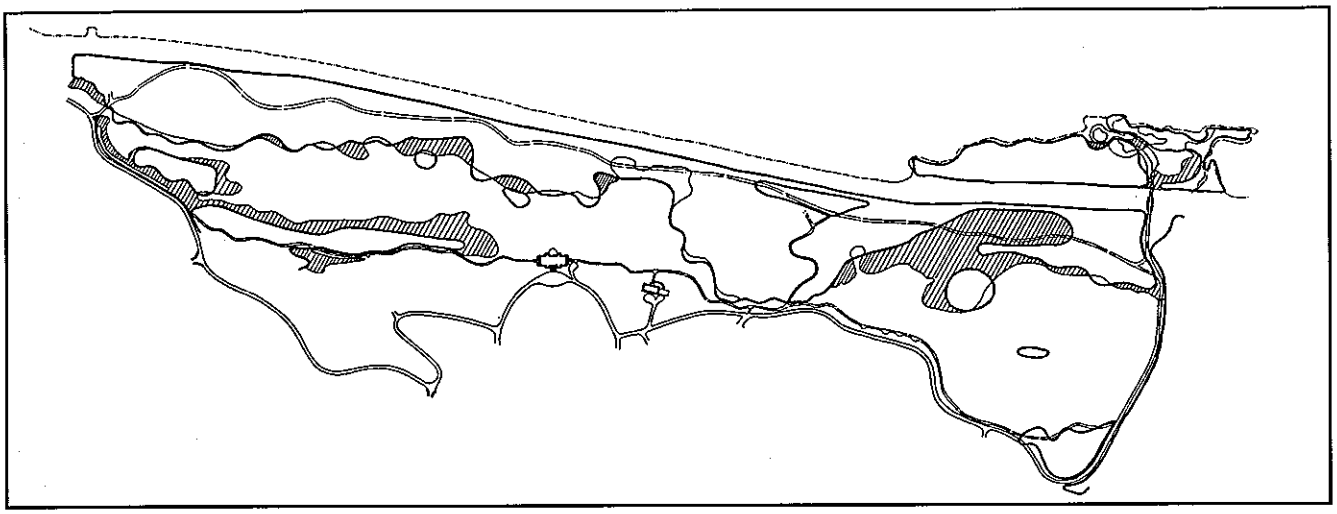
Identify, Retain, and Preserve Historic Materials and Features from the Restoration Period

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.

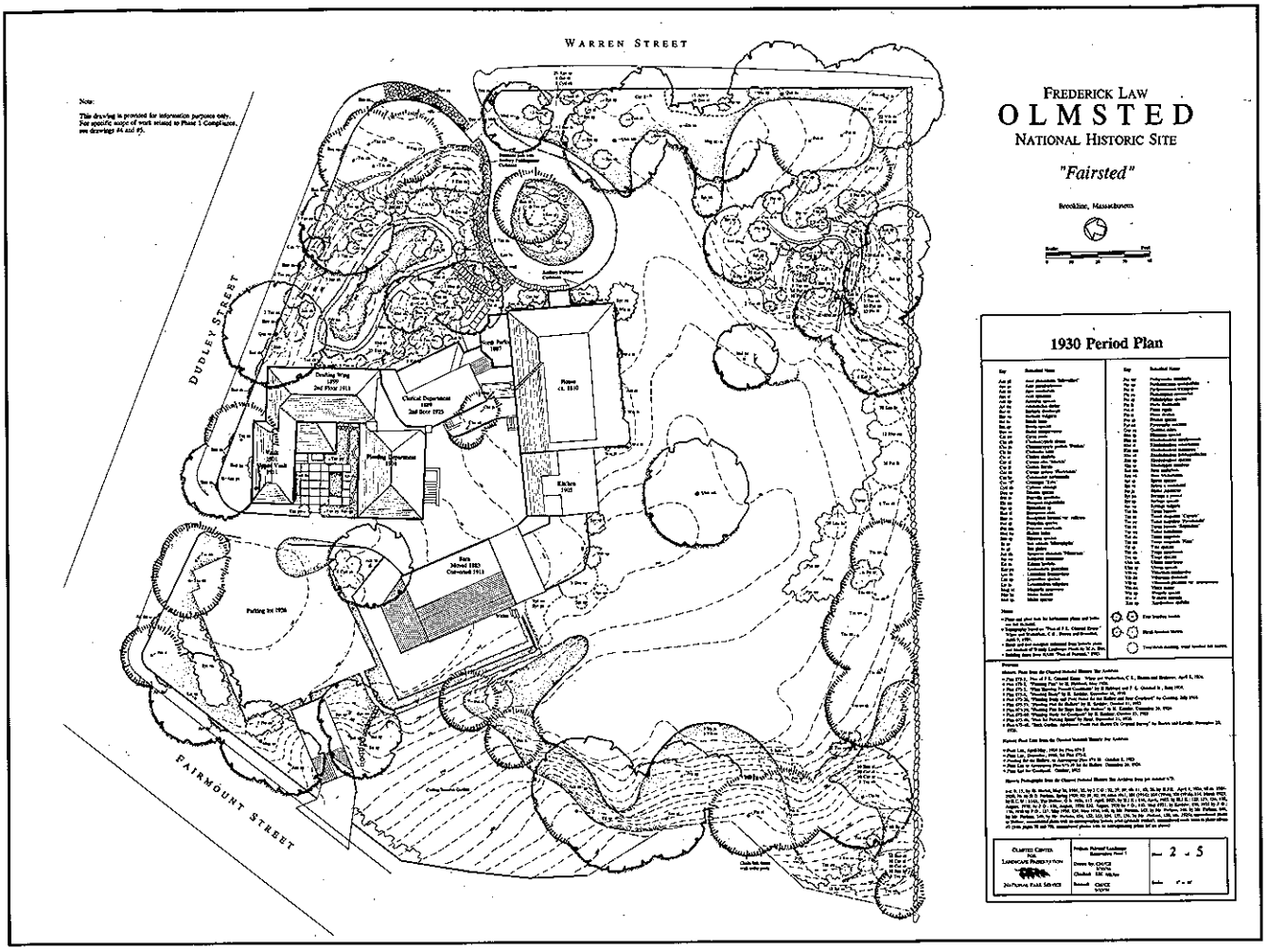
Utilizing maintenance methods which destroy or obscure the landscape's spatial organization and land patterns from the restoration period. For example, allowing field succession to obscure a historic farm and field pattern.

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)


WARREN STREET
DUDLEY STREET
FAIRMOUNT STREET
FREDERICK LAW
OLMSTED
NATIONAL HISTORIC SITE
"Fairsted"
1930 Period Plan

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.

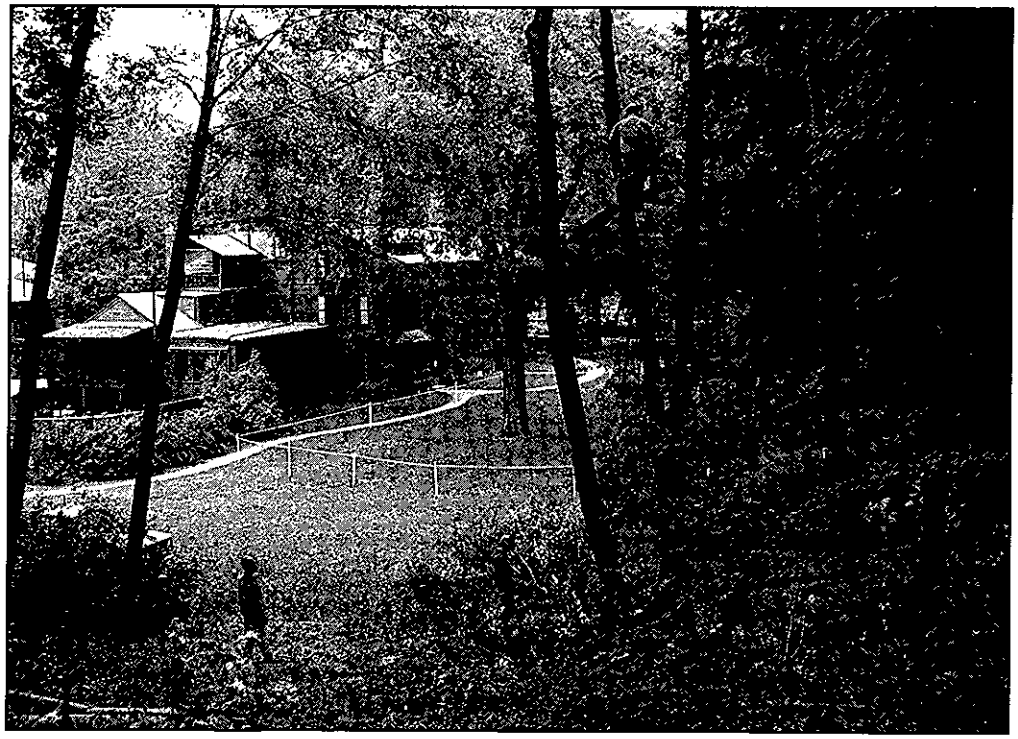
Documenting features dating from other periods prior to their removal or alteration. If possible, selected examples of these features and materials should be stored to facilitate future research.

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

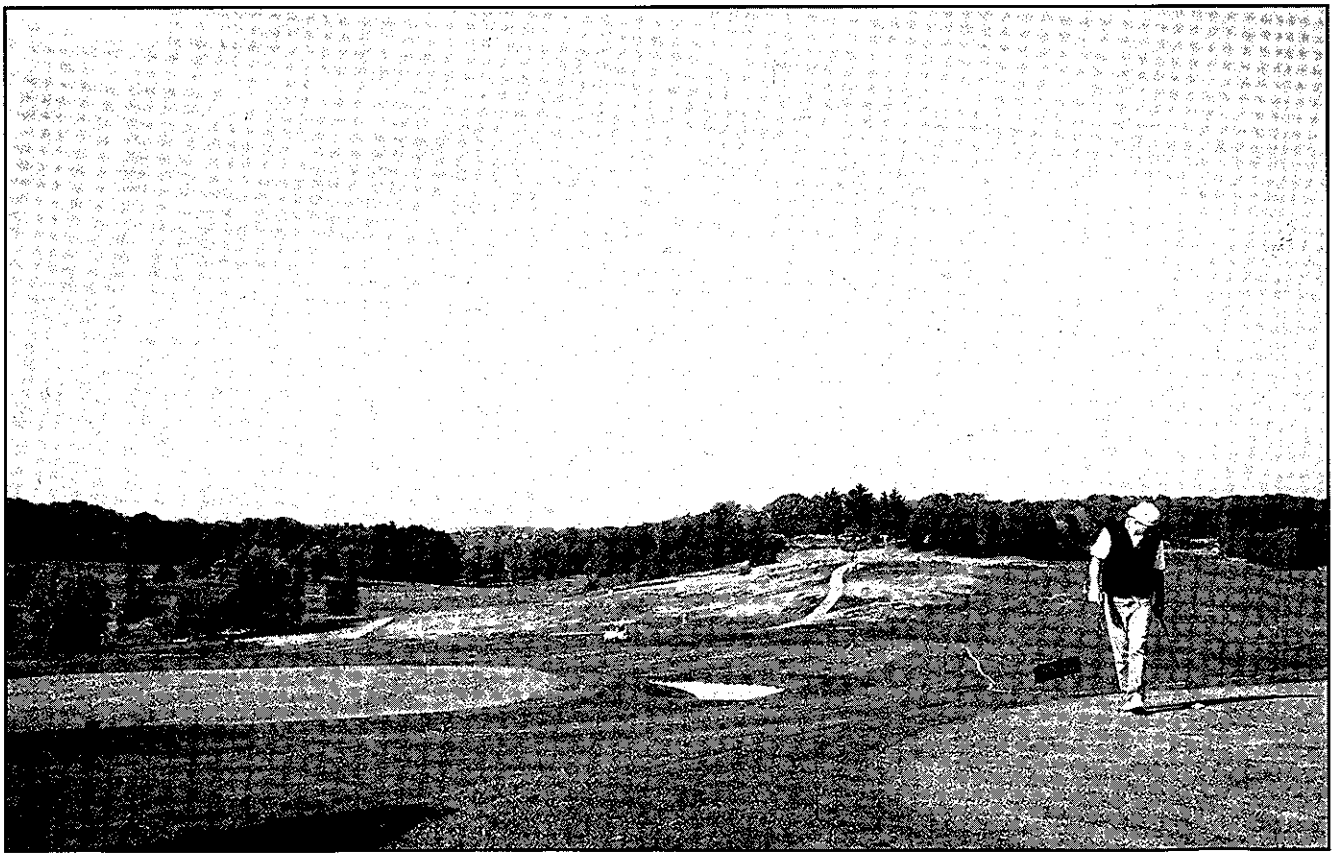
Re-Create Missing Features from the Restoration Period

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 re-created through the removal of invasive woody species. [opposite page, top and bootom, 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.

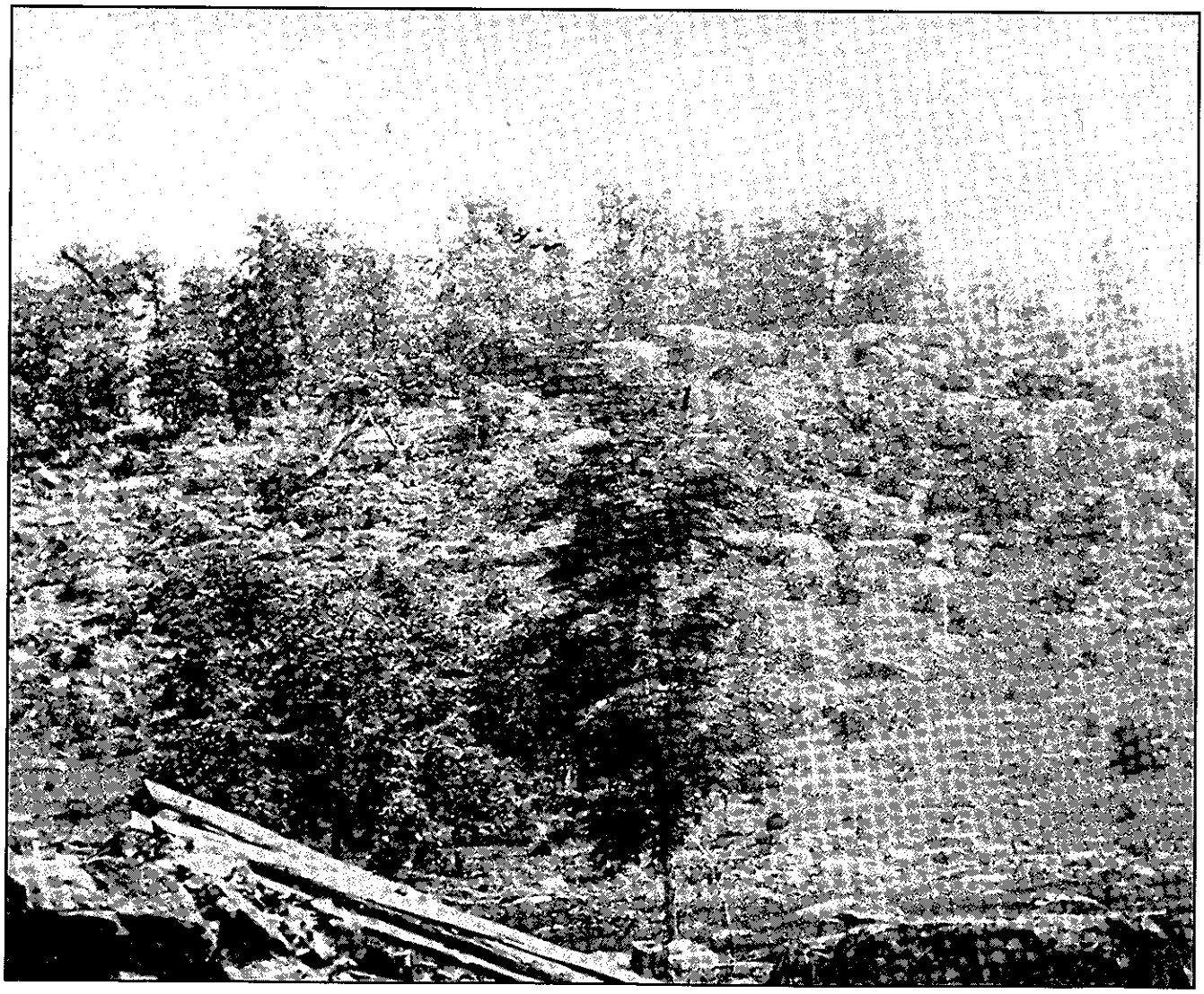
Remove Existing Features from Other Historic Periods

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.

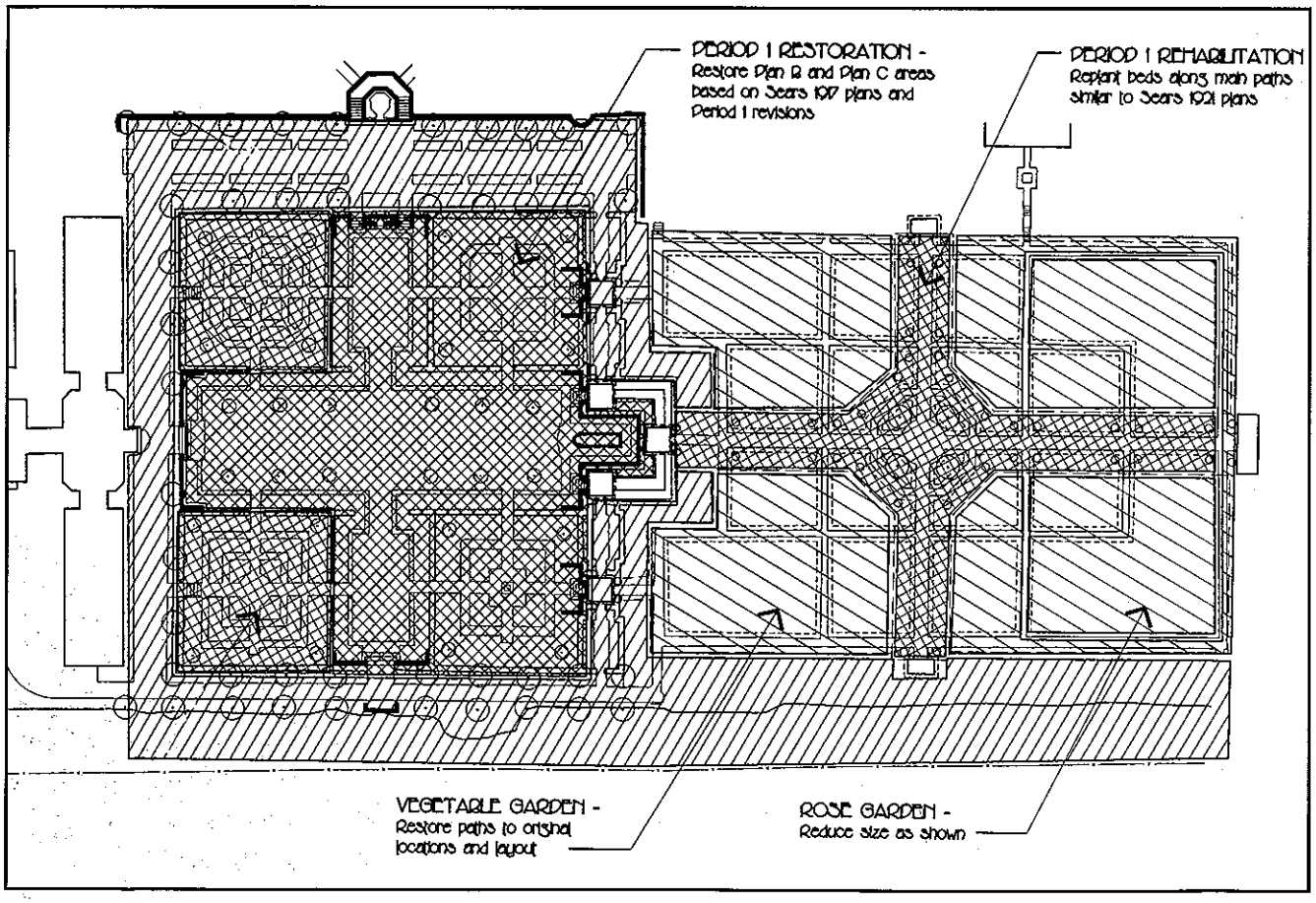
Creating a topographic feature which is incompatible with the restoration period. For example, constructing a topographic feature that was thought to have existed during the restoration period, but for which there is insufficient information; or, constructing a topographic feature that was part of the 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	*Not 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.	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.
Evaluating the condition and determining the age of vegetation from the restoration period. For example, tree coring to determine age.	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.
Retaining and perpetuating vegetation from the restoration period through propagation, using methods such as seed collection and genetic stock cuttings.	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.

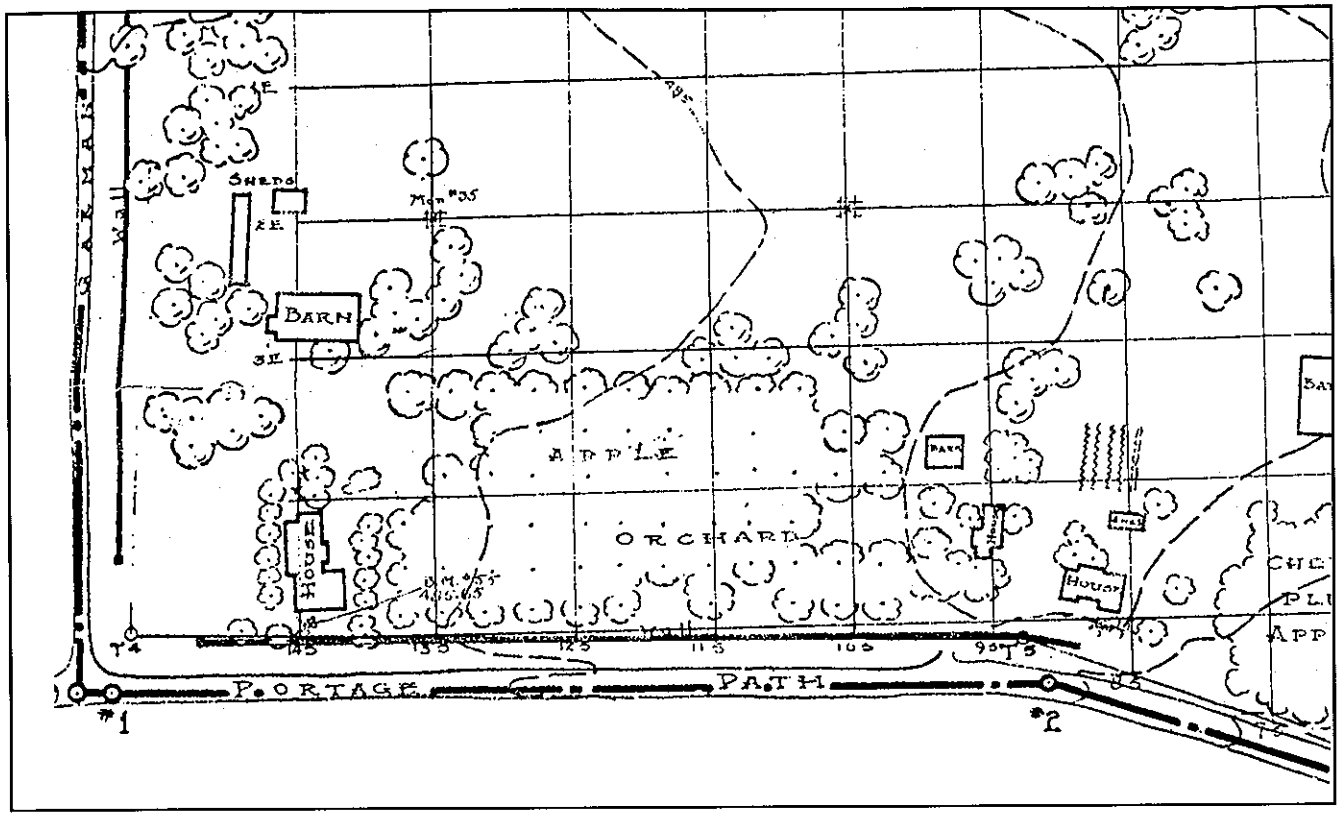
Employing contemporary practices when traditional or historic can be used. For example, utilizing non-traditional harvesting practices when traditional practices are still feasible.

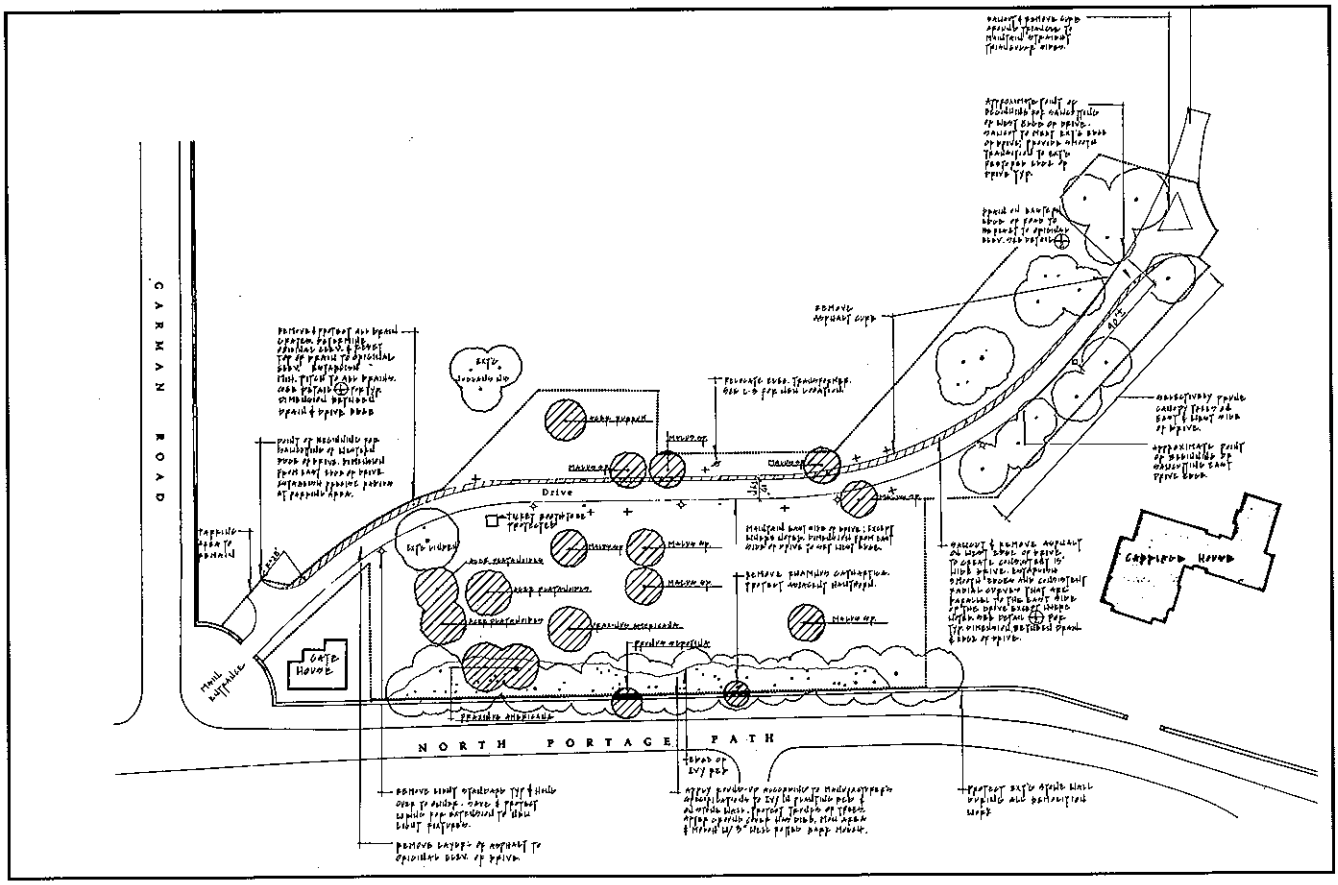
Repair Features and Materials from the Restoration Period

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)





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.

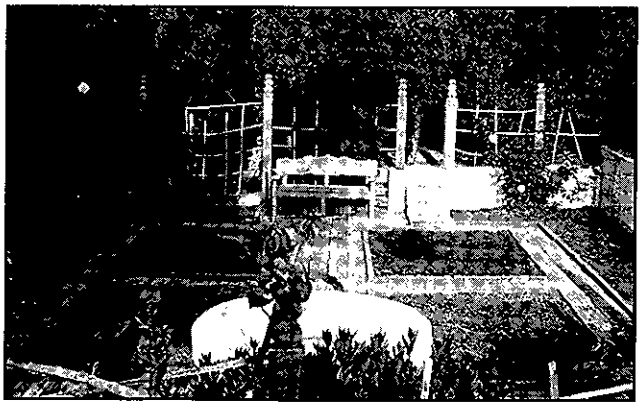
Remove Existing Features from Other Historic Periods

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.

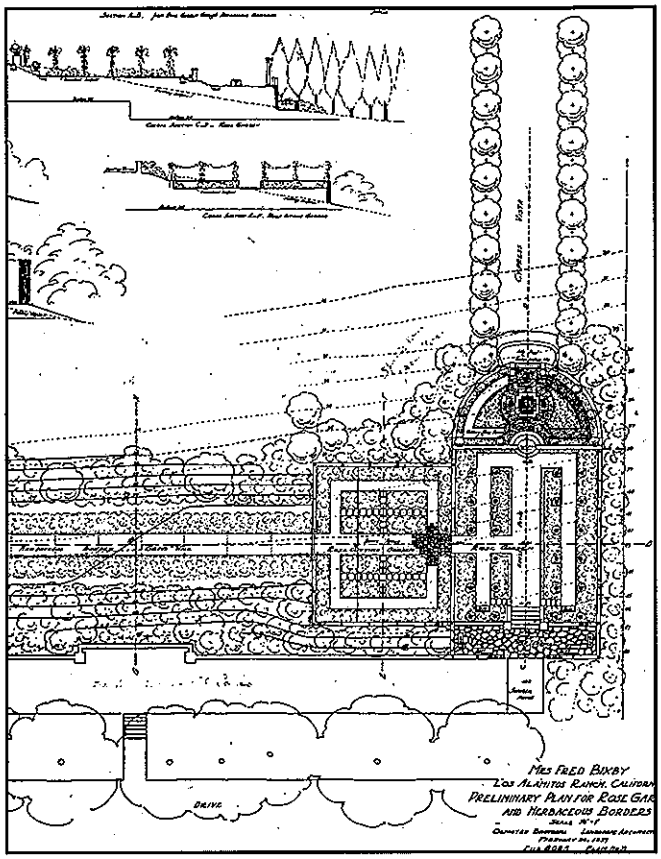


As part of an overall restoration program for each of the gardens at Rancho Los Alamitos in Long Beach, California, close attention has been paid to its vegetation features. The Old Garden [1928 and 1996] was overtaken by 40' of bamboo timber. [top left and right] Here, efforts include replanting the 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.

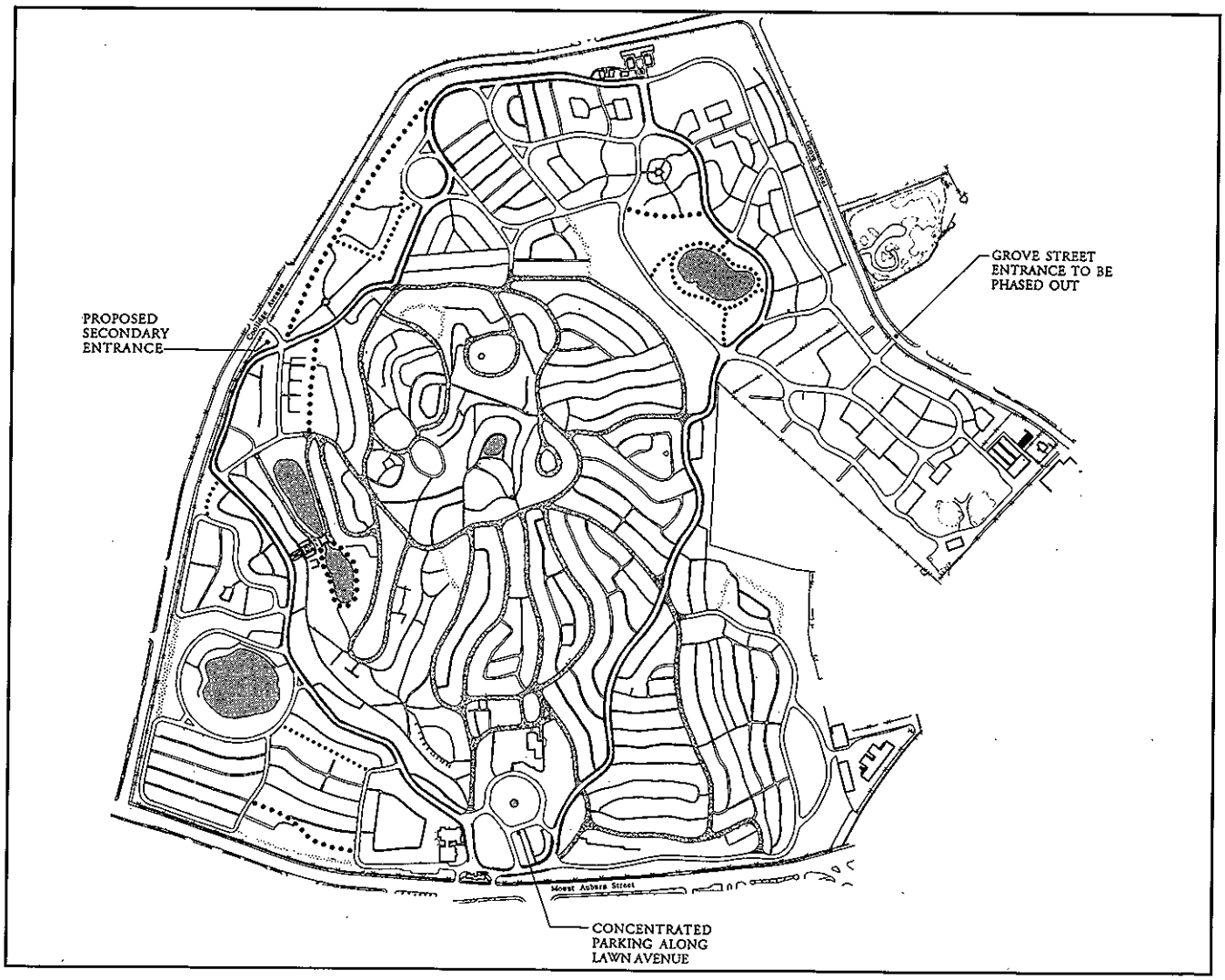
Installing vegetation that was thought to have existed during the restoration period, but for which there is insufficient documentation; or planting vegetation that was part of the original design but was never installed, thus creating a false historic appearance.



CIRCULATION

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

Recommended	Not 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.	Executing project work that impacts circulation from the restoration period. For example, altering the route and configuration of a historic bridle path without identifying its historic alignment.
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.	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	Not 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.	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.
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.	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.	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.
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.	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.

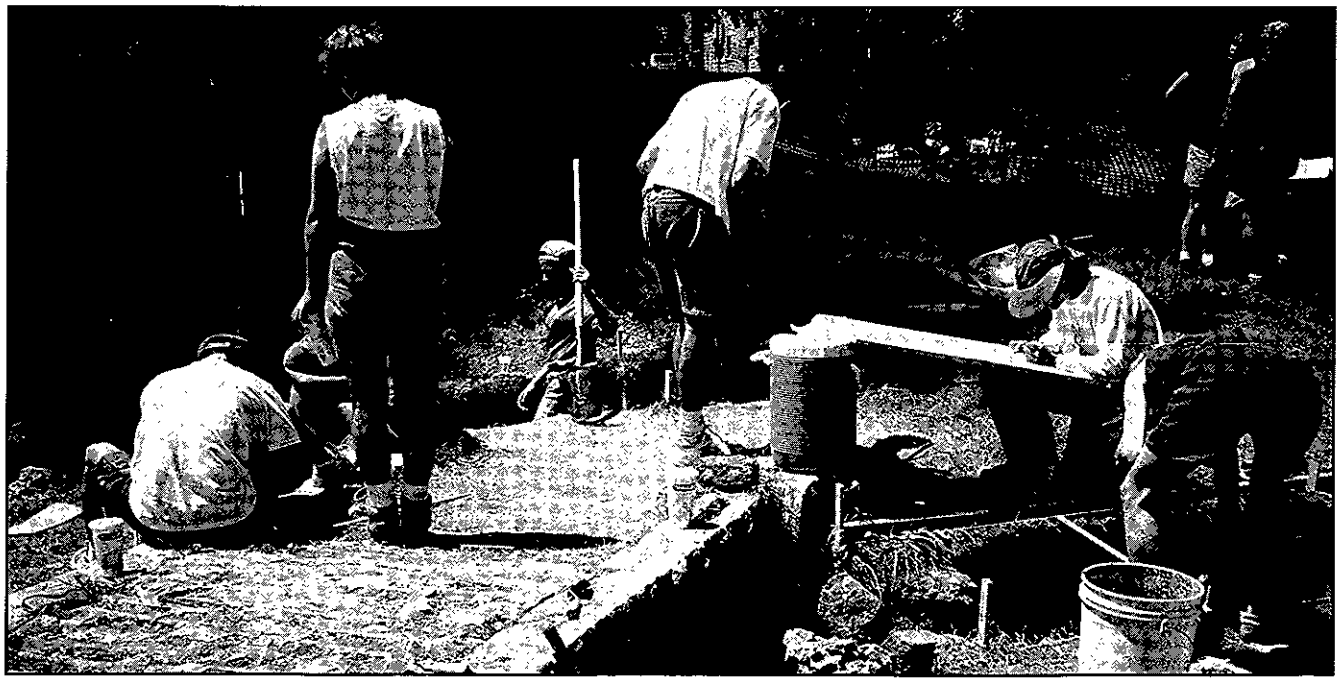
Documenting water features from other periods prior to their alteration or removal. For example, inventorying and cataloguing hydrology, flora and fauna associated with the feature. If possible, selected examples of these materials or features should be stored to facilitate future research.

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

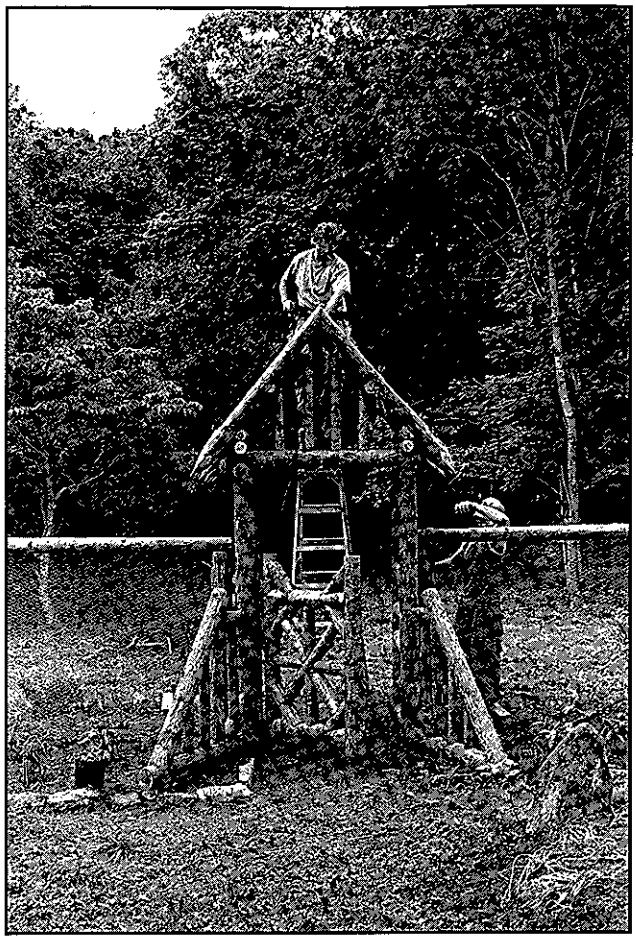
Recommended	*Not Recommended*
Identifying, retaining and preserving existing structures, furnishings and objects from the restoration period prior to beginning project work. Documenting the relationship of these features to each other, their surrounds, and their material compositions.	Executing project 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.
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.	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.

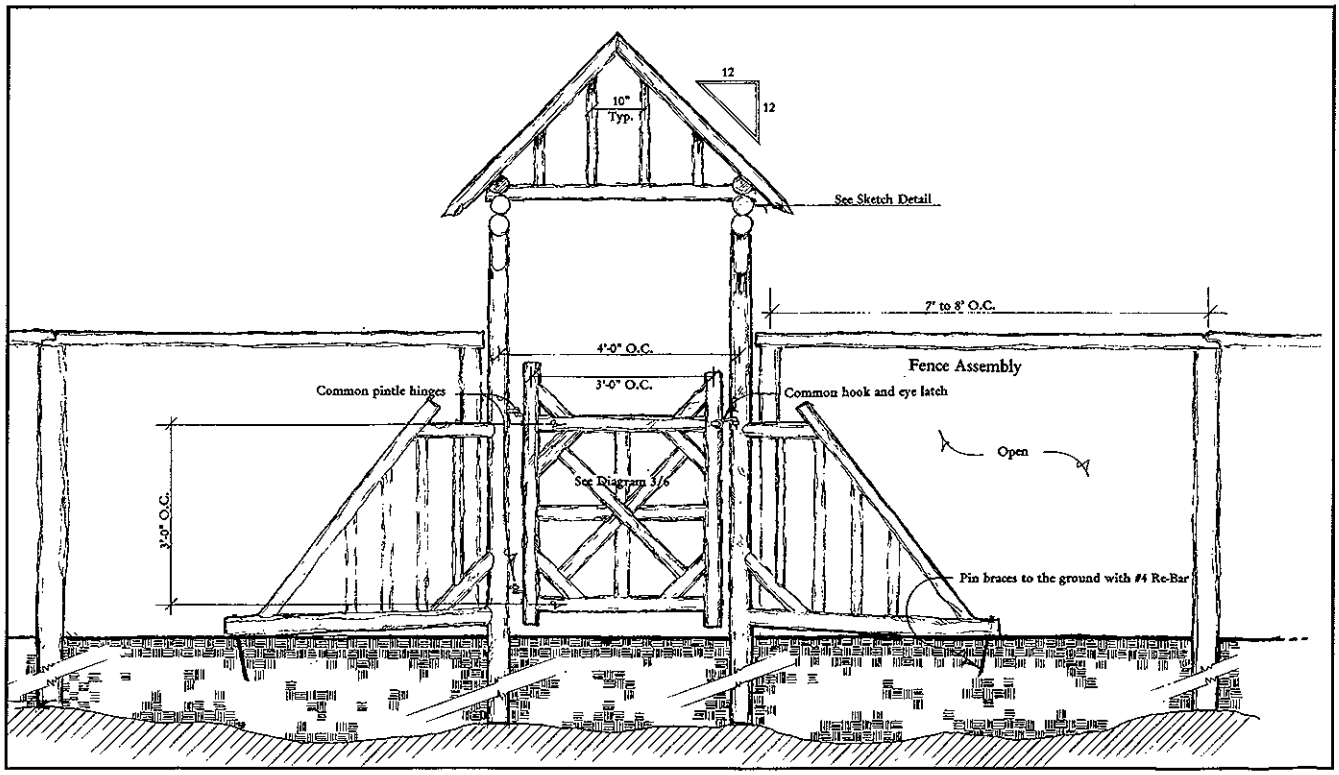
Protect and Maintain Features and Materials from the Restoration Period

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

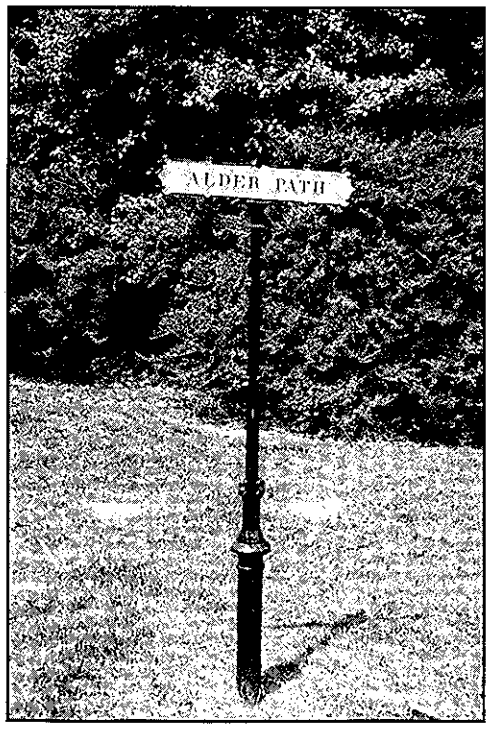
Failing to document structures, furnishings and objects from other historic periods that are removed or altered so that a valuable portion of the historic record is lost.

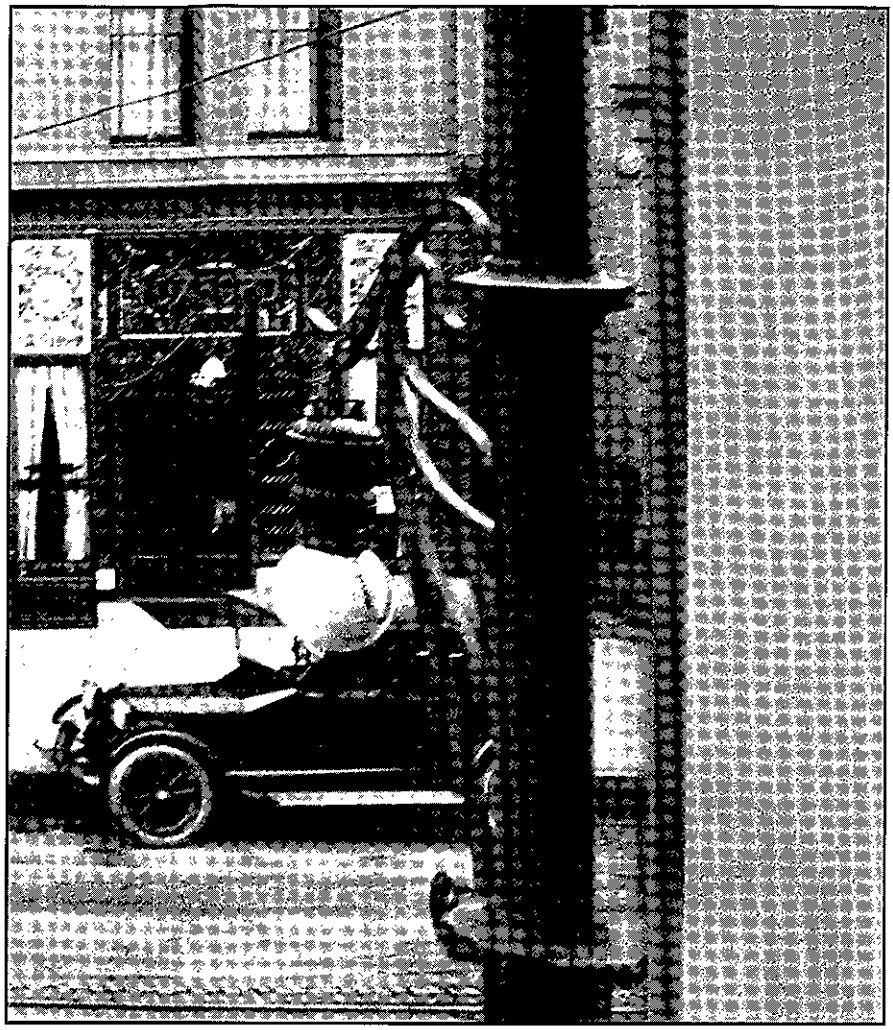
Re-Create Missing Features from the Restoration Period

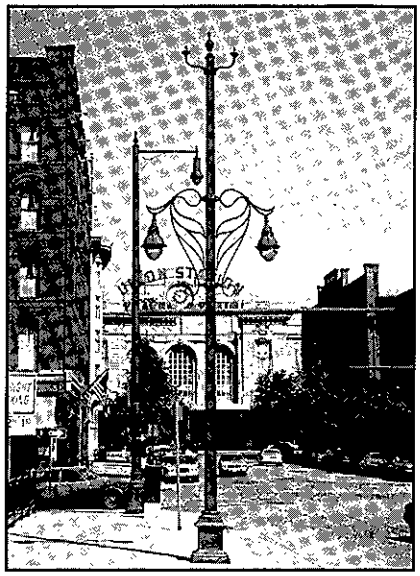
Recreating a missing structure, furnishing or object that existed during the restoration period based on historical, pictorial and physical documentation. For example, recasting a garden jardiniere from its original mold or duplicating a corn crib from an extant prototype.

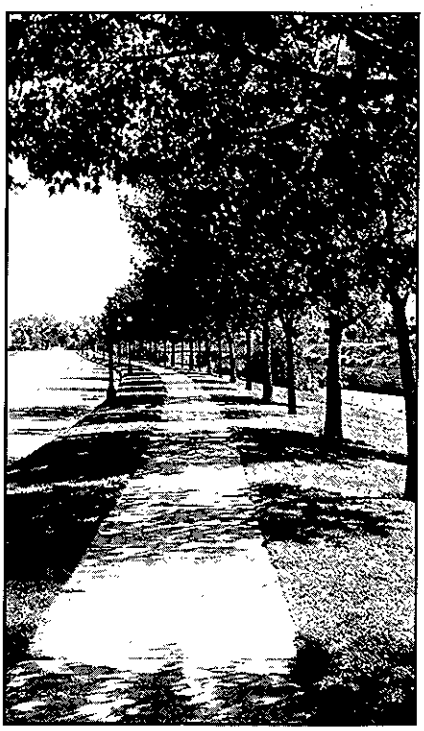
Constructing a structure, furnishing or object that was thought to have existed during the restoration period, but for which there is insufficient information; or constructing a bandstand that was part of the original design but was never executed, thus creating a false historic appearance.

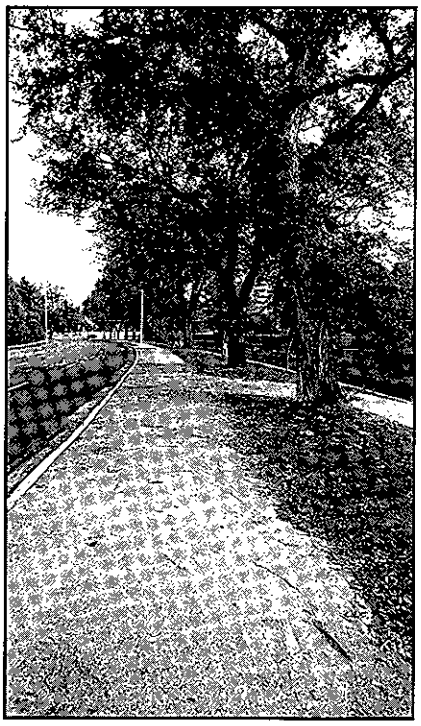
Historic signs at Mt. Auburn Cemetery, Cambridge, Massachusetts, typical of the era, [opposite] are depicted through new castings made from a historic prototype. A deteriorated sign from another historic burial ground could also be restored using this prototype. The signature historic street lights, 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 fictures 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)

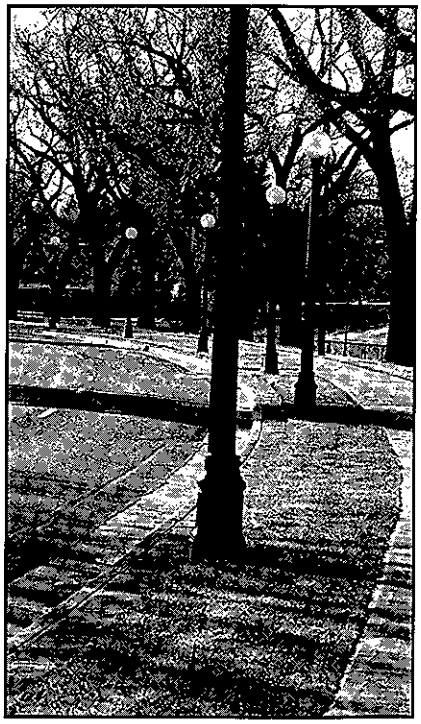












Although the work in the following sections is quite often an important aspect of restoration projects, its is usually not part of the overall process of restoring character-defining features (maintenance, repair and limited replacement); rather, such work is assessed for its potential negative impact 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.

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

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

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

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.

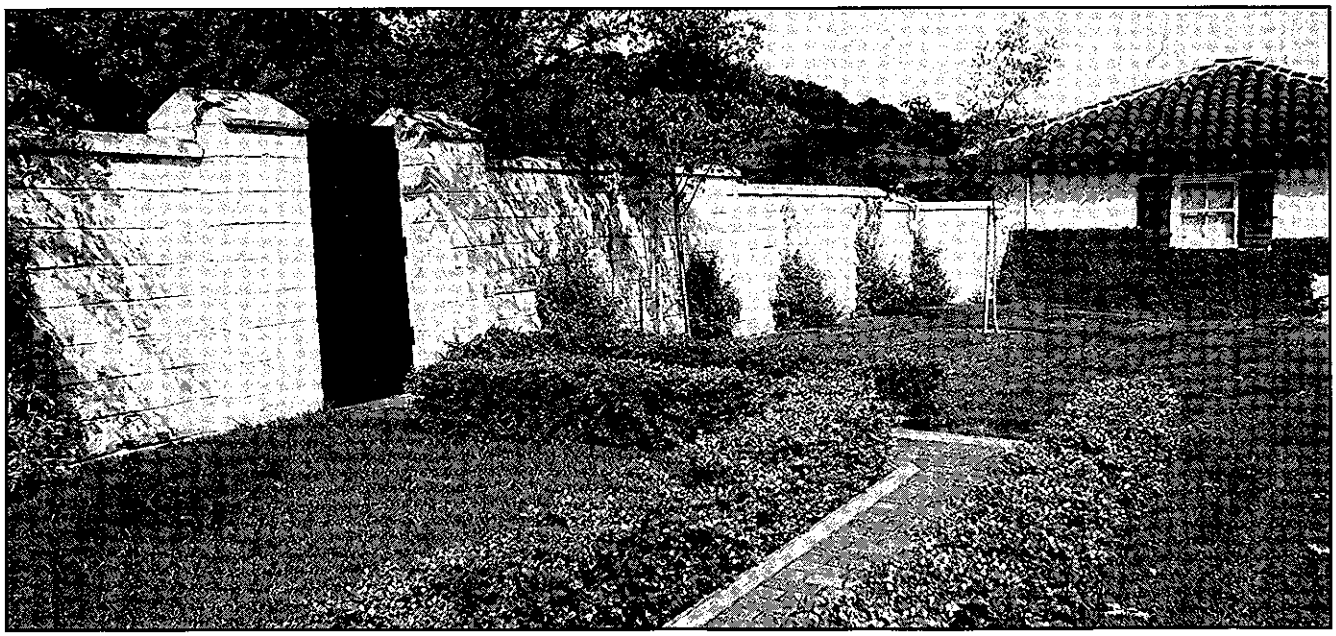
Altering features, materials and finishes from the restoration period without consulting local accessibility and preservation experts.

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.

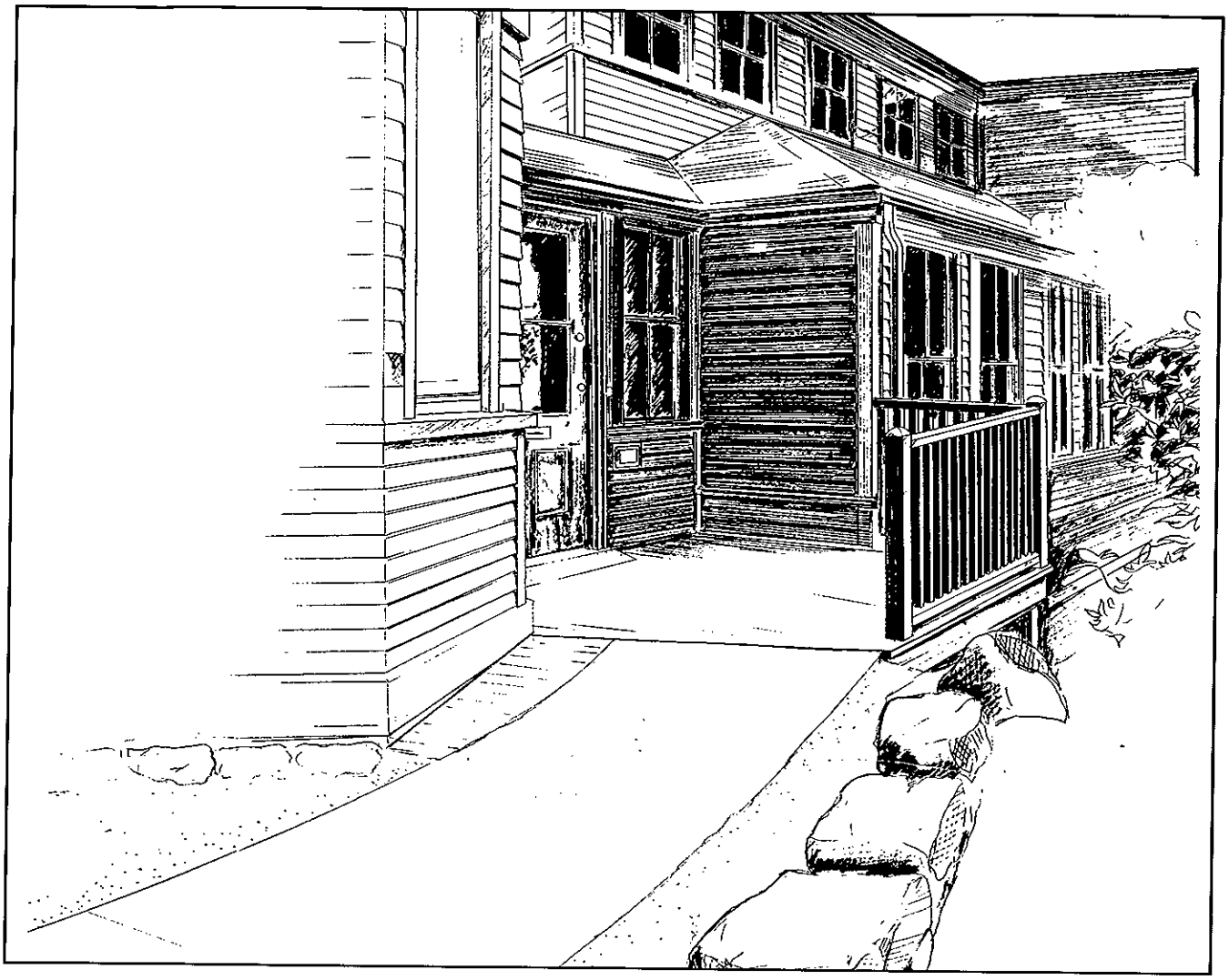
Making access modifications that do not provide a reasonable balance between independent, safe access and preservation of landscape features, materials and finishes from the restoration period.

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

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.

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

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.

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

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

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

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

Removing unhealthful materials without regard to personal and environmental safety.

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.

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.

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.

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

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.

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

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.

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.

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.

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.

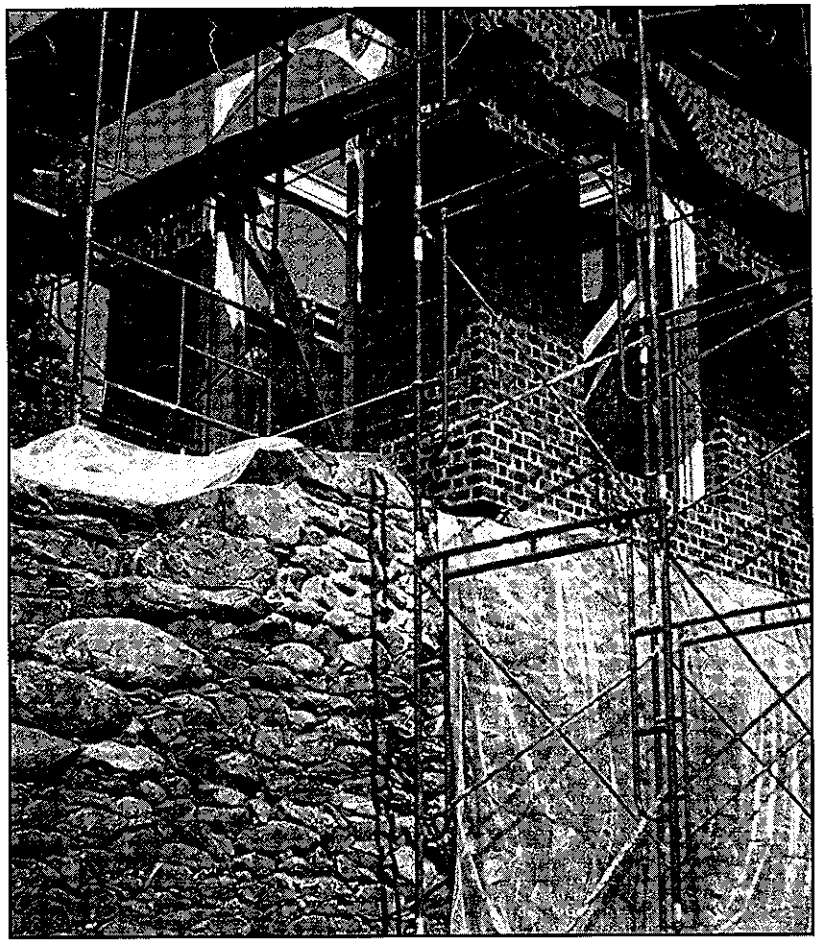
5. A reconstruction will be clearly identified as a contemporary re-creation.

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 indepth 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	*Not 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.	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

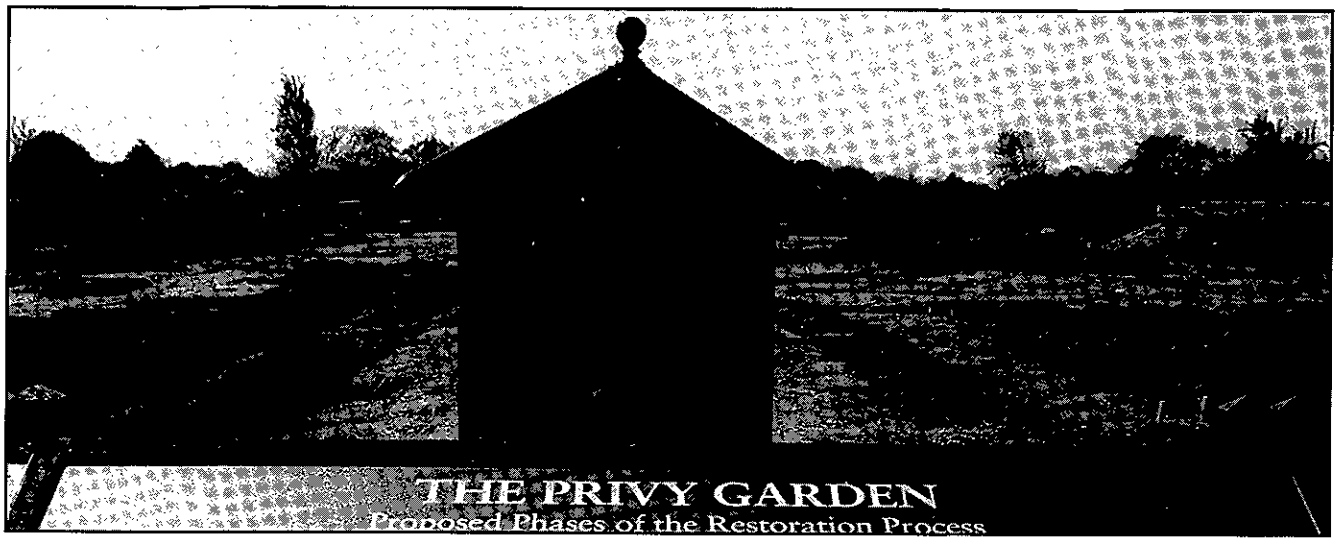
Identifying, protecting and preserving extant historic features of the cultural landscape such as remnants of structures, field patterns, or walkways.	Beginning reconstruction work without first conducting a detailed site investigation to physically substantiate the documentary evidence. Basing a reconstruction on conjectural designs or different features from other cultural landscapes.

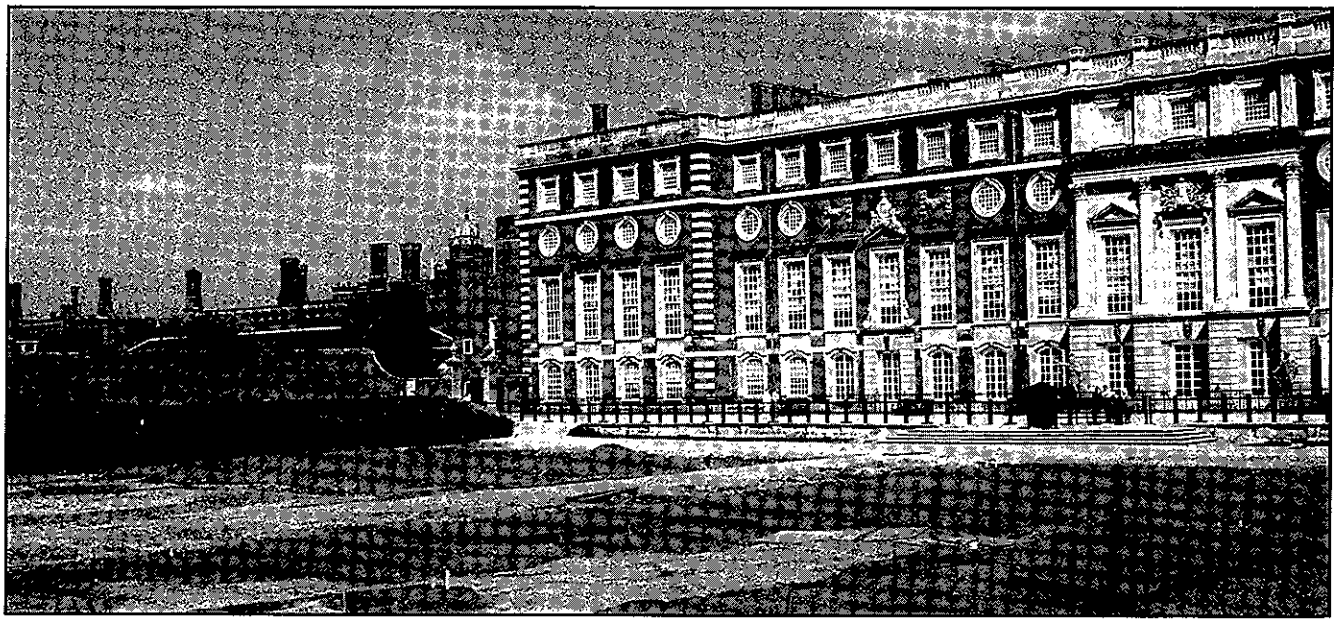
SPATIAL ORGANIZATION AND LAND PATTERNS

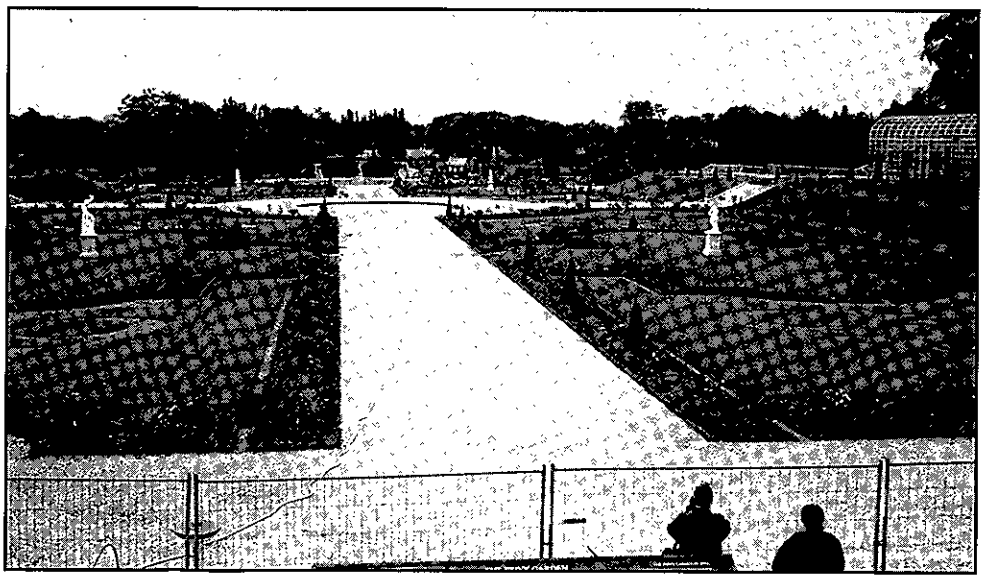
Reconstructing the historic spatial organization or land patterns, including the size, configuration, proportion and relationship of landscape units; relationship of features to landscape units; and the landscape units themselves. For example, recreating a historic farmstead by reconstructing all of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

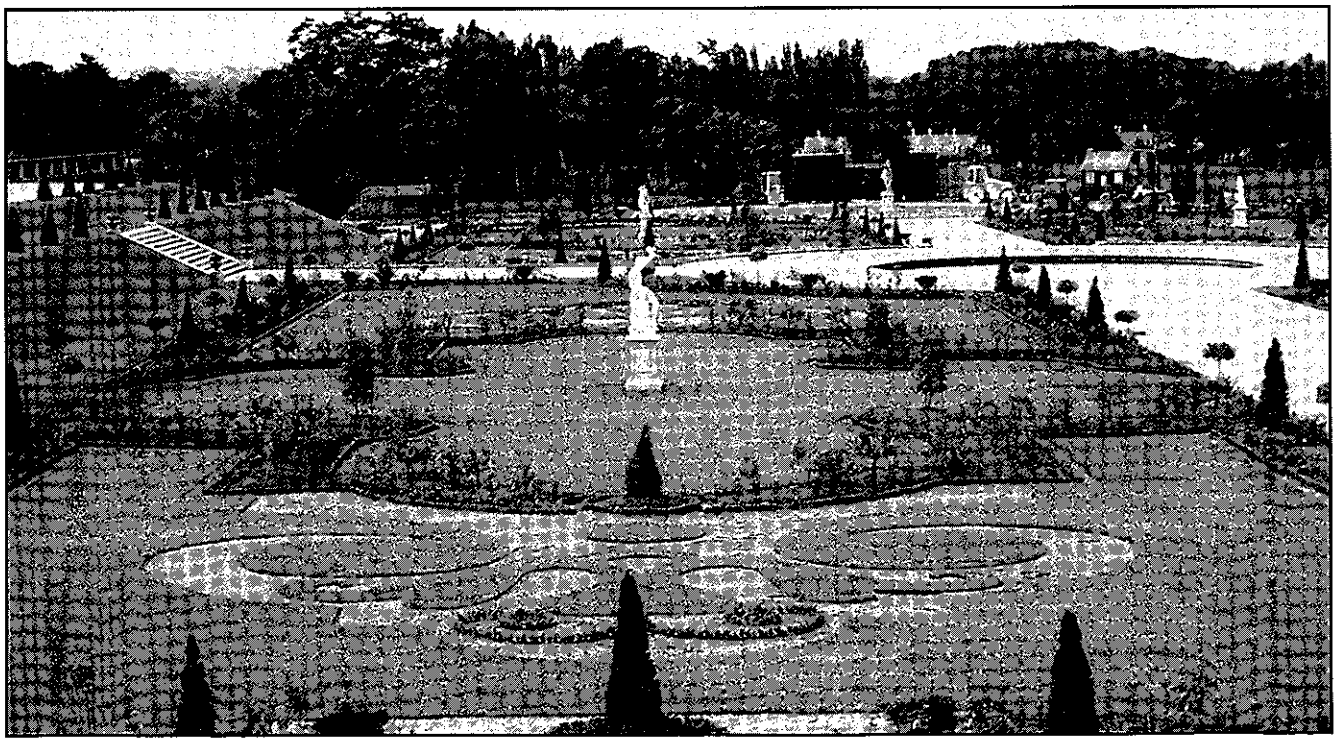
Reconstructing a non-surviving circulation feature to depict the documented historic appearance. Although traditional materials such as masonry, wood, and cinders are preferable, substitute materials may be used as long as they recreate the historical appearance. For example, utilizing a color pigmented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

Birnbaum, 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.*

Birnbaum, 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.*

Birnbaum, 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.*

Birnbaum, 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.*

Birnbaum, 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.*

Birnbaum, 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.*

Birnbaum, 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*

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 Angelos, 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, Oreg. 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.; Fenstermarker 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; Sponn, 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,*

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

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 archietcture"--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.

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MANAGEMENT OF CULTURAL LANDSCAPES

A. Introduction and Objectives

1. Introduction

Cultural landscapes are complex resources that range from large rural tracts covering several thousand acres to formal gardens of less than an acre. Natural features such as landforms, soils, and vegetation are not only part of the cultural landscape, they provide the framework within which it evolves. In the broadest sense, a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions.

Identifying the significant characteristics and features in a landscape and understanding them in relation to each other and to significant historic events, trends, and persons allows us to read the landscape as a cultural resource. In many cases, these features are dynamic and change over time. In many cases, too, historical significance may be ascribed to more than one period in a landscape's physical and cultural evolution.

Cultural landscape management involves identifying the type and degree of change that can occur while maintaining the historic character of the landscape. The identification and management of an appropriate level of change in a cultural landscape is closely related to its significance. In a landscape significant for its association with a specific style, individual, trend, or event, change may diminish its integrity and needs to be carefully monitored and controlled. In a landscape significant for the pattern of use that has evolved, physical change may be essential to the continuation of the use. In the latter case, the focus should be on perpetuating the use while maintaining the general character and feeling of the historic period(s), rather than on preserving a specific appearance.

2. Program Objectives

According to federal law and the NPS *Management Policies*, all cultural landscapes are to be managed as cultural resources, regardless of the type or level of significance. Cultural landscape management focuses on preserving a landscape's physical attributes, biotic systems, and use when that use contributes to its historical significance. Research, planning, and stewardship are the framework for the program. Research defines the features, values, and associations that make a landscape historically significant; planning outlines the issues and alternatives for long-term preservation; and stewardship involves such activities as condition assessment, maintenance, and training.

3. Cultural Landscape Categories

A cultural landscape is a geographic area, including both natural and cultural resources, associated with a historic event, activity, or person. The National Park Service recognizes four cultural landscape categories: *historic designed landscapes*, *historic vernacular landscapes*, *historic sites*, and *ethnographic landscapes*. These categories are helpful in distinguishing the values that make landscapes cultural resources and in determining how they should be treated, managed, and interpreted.

Historic designed landscapes are deliberate artistic creations reflecting recognized styles, such as the twelve-acre Meridian Hill Park in Washington, D.C., with its French and Italian Renaissance garden features. Designed landscapes also include those associated with important persons, trends, or events in the history of landscape architecture, such as Frederick Law Olmsted National Historic Site and the Blue Ridge Parkway.

Historic vernacular landscapes illustrate peoples' values and attitudes toward the land and reflect patterns of settlement, use, and development over time. Vernacular landscapes are found in large rural areas and small suburban and urban districts. Agricultural areas, fishing villages, mining districts, and homesteads are examples. The 17,400-acre rural landscape of Ebey's Landing National Historical Reserve represents a continuum of land use spanning more than a century. It has been continually reshaped by its inhabitants, yet the historic mix of farm, forest, village, and shoreline remains.

Historic sites are significant for their associations with important events, activities, and persons. Battlefields and presidential homes are prominent examples. At these areas, existing features and conditions are defined and interpreted primarily in terms of what happened there at particular times in the past.

Ethnographic landscapes are associated with contemporary groups and typically are used or valued in traditional ways. In the expansive Alaska parks, Native Alaskans hunt, fish, trap, and gather and imbue features with spiritual meanings. Jean Lafitte National Historical Park and Preserve illustrates the strong interrelationship between the dynamic natural system of the Delta region and several cultural groups through many generations. Numerous cultural centers maintain ties to distinctive, long-established groups with ethnic identities.

The four cultural landscape categories are not mutually exclusive. A landscape may be associated with a significant event, include designed or vernacular characteristics, and be significant to a specific cultural group. For example, Gettysburg National Military Park is a historic site primarily significant as the scene of the 1863 Civil War battle. The park also includes historic vernacular farm complexes that existed at the time of the battle and a number of designed components added later to commemorate the event, including a national cemetery, roads, and numerous monuments.

The cultural landscape program focuses on landscapes listed in or eligible for the National Register of Historic Places. Landscapes primarily significant for their ethnographic value are under the purview of the ethnography program; however, professionals from both programs may be involved in their documentation and treatment. (See Chapter 10 for guidance in managing ethnographic landscapes.)

B. Research

The primary purpose of research on cultural landscapes is to define the values and associations that make them historically significant. Research findings provide information for management decisions and actions extending from the development of long-term plans to compliance with preservation law and maintenance, assist in determining appropriate treatment, and support interpretive programs. The following standards apply:

- Research on a cultural landscape involving other resource types (archeological resources, structures, museum objects, ethnographic resources, natural resources) is conducted in consultation with specialists in their related disciplines, whose expertise is reflected in the reported findings and recommendations.

- Deficiencies in research on, and evaluation and registration of, a cultural landscape are identified in the park resources management plan and corrected as soon as possible.

1. Identification

Section 110 of the National Historic Preservation Act requires the NPS to identify and nominate to the National Register all resources under its jurisdiction that appear eligible, including cultural landscapes. Historical areas of the national park system are automatically listed in the National Register upon their establishment by law or executive order, but landscape resources within them that contribute to their historical significance still must be documented for the Register.

Research and preliminary field surveys are conducted to determine the existence of cultural landscapes. Identifying the significant characteristics and features of a landscape involves understanding its physical modifications and use, along with any ethnographic values and affiliations.

Except for ethnographic landscapes, the initial identification of cultural landscapes occurs in historic resource studies. An HRS must contain enough information about the developmental history, evolution, and existing conditions of a cultural landscape to evaluate its integrity and define appropriate National Register boundaries. Based on the research and field investigations conducted, a historical base map clearly depicting all cultural landscape

resources and a National Register nomination are prepared. Addenda to existing HRSs are appropriate to address cultural landscapes that were not addressed initially.

2. Documentation, Evaluation, and Registration

a. Documentation

Documentation of cultural landscapes requires the use of primary and secondary sources; review and assessment of archeological records; and intensive field investigations to determine the extent and condition of historic and contemporary landscape features. Maps, plans, drawings, and photographs should be prepared as part of the baseline documentation.

b. Significance

Significance is determined by relating a landscape's history and existing characteristics and features to its historic context. The features, materials, patterns, and relationships that contribute to its historical significance must be present and have integrity. There may be more than a single area or period of historical significance for the landscape as a whole or for individual parts of it.

c. Integrity

The integrity of a cultural landscape is judged by the degree to which the characteristics that define its historical significance are present. Because important aspects such as vegetation and use change over time, integrity also depends on how evident the general character of the historic period is and the degree to which incompatible elements are reversible. With some vernacular and ethnographic landscapes, change itself is a significant factor and must be considered in assessing their integrity. In a designed landscape, a specific feature or area may survive in better condition than other equally important features or areas. In this case, an assessment of integrity should focus on the role of the individual feature in the overall historic design and the degree to which it contributes to the integrity of the design. In a similar way, as vegetation matures, the change in tree canopy, scale, and massing may affect the overall character of the landscape. It is important to consider how such changes affect the landscape as a whole and the degree to which they impact or obscure it.

d. National Register Nominations

Cultural landscapes are listed in the National Register when their significant cultural values have been documented and evaluated within appropriate thematic contexts and physical investigation determines that they retain integrity. Cultural landscapes are classified in the National Register as sites or districts or may be included as contributing elements of larger districts.

e. Cultural Landscapes Inventory

The Cultural Landscapes Inventory (CLI) is a computerized, evaluated inventory of all cultural landscapes in which the NPS has or plans to acquire any legal interest. Its purpose is to identify cultural landscapes in the national park system and provide information on their location, historical development, character-defining features, and management. The CLI assists park managers in planning, programming, and recording treatment and management decisions. CLI forms, including maps, drawings, and photographs, are maintained in the support offices and parks.

For more information on documentation, evaluation, and registration see National Register Bulletins 18, 30, 38, 40, 41, and 42 and the *Cultural Landscapes Inventory (CLI) User's Manual.*

3. Cultural Landscape Report

A cultural landscape report (CLR) is the primary guide to treatment and use of a cultural landscape. Based on the historic context provided in a historic resource study, a CLR documents the characteristics, features, materials, and qualities that make a landscape eligible for the National Register. It analyzes the landscape's development and evolution, modifications, materials, construction techniques, geographical context, and use in all periods, including those deemed not significant. Based on the analysis, it evaluates the significance of individual landscape characteristics and features in the context of the landscape as a whole. Typically interdisciplinary in character, it includes documentation, analysis, and evaluation of historical, architectural, archeological, ethnographic, horticultural, landscape architectural, engineering, and ecological data as appropriate. It makes recommendations for treatment consistent with the landscape's significance, condition, and planned use.

A CLR's scope and level of investigation will vary depending on management objectives. It may focus on an entire landscape or on individual features within it. Before any decision regarding treatment of a landscape, *Part 1: Site History, Existing Conditions, Analysis, and Evaluation* must be completed.

A CLR includes the following:

Introduction contains the management summary, historical overview and context, study boundaries, methodology and scope of the project, and a summary of findings.

Part 1: Site History, Existing Conditions, Analysis, and Evaluation contains three primary sections:

Site History includes a narrative history of the landscape describing, as appropriate, the historic context, design intent, primary design principles, key developments, physical relationships, patterns, features, and important individuals or events; and a historical base map/period plan for each significant historic period.

Existing Conditions includes a definition of site boundaries, an accurate site map, and a brief description of current resources, primary features, access, and site use.

Analysis and Evaluation includes an inventory and documentation of significant characteristics and features based on National Register criteria, a condition assessment of those features, and related site information.

Part 2: Treatment contains recommendations for treatment of the landscape based on the site history, existing conditions, and analysis; enabling legislation; applicable standards; and the proposed use as defined in planning documents. Recommendations are presented in a treatment plan and/or narrative guidelines. Cost estimates may be included.

Part 3: Record of Treatment documents the actual treatment with photographs, sketches, accounting data, and narratives outlining the course of work, conditions encountered, and materials used.

Appendices, Bibliography, and Index contain supplemental drawings, illustrations, maps, photographs, technical information, or other support documentation; a list of sources used in preparing the document; and references to material in the document, respectively.

The following standards apply:

- A CLR is prepared to minimize loss of significant characteristics, features, and materials when existing information about the physical history and condition of a cultural landscape is inadequate to address anticipated management objectives, when impending development alternatives could have adverse effects, or to record actual treatment.

- The CLR is prepared by qualified professionals based on appropriate methodologies and techniques for cultural landscape research, documentation, and evaluation.

- Archeological records, base maps, and techniques such as soil analysis are used for data on past features and conditions.

- Landscape, architectural, and archeological investigations supporting a CLR employ nondestructive methods to the maximum extent possible; they

are prescribed and justified in a task directive that includes a research design and impact analysis.

- Confidential information on the location, nature, character, or ownership of archeological and ethnographic resources is identified and not made available to the public.

- National Register documentation is prepared or amended to address cultural landscape resources identified in a CLR after its preparation, if appropriate.

- All field notes, primary documents, original maps, drawings, photographs, and plant materials gathered or associated with the research for CLRs or special landscape projects are organized and preserved as archival material or museum objects in consultation with the park or support office curator.

- All information regarding the condition and assessment of character-defining landscape features is incorporated in the Inventory and Condition Assessment Program (ICAP).

C. Planning

1. Relationship to Park Plans

Cultural landscapes should be considered in all special resource studies for establishing new park areas. In existing parks, cultural landscapes often influence proposals in a park's statement for management, general management plan, development concept plan(s), resources management plan, and interpretive prospectus. Cultural landscape issues, such as historic land uses and the location and character of significant resources, should be considered in the development of all planning documents to avoid adverse effects on landscapes. Information in the Cultural Landscapes Inventory is generally adequate for a general management plan. A development concept plan should be coordinated with the preparation of a CLR and/or involve a historical landscape architect to ensure that development maintains the significant character and features of the landscape. The resources management plan should provide a format for documenting research and treatment requirements related to cultural landscapes as part of a comprehensive park cultural resource program. Appropriate siting of wayside exhibits and signs and techniques for cultural landscape interpretation should be addressed in the interpretive prospectus. In all park plans, the planning process itself is a fundamental tool for integrating information about and determining relationships among cultural landscapes and other resource types.

MODEL CLR CONTENTS

Cover Page
Table of Contents
Introduction. The introduction includes five sub-sections: (a) a management summary describing the purpose of the project; (b) a historical overview that provides a brief historical context for the landscape; (c) a description of the scope of the project and methodology for completing it; (d) a description of study boundaries; and (e) a summary of findings.

PART 1. SITE HISTORY, EXISTING CONDITIONS, ANALYSIS, AND EVALUATION

Site History. This section provides a historical description of the landscape and all significant characteristics. The text is based on research and historical documentation, with enough support material to illustrate the physical character, attributes, features, and materials that contribute to the significance of the landscape. This section identifies the historical context within which the landscape developed, and the period or periods of significance if this has not been done in the HRS or National Register nomination.
Existing Conditions. This section contains a description of the landscape as it exists today including the documentation of landscape characteristics such as land use, vegetation, circulation, and structures. It is based on both research and site survey, including on-the-ground observation and recordation of significant features. A condition assessment is completed to determine the age, material, composition, and integrity of significant components.
Analysis and Evaluation. This section compares findings from the site history and existing conditions to identify the significance of individual features in the context of the landscape as a whole. Historical integrity is evaluated to determine if the characteristics and features that defined the landscape during the historic period are present. A statement of significance for the landscape is included, and the analysis and evaluation are summarized in the identification of character areas or the development of management zones.

PART 2. TREATMENT

This section describes the preservation strategy for long-term management of the cultural landscape based on its significance, existing condition, and use. It also includes a discussion of overall management objectives for the site as documented in planning studies or other management documents. The treatment section may address the entire landscape, or a portion, or a specific feature within it. Treatment is described in a narrative text, treatment plan, or design alternatives.

PART 3. RECORD OF TREATMENT

This section summarizes (a) the intent of the work, (b) the way in which the work was approached and accomplished, (c) the time required to do the work, and (d) the cost of the work. This section also contains copies of the field reports, condition assessments, and contract summaries. It is usually included as an appendix or addendum to the CLR.

APPENDIX, BIBLIOGRAPHY, AND INDEX

This section contains supplemental drawings, illustrations, maps, photographs, technical information, or other support documentation; a list of sources used in preparing the document; and references to material in the document, respectively.

2. Decisions About Treatment

Information about the significance and integrity of cultural landscapes is required before making planning decisions about treatment and in many activities associated with park operations. For general management planning purposes, the historic resource study is the primary document for determining significance and integrity. Before treatment of a landscape or its individual features, additional information regarding its significance, integrity, and condition is necessary. The CLR is the primary supporting document in this regard.

The following standards apply:

- The Cultural Landscapes Inventory or Part I of a CLR, as appropriate, is completed before any major park planning effort affecting a cultural landscape.

- Proposals for actions affecting a cultural landscape are consistent throughout all park planning documents.

- Development plans affecting a cultural landscape involve consultation among historical landscape architects and other resource specialists to assure appropriate protection of all resources.

3. Compliance

Because many parks were evaluated and documented for the National Register before cultural landscapes were recognized as significant resources, the National Register is an incomplete indicator of the presence of landscape resources. In Section 106 compliance, therefore, particular attention must be given to identifying and evaluating landscapes and their significant characteristics, features, and uses so that the effects of proposed undertakings on them can be adequately considered.

Actions affecting cultural landscapes, and thus requiring Section 106 compliance, fall into two categories:

Actions undertaken specifically for the management of a cultural landscape: The most common activity in this category that may affect the character or use of a cultural landscape is routine grounds maintenance, such as pruning and replacing vegetation, mowing grass, repairing fences, resetting and replacing paving materials in kind, and maintaining roads, paths, and trails. Although the work required to maintain a cultural landscape may not differ significantly from other park maintenance practices, many landscapes require special attention and treatment of various features. This especially is true in designed landscapes

where the treatment, use, and maintenance of single features may profoundly affect the integrity of the whole.

Actions undertaken for other management purposes: Actions in this category can have significant adverse effects on a cultural landscape if not planned and carried out with consideration of its values. Examples include the construction of buildings and general work associated with site development; the addition or resurfacing of trails to meet accessibility standards; the addition of contemporary patios, fences, walkways, walls, utilities, and site furniture; and changes in use from open space to parking lot, visitor center, or maintenance yard. Although the impact of a single such action may be minor, the cumulative effect of successive actions may be adverse.

The following standards apply to actions affecting landscape resources:

- A landscape that has not been evaluated for National Register eligibility is given such evaluation before or during Section 106 consideration of an undertaking affecting it.

- Proposed actions are evaluated for their effects on individual landscape features and landscapes as a whole.

- Any ground disturbance in a cultural landscape requiring archeological clearance is reviewed in advance by a historical landscape architect in consultation with an archeologist.

4. Use

Use is an integral characteristic of a cultural landscape and impacts the landscape both materially and spatially. In vernacular and ethnographic landscapes, significant patterns of land use may have varied over several generations, while in a historic designed landscape land use activities may be fixed. Contemporary use of a cultural landscape is appropriate (1) if it does not adversely affect significant landscape features, and (2) if it either follows the historic use or does not impede public appreciation of it.

5. Funding and Staffing

Because the NPS has only recently recognized cultural landscapes as a major resource type, funding and staffing for landscape research, planning, and stewardship are relatively limited. Parks should systematically evaluate their funding and staffing needs for landscapes and identify them in park resources management plans.

D. Stewardship

1. General Treatment

This section contains management standards that provide a broad philosophical base for the treatment of cultural landscapes. Treatment is traditionally divided into four categories: preservation, rehabilitation, restoration, and reconstruction. The standards should be used in evaluating proposed projects and in planning and executing all work.

The following standards apply to all treatments:

- Land use activities, whether historic or introduced, do not impair archeological resources.
- Uses addressing programmatic needs or park facilities within a cultural landscape, such as visitor centers, parking, interpretive structures, housing, administrative facilities, maintenance yards, and storage areas, are carefully considered in the context of the significance of the landscape.
- Use is monitored and regulated to minimize both immediate and long-term damage.
- Contemporary facilities do not adversely impact the landscape's physical and visual character. New facilities are compatible with the historic character and material of the landscape.
- Contemporary structures to facilitate access, such as ramps, railings, signs, and curb cuts, are designed and located to minimize adverse impacts on the character and features of a cultural landscape.
- Access to a cultural landscape that is vulnerable to damage from human use is limited, monitored, or controlled.
- All treatment and use decisions reflect consideration of effects on both the natural and built features of a cultural landscape and the dynamics inherent in natural processes and continued use.
- Use of destructive techniques, such as archeological excavation, is limited to providing sufficient information for research, interpretation, and management needs.
- All work that may affect cultural landscapes is evaluated by a historical landscape architect and other professionals, as appropriate.

- All modification, repair, or replacement of materials and features is preceded by sufficient study and recording to protect research and interpretive values.

- New work, materials, and replacement features are identified, documented, or permanently marked in an unobtrusive manner to distinguish them from original work, materials, and features. The manner and location of identification is recorded using the Inventory and Condition Assessment Program (ICAP).

- A proposed treatment project is initiated by the appropriate programming document, including a scope of work and cost estimate from a CLR or ICAP. Such projects include preservation maintenance as well as major treatment. No treatment is undertaken without an approved CLR or work procedure specifying the work, and Section 106 compliance.

- A treatment project is directed by a historical landscape architect and performed by qualified technicians.

- Representative features salvaged from a cultural landscape are accessioned and cataloged, provided that they fall within the park's scope of collection statement.

- All changes made during treatment are graphically documented with drawings and photographs. Records of treatment are managed as archival materials by a curator or archivist within the park's museum collection.

- Work on historic structures, including modifications to improve drainage and access, does not harm the character-defining features of a cultural landscape.

a. Preservation

Preservation maintains the existing integrity and character of a cultural landscape by arresting or retarding deterioration caused by natural forces and normal use. It includes both maintenance and stabilization. Maintenance is a systematic activity mitigating wear and deterioration of a cultural landscape by protecting its condition. In light of the dynamic qualities of a landscape, maintenance is essential for the long-term preservation of individual features and the integrity of the entire landscape. Stabilization involves reestablishing the stability of an unsafe, damaged, or deteriorated cultural landscape while maintaining its existing character. The following standards based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties* apply:

- A cultural landscape is used as it was historically, or is given a new or adaptive use that maximizes the retention of historic materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a landscape is protected and, if necessary, stabilized until additional work may be undertaken.

- The historic character of a cultural landscape is retained and preserved. The replacement or removal of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a landscape is avoided.

- Each cultural landscape is recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve historic materials and features is physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

- Changes to a cultural landscape that have acquired historical significance in their own right are retained and preserved.

- Historic materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a cultural landscape are preserved.

- The existing condition of historic features is evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a historic feature, the new work matches the old in design, color, texture, and where possible, materials. Repair or replacement of features is substantiated by archeological, documentary, or physical evidence.

- Chemical or physical treatments that cause damage to historic materials are not used.

- Archeological and structural resources are protected and preserved in place. If such resources must be disturbed, mitigation measures are undertaken including recovery, curation, and documentation.

The following additional standards apply:

- Stabilization detracts as little as possible from a cultural landscape's appearance and significance. Reinforcement is concealed wherever possible so as not to intrude upon or detract from the aesthetic, historical, or archeological quality of the landscape, except where concealment would

result in the alteration or destruction of historically or archeologically significant features, materials, or physical or visual relationships. Accurate documentation of stabilization procedures is kept and made available for future needs.

- Maintenance is executed by qualified technicians in accordance with approved work procedures. Where such procedures are nonexistent or incomplete, a historical landscape architect or appropriate cultural resource specialist provides technical guidance.

- All features of the cultural landscape are inspected on a scheduled basis and information about their condition is entered into ICAP.

b. Rehabilitation

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

- A cultural landscape is used as it was historically or is given a new or adaptive use that maximizes the retention of historic materials, features, spaces, and spatial relationships.

- The historic character of a cultural landscape is retained and preserved. The replacement or removal of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a landscape is avoided.

- Each cultural landscape is recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features from other landscapes, are not undertaken. Work needed to stabilize, consolidate, and conserve historic materials and features is physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

- Changes to a cultural landscape that have acquired historical significance in their own right are retained and preserved.

- Historic materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a cultural landscape are preserved.

- Deteriorated historic features are repaired rather than replaced. Where the severity of deterioration requires repair or replacement of a historic feature, the new feature matches the old in design, color, texture, and, where possible, materials. Repair or replacement of missing features is substantiated by archeological, documentary, or physical evidence.

- Chemical or physical treatments that cause damage to historic materials are not used.

- Archeological and structural resources are protected and preserved in place. If such resources must be disturbed, mitigation measures are undertaken including recovery, curation, and documentation.

- Additions, alterations, or related new construction do not destroy historic materials, features, and spatial relationships that characterize the cultural landscape. New work is differentiated from the old and is compatible with the historic materials, features, size, scale and proportion, and massing of the landscape.

- Additions and adjacent or related new construction are undertaken in such a manner that if removed in the future, the essential form and integrity of the cultural landscape would be unimpaired.

c. Restoration

Restoration accurately depicts the form, features, and character of a cultural landscape as it appeared at a specific period or as intended by its original constructed design. It may involve the reconstruction of missing historic features and selective removal of later features, some having cultural value in themselves. The following standards based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties* apply:

- A cultural landscape is used as it was historically or given a new or adaptive use that interprets the landscape and its restoration period.

- Materials and features from the restoration period are retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period is not undertaken.

- Each cultural landscape is recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features from other landscapes, are not undertaken. Work needed to stabilize, consolidate, and conserve materials and features from the restoration period is physically and visually

compatible, identifiable upon close inspection, and properly documented for future research.

- Materials, features, finishes, spaces, and spatial relationships that characterize other historic periods are documented prior to their alteration or removal.

- Historic materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period are preserved.

- Deteriorated features from the restoration period are repaired rather than replaced. Where the severity of deterioration requires replacement of a historic feature, the new feature matches the old in design, color, texture and, where possible, materials.

- Replacement of missing features from the restoration period is substantiated by archeological, documentary, or physical evidence. A false sense of history is not created by adding conjectural features or features from other landscapes, or by combining features that never existed together historically.

- Chemical or physical treatments that cause damage to historic materials are not used.

- Archeological and structural resources are protected and preserved in place. If such resources must be disturbed, mitigation measures are undertaken including recovery, curation, and documentation.

- Designs that were never executed historically are not constructed.

The following additional standards apply:

- Archeological, documentary, or physical evidence is sufficient to permit accurate restoration with minimal conjecture.

- Restoration is essential to public understanding of the cultural associations of a park.

- Reinforcements required for stability of existing support systems and protective or code-required features (electrical, security, fire protection, handicapped accessibility, etc.) are concealed whenever possible so as not to intrude upon or detract from a cultural landscape's aesthetic and

historical qualities, except where concealment would result in the alteration or destruction of historically significant features, materials, or physical or visual relationships.

d. Reconstruction

Reconstruction entails depicting the form, features, and details of a non-surviving cultural landscape, or any part thereof, as it appeared at a specific period or as intended by its original constructed design. Reconstruction of an entire landscape is always a last-resort measure for addressing a management objective and will be undertaken only upon specific written approval of the director after policy review in the Washington office. The following standards based on the *Secretary of the Interior's Standards for the Treatment of Historic Properties* apply:

- Archeological, documentary, or physical evidence is available to permit accurate reconstruction with minimal conjecture, and such reconstruction is essential to public understanding of the cultural associations of a park established for that purpose.

- Reconstruction of a cultural landscape in its historic location is preceded by a thorough archeological investigation to identify and evaluate those features and artifacts which are essential to an accurate reconstruction. Mitigation measures are undertaken including recovery, curation, and documentation.

- Reconstruction includes measures to preserve any remaining historic material, features, and spatial relationships.

- Reconstruction is based on the accurate duplication of historic features substantiated by archeological, documentary, or physical evidence, rather than on conjectural designs or the availability of different features from other landscapes. A reconstructed cultural landscape re-creates the appearance of the non-surviving landscape in design, color, texture, and, where possible, materials.

- A reconstruction is clearly identified as a contemporary re-creation.

- Designs that were never executed historically are not constructed.

The following additional standards apply:

- The reconstructed cultural landscape is full-scale and on the original site.

- The reconstruction does not simulate a damaged or ruined cultural landscape or constitute a general representation of a "typical" landscape, e.g., kitchen garden, period garden, orchard, that never existed historically.

2. Biotic Systems Treatment

This section contains standards addressing the special issues related to the treatment of biotic systems. Virtually all cultural landscapes evolve from and are dependent on natural resources. In many ways, the dynamic qualities inherent in natural systems are what differentiate cultural landscapes from other cultural resources. Plant and animal communities associated with human settlement and use are considered *biotic cultural resources* and can reflect social, functional, economic, ornamental, or traditional uses of the land. Within a cultural landscape, biotic cultural resources are recognized either as a system or as individual specimen features that contribute to the landscape's significance. For example, the preservation of a single tree in a historic designed landscape may be critical to the integrity of the overall design. A herd of a historic variety of livestock may have similar significance in a historic vernacular landscape. In contrast, an entire woodland may have significance, so that preserving the ecological processes of the system rather than individual trees or animals becomes paramount. In all cases, consultation with natural resource professionals is necessary to determine appropriate protection and management strategies for biotic cultural resources.

General standards for managing vegetation in a cultural landscape are followed by specific standards and guidance for managing specimen plants, vegetation systems, pests, and endangered species. (Additional guidance for management of biotic resources is found in the *Natural Resources Management Guideline* [NPS-77].)

- Existing vegetation, both native and introduced (exotic), that contributes to the historic character of a cultural landscape or is important to a traditional user group is identified, maintained, and perpetuated, as appropriate. Special consideration is given to introduced species because they may be important clues to the history of the landscape, they may include plant varieties that are rare or endangered, or they may be mistaken as "pests" and removed.

- Maintenance methods are used that promote the health and vigor of the vegetation and respect either the natural habit of growth or the trained form of the plant material related to the historic character of a cultural landscape.

- Treatment of vegetation is based on an understanding of the functional, design, and associative values of the plant material in a cultural landscape.

a. Specimen Plant Management

Specimens include both individual plants and aggregations of plants that have distinct, unique, or noteworthy characteristics in a landscape such as individual trees and shrubs, ornamental plantings, perennial borders, gardens, and orchards. In some cultural landscapes, it is important that specific types of plant materials and the location, shape, and form of these materials be retained and perpetuated based on their historic character and significant values. The primary considerations in managing specimen plants are to ensure their health and vigor and, if appropriate, provide for propagation of the next generation. Perpetuation of historic genetic material is especially important when cultivars are rare or unavailable. The following standards apply:

- Extant historic vegetation considered significant as a specimen in a cultural landscape is identified and maintained.

- Perpetuation of historic genetic material, through propagation or other means, is undertaken when plants are rare or have important historical associations or when replacements are unavailable.

- Significant vegetation that causes damage to or threatens other resources is controlled rather than removed whenever feasible.

- Replacement of plant material matches the original in type, location, form, and shape.

- Substitution of plant material is considered in response to changes in growing conditions, susceptibility to disease and pests, or the unavailability of original material. Substitute material matches the historic material in visual, functional, and horticultural characteristics. Varieties resistant to disease, pests, and pollution are used where they meet these standards. Accurate records of substitutions are kept.

- Removal of vegetation that threatens health and safety is preceded by adequate documentation and followed by replacement if appropriate.

b. Vegetation Systems Management

In managing vegetation systems, the overall pattern of vegetation is the primary concern. Elements of pattern include height and general scale and the size and juxtaposition of areas with different vegetation. Exact configurations and plant species can vary as long as the overall pattern is retained. Forests, woodlands, woodlots, and most agricultural lands are examples of vegetation systems. The following standards apply:

- The need for succession through several stages to retain healthy communities is considered in managing forests, woodlands, and woodlots. On agricultural lands, the value of crop rotation, fallow periods, and succession into woodland is considered.

- Consideration is given to the effects of vegetation on the nutrient regime of water bodies and the stability of banks. Erosion is minimized using vegetation or other materials compatible with the historic character of the cultural landscape.

- Vegetation management activities associated with ground disturbance are monitored to ensure the protection of archeological and other cultural resources, such as the remains of roads and traces, fence lines, hedgerows, earthworks, subsurface features, and other structures.

- Areas that meet the definition of wetland generally are excluded from agricultural use. If agricultural use is allowed in wetland areas, appropriate measures are taken to monitor impacts.

- Historic exotic species are monitored and controlled to avoid spreading and disrupting desirable adjacent natural plant communities and associations. Historically inappropriate exotic species are not introduced.

c. Pest Management

A pest is defined as a population of organisms that interferes with the accomplishment of management objectives. Integrated pest management (IPM) involves taking steps to prevent pest problems, monitoring to detect when a pest population reaches a predetermined threshold level considered unacceptable, and using a combination of approaches to control pests in a manner that will be most effective, safest to people, and most environmentally sound. (For additional information on IPM see the *Natural Resource Management Guideline*.) The following standards apply:

- Landscape management practices that contribute to pest problems are identified and alternate practices that maintain the historic character of a cultural landscape are considered.

- When appropriate, pest-resistant varieties are used to minimize pest-caused damage to features of a cultural landscape and the need for pesticides.

- All use of biocides complies with the standards and procedures in the *Natural Resources Management Guideline*.

d. Endangered Species

Federally or state-listed threatened or endangered species must receive utmost protection. They may be considered "specimens" within the cultural landscape system. (For additional information on endangered species, see the *Natural Resources Management Guideline*.)

3. Inventory and Condition Assessment Program (ICAP)

ICAP, a module of the Maintenance Management (MM) program, assists in planning for the maintenance and major treatment of cultural landscapes through an inventory and condition assessment of their features. ICAP generates annual inspection forms and other reports, develops a preventive maintenance program, and uploads data into the park MM program.

The Historic Property Preservation Database (HPPD) is a computerized database containing technical information on the treatment of cultural landscapes and historic and prehistoric structures. It is used to develop work procedures for ICAP and MM, including skill requirements, work consideration, material and equipment selection, and work instructions. The HPPD also provides information for more intensive treatments such as rehabilitation and restoration.

(For additional information see the ICAP *Reference Manual* and *Computer User Manual*.)

4. Proprietorship

NPS fee ownership and occupancy of a cultural landscape provides park managers the greatest flexibility. However, when the integrity of a landscape can be maintained and long-term management objectives realized with the property held or occupied by others, acquisition of less-than-fee interests or special use agreements should be considered. (For further information see the *Historic Property Leasing Guideline* [NPS-38], the *Special Park Uses Guideline* [NPS-53], and the *Park Planning Guideline* [NPS-2].) The following standards apply to the acquisition and control of lands containing or contributing to a cultural landscape:

a. Acquisition of Lands and Interests

- The fee-simple acquisition of lands is undertaken where necessary to ensure the protection of significant features and uses associated with a cultural landscape.

- The use of easements to protect a cultural landscape takes into account the economic viability of continuing their historic uses and the ability and desire of owners to continue those uses.

- Easements on agricultural lands address the protection of significant small-scale features within a cultural landscape, such as historic roads and paths, hedgerows, fences, and specimen trees. The ability of owners to preserve and maintain such features over time is evaluated to ensure compliance.

b. Leases and Agreements

- Agricultural leases and agreements are managed to protect significant features of a cultural landscape, such as topography, field size, fences, walls, ditches, vegetation, wetlands, earthworks, structures, and vistas.

- Archeological surveys are undertaken as necessary to ensure that modern farming techniques will not destroy subsurface resources.

- Modifications prompted by modern farm machinery and practices, including the alteration of historic buildings, lanes, roads, fences, and gates and the introduction of nonhistoric crops, field patterns, and pruning techniques, are minimized to protect significant landscape features and patterns.

- Landscape support facilities resulting from leases and agreements, such as parking areas and signs, are not allowed to diminish the integrity of a cultural landscape.

c. Adjacent Lands

- Adjacent lands significant to the physical, functional, or symbolic cultural landscape context of the park are identified.

- Direct impacts of adjacent land development on a park cultural landscape are identified, such as removal of woodlands; development and/or reforestation of traditionally "open" lands; alteration of historically significant field patterns; alteration of topography, streams, and watercourses impacting existing natural systems; and alteration of historic vistas.

- Indirect impacts of adjacent land development on a park cultural landscape are identified, such as increased commuter traffic on park roads, storm water runoff or restricted overland flow impacting park vegetation or generating erosion and pollution, increased pressure for the park to serve local recreational needs, higher taxes or land values rendering local agriculture unprofitable, and use of pesticides and herbicides that may negatively impact natural resources.

- Potential impacts of adjacent land development on the cultural landscape context of parks are addressed through park involvement in the planning processes of local jurisdictions.

5. Destruction or Neglect of Cultural Landscapes

No cultural landscape listed in or potentially eligible for the National Register or listed in the Cultural Landscapes Inventory will be destroyed or deliberately neglected without review by cultural resource specialists and approval by the regional director. If a potentially eligible landscape has not been evaluated for the National Register, the state historic preservation officer will be consulted. If it is determined, in consultation with the SHPO, that the landscape does not meet the National Register criteria, destruction or deliberate neglect may occur. In some cases, neglect is the appropriate action to protect archeological resources and the natural resources and processes that may have cultural or ethnographic value.

Before a landscape eligible for the National Register is destroyed or allowed to deteriorate, it must be documented in accordance with Section 110(b) of the National Historic Preservation Act, and the documentation must be accepted by the Chief, HABS/HAER Program.

6. Special Issues

a. Cemeteries

Cemeteries in parks may have significance as repositories of the remains of individuals having local, state, or national importance; as places associated with historic events or figures not interred therein (e.g., Gettysburg National Cemetery for its association with Abraham Lincoln); or because of individual structures of high artistic or architectural merit. In addition, some cemeteries are significant cultural landscapes because they represent a type of burial ground (family), because they typify a broad social movement or pattern (the slave burial ground), or because in plan and execution they were seminal designs (early examples of the "rural" cemetery movement) or works of important designers. The following standards address treatment of park cemeteries, including those in private ownership.

- The cemetery is managed in a manner that recognizes its significance and preserves and interprets the cultural landscape as a whole. The character-defining features of the cemetery, such as general organization and layout, plant materials, roads and pathways, fences, and the placement of statuary and grave markers, are documented and incorporated in a maintenance program.

- Maintenance activities do not impair the significant character and individual features of the cultural landscape. Mowing, weed whipping, and use of commercial herbicides immediately next to grave markers are avoided.

- The repair, cleaning, consolidation, and resetting of grave markers is supervised by a historical architect and other professionals, as appropriate.

- New landscape features are compatible with the original design and character of the cemetery and do not negatively impact the significant built or natural features (e.g., new trees are planted so that roots will not later damage or disrupt grave markers and curbing).

(For further information see the *National Cemeteries Guideline* [NPS-61].)

b. Circulation Systems

In many parks, the roads, parkways, and trails are significant historic circulation systems. A circulation system may constitute a cultural landscape in and of itself, such as Going-to-the-Sun Road in Glacier National Park, or it may be an integral feature of a cultural landscape. Key features of circulation systems, such as topography, bridges, headwalls, retaining walls, culverts, and views, are important to defining the overall character of the landscape. The following standards apply:

- Historically significant circulation systems and their associated features are not adversely impacted to accommodate recreational vehicles, buses, commuter traffic, or other contemporary uses.

- Plans for the treatment of structural features that are parts of historically significant circulation systems are developed in consultation with a historical architect.

- Historic circulation systems are rehabilitated to accommodate health and safety codes in ways that minimize impact on character-defining features.

c. Earthworks

Earthworks are linear or geometric landscape structures built for military, industrial, agricultural, ceremonial, or aesthetic purposes. They include fortifications, water impoundment and control structures, early field boundary ditches and berms, burial mounds, grass garden ramps, and raised beds. Because of their composition, earthworks are constantly being impacted by a variety of natural forces. The long-term preservation of earthworks commonly requires an appropriate vegetative cover that may differ from the historic material. The following standards apply:

- Earthworks are maintained with a healthy, vigorous vegetation cover to minimize erosion and loss of integrity.

- Circulation and visitor use facilities are located and controlled to avoid impacting earthworks.

(For more information see the *Earthworks Landscape Management Manual* [full citation in Appendix K].)

d. Monuments, Memorials, and Landscape Remnants

Monuments and memorials are defined as structures and included in the List of Classified Structures. They are often significant components of cultural landscapes and may be cultural landscapes in their own right. The siting, orientation, plantings, paving materials, roads, and pathways designed as an integral part of a monument or memorial should be considered part of the feature and managed as a whole. In addition, remnant objects may have cultural value as landscape features. Their treatment should be developed in collaboration with a historical architect or curator.

At battlefields and other military sites, artillery pieces need to be evaluated in terms of their relationship to the historic landscape. A piece of ordnance may be part of a planned memorial design and significant as a structural feature of the landscape or it may be strictly an interpretive device without site-specific significance. If the ordnance is fixed in position it is defined as a structure; if it is not fixed it is defined as a museum object and may be part of the museum collection. In both cases, the relocation of artillery pieces should be evaluated based on their significance in the context of the overall design of the historic landscape.

CHECKLIST FOR MANAGEMENT OF CULTURAL LANDSCAPES

RESEARCH:

- ✓ The historic contexts and significant characteristics and features of cultural landscapes are identified and documented in historic resource studies.
- ✓ All landscapes eligible for the National Register of Historic Places have been identified and nominated.
- ✓ All cultural landscapes are listed in the Cultural Landscapes Inventory.
- ✓ Documentary research and physical investigation are sufficient to support treatment.
- ✓ Cultural landscape reports are prepared for all cultural landscapes.
- ✓ Work procedures and major assessments are complete in an ICAP format.
- ✓ All records associated with cultural landscape studies, including maps, field notes, photographs, soil or pollen analyses, and construction files, are properly organized and placed in the park museum collection.
- ✓ All professional reports and publications are entered in the Cultural Resources Management Bibliography.

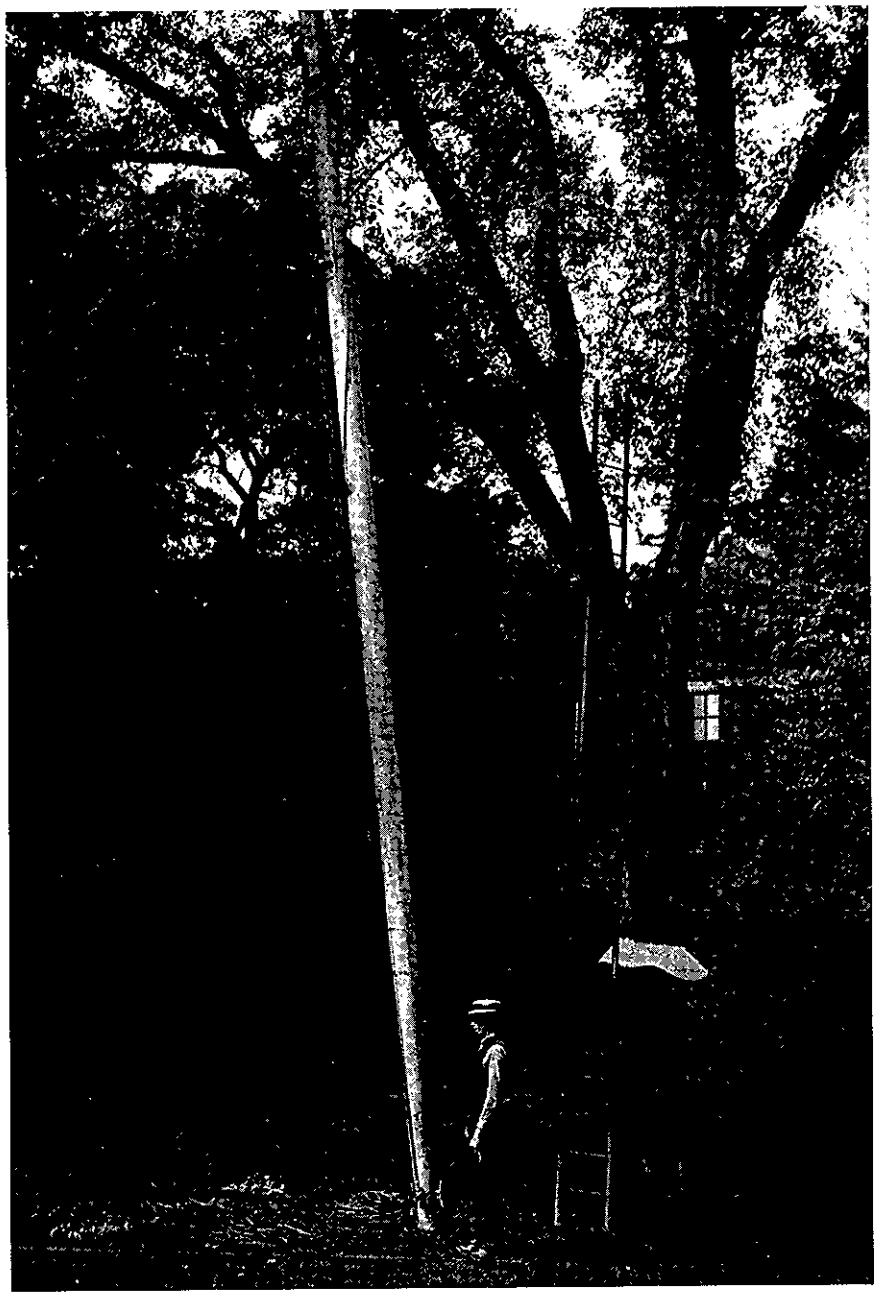
PLANNING:

- ✓ All cultural landscapes are appropriately addressed in the park's general management plan, development concept plan(s), resources management plan, and interpretive prospectus.
- ✓ Plans and specifications for all preservation, rehabilitation, restoration, and reconstruction work are prepared by a historical landscape architect.
- ✓ Required consultation and legal compliance is carried out before any work is initiated, and the concerns of consultants are taken into account in decision-making.

STEWARDSHIP:

- ✓ Actions identified in a cultural landscape report are implemented and a record of treatment is added to the report.
- ✓ All work is performed by qualified people in conformance with approved plans and specifications or work procedures.
- ✓ All maintenance personnel who work with cultural landscapes are given appropriate preservation training.
- ✓ All cultural landscapes are inspected at least annually in an ICAP format.
- ✓ All ground disturbance in cultural landscapes is cleared or monitored by an archeologist.
- ✓ The entire park staff is made aware of the significance of cultural landscapes and the major threats to them.

GUIDE TO DEVELOPING A PRESERVATION MAINTENANCE PLAN FOR A HISTORIC LANDSCAPE



Olmsted Center for
Landscape Preservation

National Park Service

U.S. Department of
the Interior

GUIDE TO DEVELOPING A PRESERVATION MAINTENANCE PLAN FOR A HISTORIC LANDSCAPE

by Margaret Coffin and Regina M. Bellavia

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The Olmsted Center for Landscape Preservation promotes the stewardship of significant landscapes through research, planning and sustainable preservation maintenance. Based at the Frederick Law Olmsted National Historic Site, the center perpetuates the tradition of the Olmsted firms and Frederick Law Olmsted Sr.'s lifelong commitment to people, parks and public spaces.

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Cover photo: Historic photograph, circa 1912, of tree work on the American elm at "Fairsted," the home and office of Frederick Law Olmsted and later, office of the Olmsted Brothers landscape architecture firm. The property is now managed by the National Park Service (Courtesy of Frederick Law Olmsted National Historic Site archives).

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FOREWORD

In response to an overwhelming interest in the first printing of the *Guide to Developing a Preservation Maintenance Plan for a Historic Landscape* the Olmsted Center for Landscape Preservation has prepared this second edition to help meet the needs of the preservation community.

Since the release of the first edition in 1995, the principles and practices of maintaining historic landscapes have continued to be developed and refined. The revisions and additions to this edition reflect recommendations of many in the preservation field who have carefully reviewed and provided thoughtful comments on the original publication. As a result, this edition provides updated and practical information for those undertaking the preparation of a landscape preservation maintenance plan.

It is hoped that you will continue to provide insightful comments and suggestions on this publication. In this way, the Olmsted Center will keep this Guide current and applicable to the field.

Charles Pepper
Acting Director
Olmsted Center for Landscape Preservation
January 1999

FOREWORD TO FIRST EDITION

In 1872 Frederick Law Olmsted described, in a letter to Henry G. Stebbins, the importance of landscape maintenance:

> The character of the park, its beauty and fitness for the purposes it has been designed to serve; in one word its value to the public, is to be far more affected by the work... done upon it than by all that is to be done upon accurate drawings....
>
> For example, the... seeding, mowing, rolling and weeding of turf; the spading, forking, raking... the constant repairs, ordinary and extraordinary, and... the thinning and pruning of trees and shrubs; the replacing or reinforcement of decaying wood work; the painting of iron work...

Managers of historic landscapes recognize, as Olmsted did, the important role of maintenance in preserving the character of a landscape. As the field of preservation has developed, the complexity and challenges of maintaining a historic landscape have also become increasingly clear. In our experience working with landscape managers, development of a historic landscape maintenance plan has proved to be an effective tool for integrating preservation objectives into landscape maintenance operations, and for planning and documenting work. In order to make this tool more readily available to other managers, we have developed this Guide.

Working collaboratively with maintenance managers, gardeners, landscape architects, and preservation specialists, Margaret Coffin has developed a clear step-by-step procedure to systematically describe preservation maintenance. Colleagues in the National Park Service and other organizations implemented earlier drafts of this guide and provided invaluable feedback. As you use the Guide, I encourage you to contact the Olmsted Center for Landscape Preservation with your thoughts and comments. With your assistance, the staff at the Olmsted Center can continue to improve this Guide as part of our efforts to provide practical guidance on the stewardship of significant historic landscapes.

Charles Pepper
Manager, Preservation Maintenance Branch
Olmsted Center for Landscape Preservation
June 1995

ACKNOWLEDGEMENTS

Many people were instrumental in the development of this project. The document was prepared with guidance from Nora Mitchell, Charles Pepper, Lauren Meier, and Barbara Harty at the Olmsted Center for Landscape Preservation. Robert Page and Charles Birnbaum from the Washington Office of the National Park Service offered guidance with respect to nationwide applicability. Cathy Gilbert and Marsha Tolon at the Pacific West Division of Cultural Resources Management, offered insights from their work on a comparable guide. Arthur Dutil from Chesterwood, a National Trust property, Steve McMahon from Naumkeag, a property of The Trustees of Reservations, and Peter Del Tredici from the Arnold Arboretum of Harvard University, offered their perspectives on the applicability of this system to other cultural landscapes. Rolf Diamant, and Lee Farrow Cook, at the Frederick Law Olmsted National Historic Site provided many helpful review comments. Catherine Evans and Eliot Foulds at the Olmsted Center, and Phyllis Andersen and Kristin Claeys at the Arnold Arboretum, also contributed to the Guide. Special thanks for the cooperation and feedback from the staff at parks where Preservation Maintenance Plans have been developed, including: Ed Bacigalupo, Bob Galvin, Lenny Giannetti, Pat Laffey and George Ryan at Olmsted NHS; Gene Gabriel, Bob MacKenzie, Mona Phelps and Wayne Rivard at Adams NHS; Tom O'Neil at Boston NHP; John Gilbert, James Haaf, Bill Noble, and Peter Stone at Saint-Gaudens NHS; Tim Thornhill and Dave Fernald at Salem Maritime NHS; Joe Finan at Saratoga NHP; Keith Laplante at Springfield Armory NHS; Al Farrugio at the Statue of Liberty NM; Bob Fox at Weir Farm NHS; and John Donahue at George Washington Birthplace NM.

Figure 1: Tree Pruning at Statue of Liberty National Monument, 1995 (Courtesy of Charles Pepper).

Figure 2:
Mahonri M. Young. Joe Knoche Builds a Stone Wall I. *Courtesy Museum of Art, Brigham Young University, all rights reserved. Etching done at farm in Branchville, now Weir Farm National Historic Site.*

Throughout the country, special places commemorate significant events, activities, and people in our nation's history. These places are diverse and include parks and parkways, gardens, homes of famous people, battlefields, rural settlements, and early industrial centers. Every year, millions of people visit these places to learn more about our cultural heritage. Much of this learning experience is shaped by the landscape, which reflects an earlier time. These *historic landscapes* create lasting impressions.[1] Yet, without ongoing maintenance, historic landscapes quickly lose their character and no longer educate future generations about their heritage.

Historic landscapes are composed of many features that contribute to their overall character and significance. Each feature is shaped by both the natural environment and a history of maintenance. The height of a hedge, the flowers within a perennial garden, the condition of a fence, the repair of a stone wall, and the width and surface of a carriage road, are all examples of details in the landscape that are influenced by maintenance practices.

The maintenance staff responsible for the long-term care of a historic landscape are faced with many challenges. Some landscape features, in particular vegetation, change dramatically over time, while other features, such as walls and paths, may gradually erode or disappear. The maintenance staff must address issues of decline, wear, decay and damage in order to perpetuate the character of the place.

This document offers a framework for a maintenance operations plan that focuses on preserving the character of a historic landscape. Throughout the document, the term *preservation maintenance* describes the practice of monitoring change, controlling growth, replacing in-kind, and minimizing disturbance in the landscape to ensure that features, such as vegetation, paths, walls, and other landscape furnishings, are not lost and the character of a place is not compromised.[2] The guiding philosophy is that all existing landscape features should be preserved until the history of the landscape is fully researched and documented.

---

[1] In this document, historic landscapes include historic sites, historic designed landscapes, and historic vernacular landscapes. For more detailed definitions, refer to Appendix A and the *National Park Service Cultural Resource Management Guidelines, NPS-28*, release No. 4, July 1994, chapter 7.

[2] Preservation maintenance is carried out to stabilize or protect significant or potentially significant resources before, during and after a treatment decision is made. A treatment decision is based on historical research, inventory and documentation of existing conditions, site analysis and evaluation of integrity and significance. Four treatment alternatives, preservation, rehabilitation, restoration and reconstruction, are defined in The *Secretary of the Interior's Standards for the Treatment of Historic Properties* (1992).

The format of this Guide is designed to provide an integrated approach to the many aspects of preservation maintenance planning, including detailed inventory and mapping, field inspections, record keeping, and work procedures that consider the historic character of the landscape. Information is gathered from a variety of sources and consolidated into a Preservation Maintenance Plan in a three-ring binder with tabs for each section. This binder can be added to periodically, thereby accumulating the technical and practical information necessary for protecting a valuable historic landscape.

This Guide was developed by a team of landscape professionals, including maintenance managers and historic preservationists. Examples are used from the Frederick Law Olmsted National Historic Site (Olmsted NHS), which was the prototype park for the Guide. Many additional examples and photographs are included from other historic properties managed by the National Park Service (NPS) throughout the northeast. At each property, the staff have adapted the format to meet their site-specific needs.

DEVELOPING A SITE-SPECIFIC PRESERVATION MAINTENANCE PLAN

A complete Preservation Maintenance Plan contains six sections. It may be best to start with one or two landscape features that are particularly significant and work through all sections. A summary of the six sections follows.

1. Defining Objectives outlines issues to address when determining how this Preservation Maintenance Plan will support the existing maintenance program.

2. Areas and Categories of Features describes a method of delineating areas and aggregating similar features within a landscape to help describe the composition of the landscape.

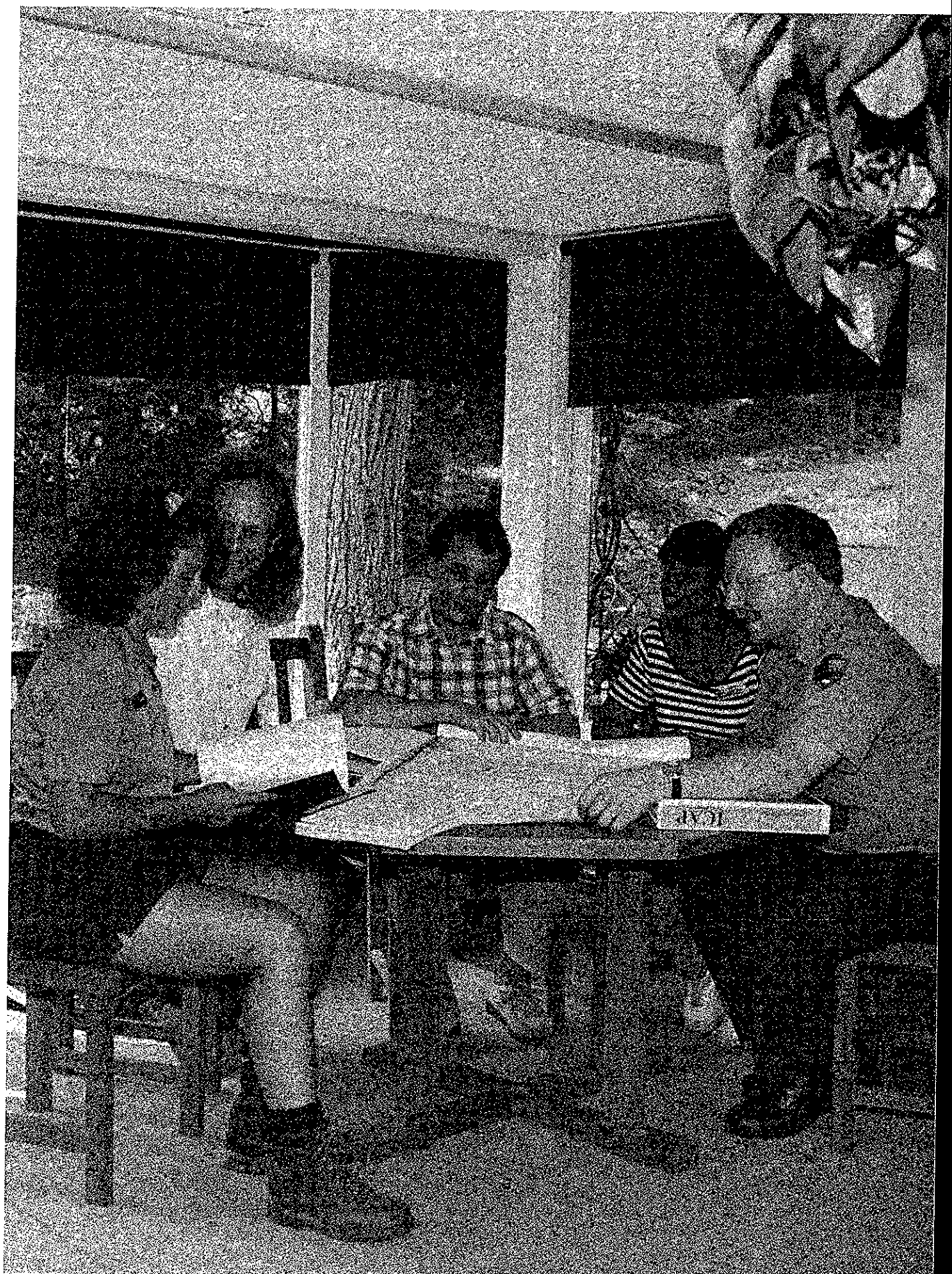
3. Inventory of Landscape Features provides a format for an inventory of all landscape features that are being managed, including their name, origin, age and size.

4. Field Inspection and Summary of Work Needed outlines a procedure for conducting field inspections for different types of landscape features and describing field work needed.

5. Feature Data and Record Keeping describes information related to the maintenance of each type of feature including its historical significance, preservation practices, potential pest or disease problems, and helpful references. Record keeping provides a format for notes related to individual features such as propagation, replacement, damage or other major changes in the landscape.

6. Seasonal Calendar describes how to compile preservation practices into an annual calendar that lists the best time to look for specific problems and carry out work needed.

Figure 3: Discussing landscape preservation maintenance goals for Frederick Law Olmsted National Historic Site, 1995 (Courtesy of H. Eliot Foulds).



DEFINING OBJECTIVES

To ensure that time is well spent in developing a Preservation Maintenance Plan, it is important to have clearly defined objectives for its purpose, scope and level of detail. Once these objectives are defined, they may be summarized in a written introduction for the Plan. Below are several considerations.

A. Preparing and using a Preservation Maintenance Plan

It is essential to determine how a Preservation Maintenance Plan will enhance current maintenance operations. The scope of information and the level of detail required is largely determined by the people who will be using and be involved in the development of the plan. One strategy is to create a work group that includes maintenance staff and historic landscape preservation specialists with a designated leader. It is imperative that maintenance staff play a major role in the development of the plan because they will ultimately be referring to it, using it, adding information, and recording work completed. Other professionals likely to be involved in the development of the plan could include site managers, maintenance supervisors, a landscape historian, landscape architect, horticulturist, carpenter, engineer, mason, archeologist, and ecologist depending on the features at the property. A diverse group ensures that all concerns, ranging from field maintenance techniques to historic character, are addressed.

Once information is assembled into a plan, all staff should become familiar with its contents and encouraged to add information, particularly in the section that contains feature data and record keeping. These records will be used in the future by maintenance managers and historians to understand how the landscape and its features have changed over time.

B. Preservation maintenance versus standard landscape maintenance

A site manager typically sets landscape maintenance priorities based on the goals and functions of a property. For example, maintenance priorities at a corporate headquarters may call for a manicured landscape that welcomes clients, whereas the maintenance priorities at a historic site may focus on the preservation of historic materials and character of the landscape. The highest priority for preservation maintenance is to preserve and protect historic authenticity while standard practices focus on aesthetics, cost effectiveness, and contemporary techniques and equipment *(Figure 4)*.

For preservation maintenance operations to be effective, daily maintenance operations may require precise instructions, such as appropriate height to trim a hedge *(Figures 5, 6, 7)*. Long-term preservation maintenance projects require thoughtful planning and documentation, such as retaining a historically significant view, resurfacing roads or walks with a particular aggregate, perpetuating specimen plants by propagation, or preserving the appearance of a meadow by managing certain grass species. Finally, and most importantly, all preservation maintenance practices must ensure that historic features and potentially significant features and materials are not inadvertently altered or lost.

C. Maintenance operations and the preservation planning process for a historic landscape

The process of acquiring, stabilizing and treating a historic landscape is referred to as the landscape preservation process. The process consists of two major facets of work, preservation maintenance and preservation planning. Preservation maintenance is the act of caring for a specific feature, area or landscape by protecting, stabilizing, and repairing it on a routine or

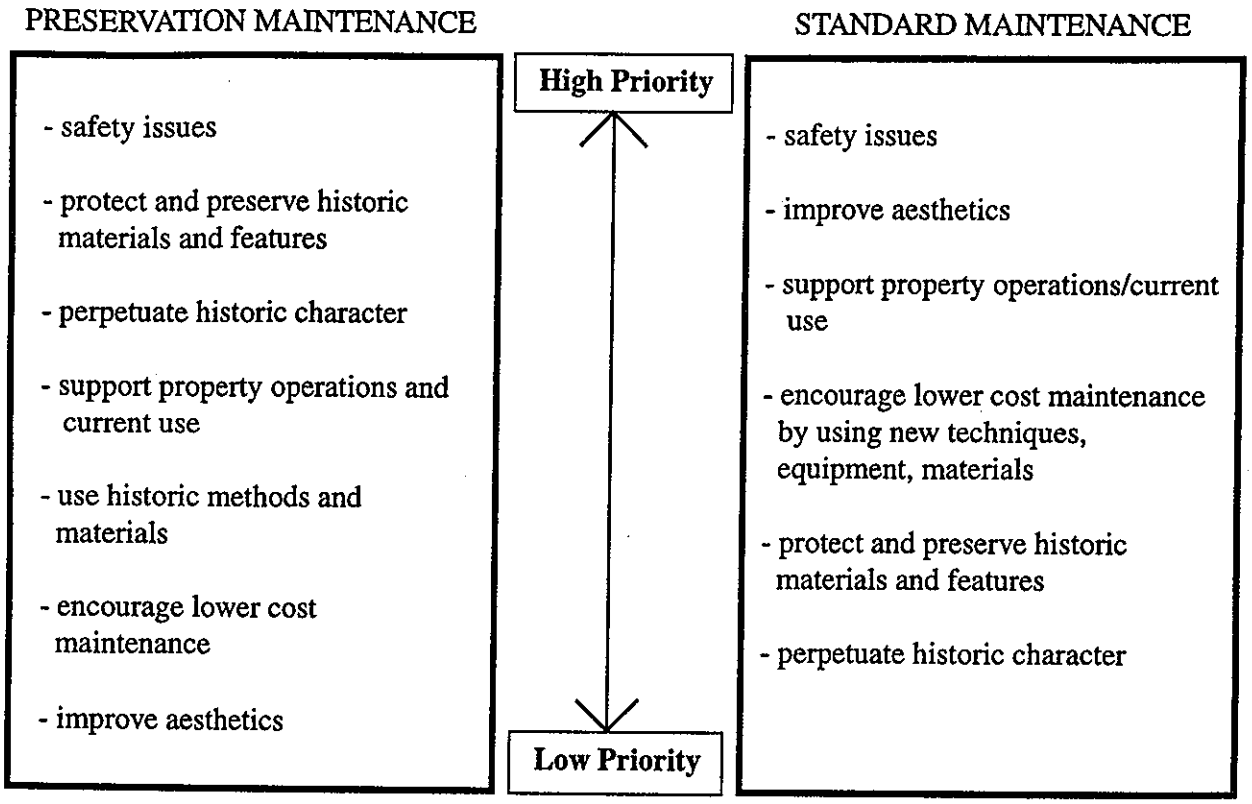


Figure 4: Priorities for landscape preservation maintenance versus standard landscape maintenance.

cyclic basis so that the historic character is not compromised or lost. Preservation planning is the process of researching, documenting, and deciding how to treat the landscape.[3] Preservation maintenance operations begin upon acquisition of a property and continue forever. Preservation planning on the other hand, often times does not begin for several years after acquisition and often ends after treatment is implemented and recorded. *Figure 8* graphically depicts the level of effort for a landscape preservation program over time from the time a property is acquired.

To effectively care for a historic property, the maintenance staff needs to know the signficance of each landscape feature and how it should be maintained. However, in many cases the history and significance of each feature in the landscape is not fully understood. Therefore the focus of maintenance operations shifts depending on what stage of the planning process has been initiated and completed. Three stages of the landscape preservation process are described below and illustrated in *Figure 9*.

During the first stage, prior to research on the landscape, a Preservation Maintenance Plan should be prepared which focuses on the protection and stabilization of landscape features to provide temporary, often emergency measures to halt deterioration or loss without altering the site's existing character. *All* landscape features should be treated as significant and

[3] For a description of the preservation planning process, refer to *Preservation Brief #36, Protecting Cultural Landscapes: Planning, Treatment and Management of Historic Landscapes*, prepared by C. Birnbaum. US DOI, NPS, Cultural Resources, Preservation Assistance Division, 9/1994.

historic until research and planning efforts are undertaken to prove otherwise. This will ensure that potentially historic features are not removed or altered while planning is ongoing. For example, maintenance may involve the rejuvenation rather than removal of an old hedge or replacement in-kind of a tree that has become a safety concern. Protection and stabilization may continue for several years.

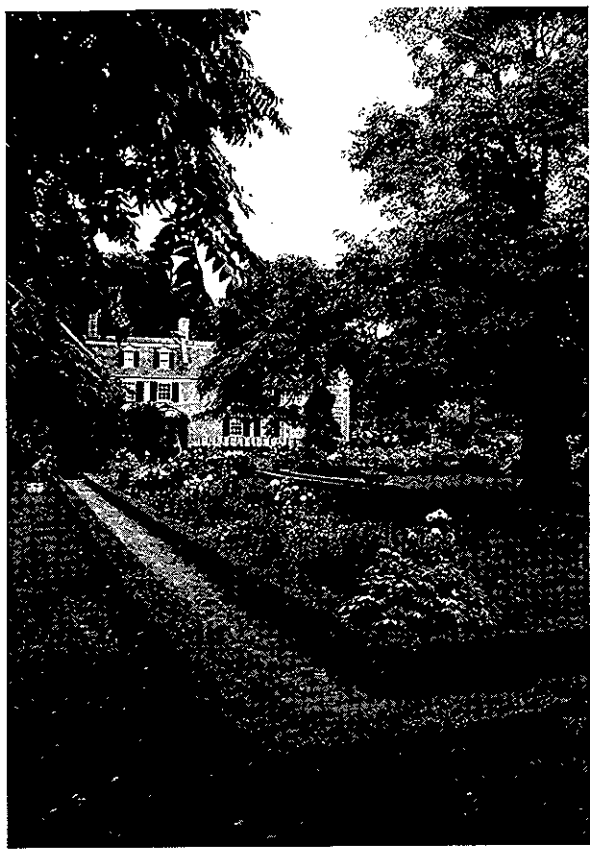


Figure 5: The formal garden at Adams National Historic Site in Quincy, Massachusetts, 1993 (Courtesy of Kristin Baker).

Figure 6: Hedge trimming in the formal garden, July 1995.

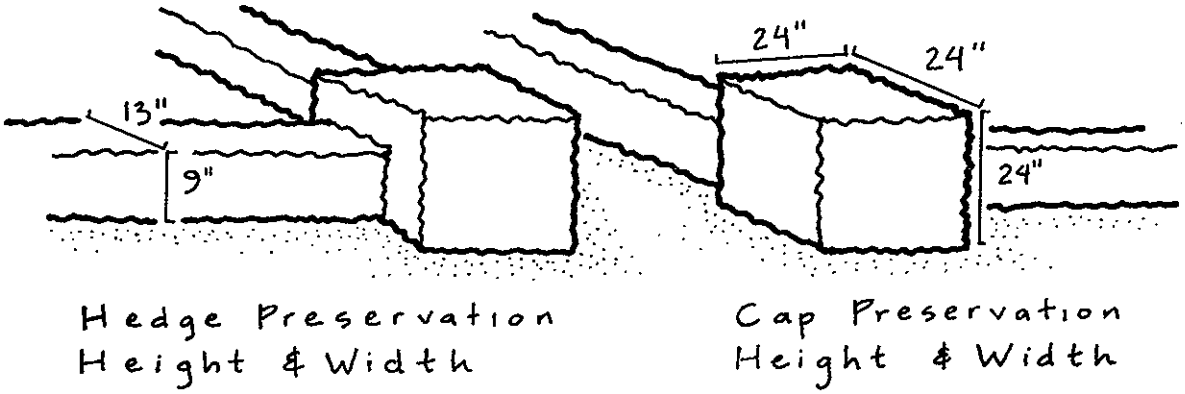


Figure 7: Diagram indicating the preservation height and width of the boxwood hedges within the formal garden.

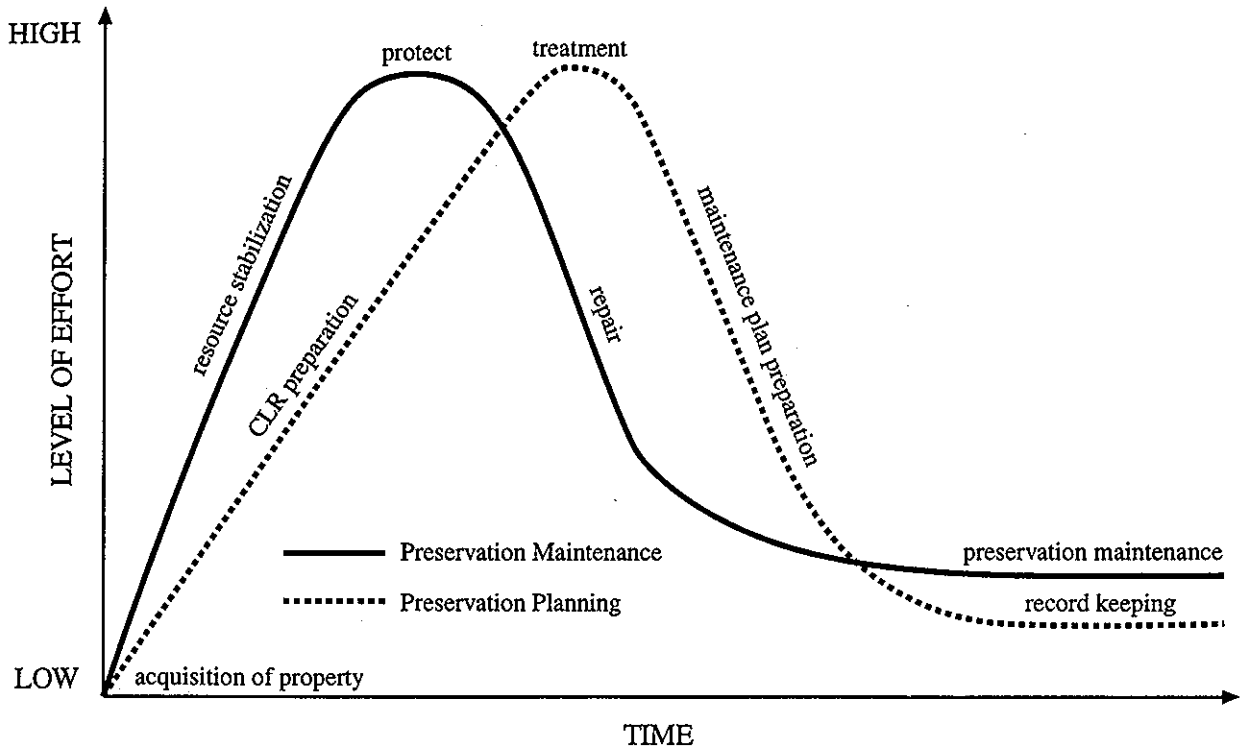


Figure 8: The Landscape Preservation Process

In the second stage, during the preservation planning process, maintenance operations continue to focus on minimizing disturbance, and protecting and stabilizing deteriorated features. A Cultural Landscape Report (CLR) is prepared containing an in-depth history of the landscape, historic and existing conditions base maps, site analysis, and evaluation of the landscapes' significance and integrity.[4] Throughout this process, overlap is likely between maintenance operations and research. For example, archaeologists may find evidence of an old drainage system that, when unclogged, alleviates flooding of a portion of the property. Or, maintenance staff may discover evidence of an old path or garden. The second stage also involves a treatment decision on whether to preserve, rehabilitate, restore, or reconstruct the landscape. One of the many factors which determines treatment is whether or not funding and staffing resources are available to sustain it. For example, it may not be possible to restore an extensive historic perennial garden if, during the period of signficance there were thirty gardeners to maintain it, whereas now there is only one.

In the third stage, after treatment is implemented, the Preservation Maintenance Plan may be revised to incorporate new or removed landscape features. The Plan would now include information about the history and origin of features, long-term preservation objectives, and maintenance procedures that will ensure the treatment goals are achieved. Throughout all stages of the preservation process, thorough record keeping within the preservation maintenance plan ensures that important information regarding changes to the landscape are noted for future reference.

[4] For a definition of a Cultural Landscape Report, treatment, and treatment options including preservation, rehabilitation, restoration, and reconstruction, refer to Appendix A. A more detailed explanation of a Cultural Landscape Report and its components can be found in *Preservation Brief #36, NPS-28,* or *A Guide to Cultural Landscape Reports: Contents, Process and Techniques,* prepared by Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan. US DOI, NPS, Cultural Resources, Park Historic Structures and Cultural Landscapes Program, 1998.

	Maintenance Operations	Preservation Planning Process
First Stage: Before preservation planning process, limited historical information available.	**Protect & stabilize existing landscape features.** - identify threats to resource - minimize site disturbance - protect deteriorated landscape features - stabilize threatened landscape features - improve condition of features - monitor condition of features - keep records	**Prepare a Preservation Maintenance Plan to guide field work before Treatment Plan is developed.** - define objectives - delineate areas - inventory features - inspect conditions - document feature data - create calendar of work & monitoring
Second Stage: During preservation planning process, Cultural Landscape Report in progress.	**Repair and retain extant landscape features.** - protect existing landscape features from identified threats - repair damaged features - maintain features in stabilized condition - monitor condition of features - keep records	**Prepare Cultural Landscape Report (CLR) and Treatment Plan** - conduct historical research - inventory and document existing conditions - conduct site analysis - evaluate integrity & significance - develop treatment alternatives to preserve, rehabilitate, restore, or reconstruct - select alternative and prepare treatment plan **Revise and update Maintenance Plan as needed or based on field observations.** - modify calendar of work and monitoring schedules
Third Stage: After treatment decision is made. Implementation and long-term preservation.	**Maintain features and preserve historic landscape character.** - perpetuate character as defined in preservation maintenance plan and Cultural Landscape Report - retain historic features in good condition - remove and replace features in-kind when they begin to adversely affect character or deteriorate beyond repair - monitor contion of features - keep records	**Implement Treatment Plan** - prepare and execute treatment specifications - prepare record of treatment - identify future research recommendations **Revise Preservation Maintenance Plan to support selected treatment** - redefine and prioritize objectives based on planning process - revise preservation maintenance plan a. re-delineate areas b. update inventory of features c. expand feature data d. modify work & monitoring calendar

Figure 9: Diagram of the three stages of maintenance operations in relationship to the preservation planning process.

D. Documentation of maintenance operations

Information about the landscape may be collected and stored manually or through a computer-operated database program. This Guide offers a manual approach for several reasons: it is easy to initiate with a low budget; the three-ring binder that is produced is accessible to all staff; and supplemental information, such as photographs and relevant publications, can always be added where appropriate. However, over time there are many advantages to a computer-operated database program: information can be inserted quickly, sorted, and various reports can be generated to help direct daily maintenance operations; multiple copies can be made and installed into several work stations; and large amounts of information can be stored in a small space.

One approach for developing a Preservation Maintenance Plan is to start documenting maintenance operations manually while information is being collected in the field. Once all staff have acquired training on how to access the information through the computer, a gradual transition can be made to a computer-operated program. Within the National Park Service, two database programs are available to maintenance staff to facilitate operations, the *Inventory and Condition Assessment Program* (ICAP) and *Maintenance Management Program* (MM).[5] The manual forms presented in this Guide were designed to feed directly into these programs. Maintenance managers of non-NPS properties are likely to find an increasing number of well-suited commercial database programs. A generic database structure for evaluating the condition of trees was developed as an example and is located in Appendix D. If a computer application is used, there are still many supplemental materials that need to be gathered and organized in an accessible format. Thus it is recommended that a manual notebook for the landscape be developed to complement the computer-stored information.

E. Setting priorities for developing a Preservation Maintenance Plan for large landscapes

The final consideration is the size and composition of the landscape. For a small landscape, such as the 1.7-acre Olmsted National Historic Site, the maintenance program may be comprehensive, identifying individual plants, walls and paths as features. For larger landscapes, such as the 1,650-acre Sandy Hook Unit of the Gateway National Recreation Area, the maintenance program is likely to address management within smaller parcels, like the 40-acre historic core of Fort Hancock *(Figures 10, 11, & 12)*. Often times the landscape is too large to complete a comprehensive inventory and condition assessment of all landscape feature types at any one time. In these cases, feature types can be prioritized by determining those that are important to the historic character of the site. These features would be addressed first in the Preservation Maintenance Plan and as time and funding allows, other features could be added to the Plan later. For example, the views from a historic building may be important to the integrity of a site and therefore maintaining these views may become a priority for landscape maintenance operations. Or, managers may divide the property into general areas and focus on the most intensively managed portions of the property, such as the grounds immediately surrounding a historic home. The next section describes in greater detail how to divide the landscape into areas.

[5] For more information on ICAP and MM, refer to Appendix A.

Figure 10: Historic photograph of Fort Hancock in New Jersey, circa 1925 (courtesy of Gateway National Recreation Area Archives).

Figure 11: Contemporary photograph of the barracks, brick walkway, and the edge of the parade ground lined with London plane trees—all features that define the character of the landscape, 1994 (courtesy of H. Eliot Foulds).

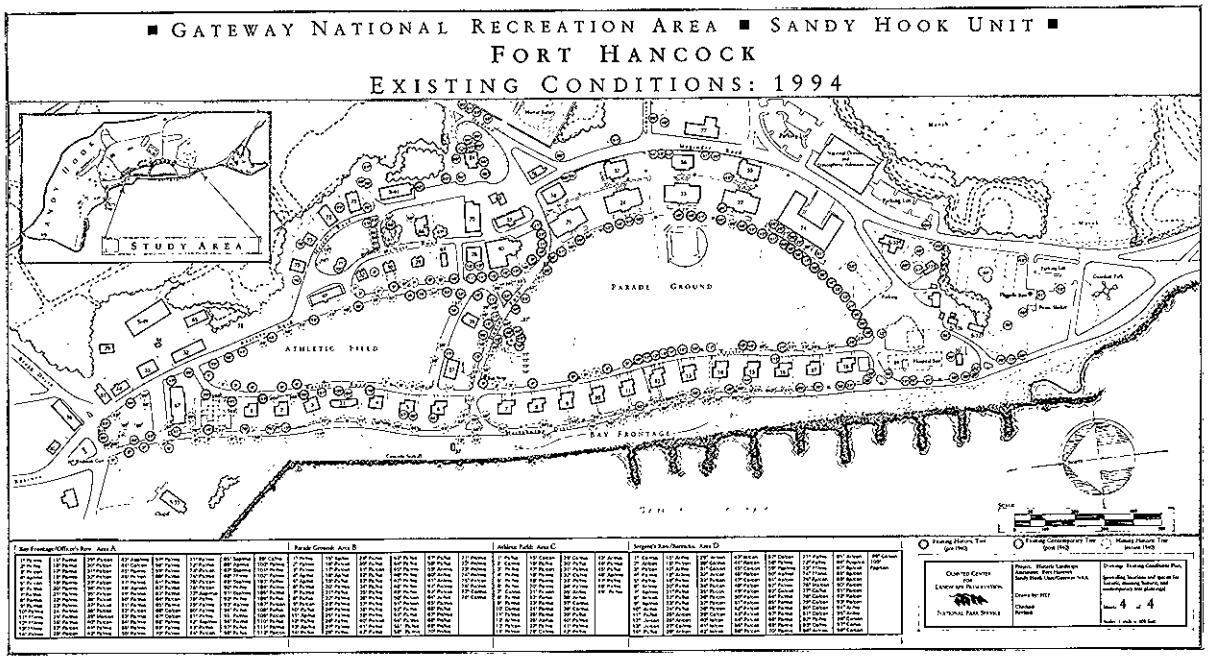
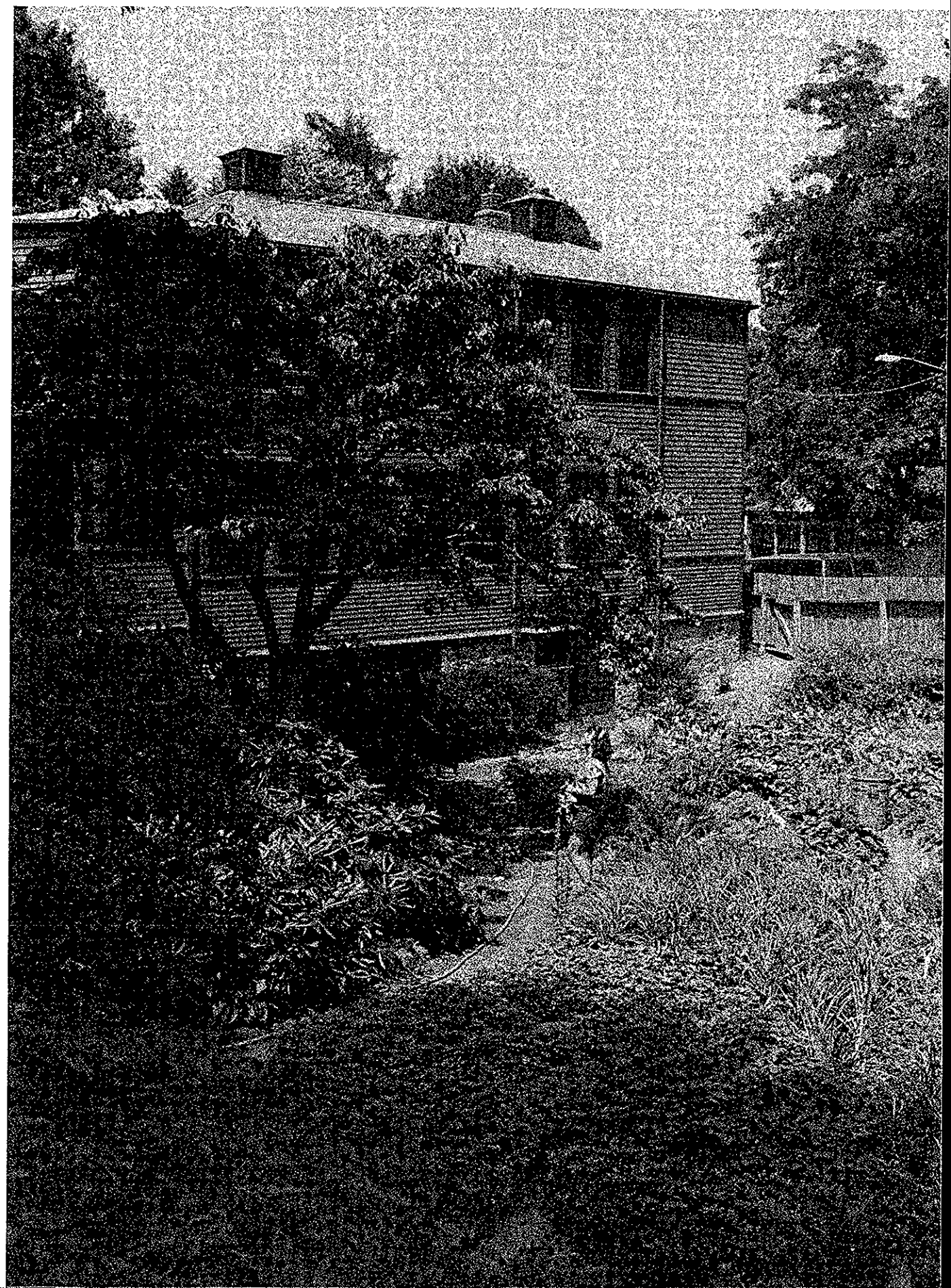


Figure 12: A Preservation Maintenance Plan was developed for the 40-acre core of Fort Hancock, which is now part of the 1,650-acre Sandy Hook Unit of Gateway National Recreation Area. The Plan includes an existing conditions map that illustrates the location and status of specimen trees within the historic core of the fort (drawn by H. Eliot Foulds).

Figure 13: The hollow at Frederick Law Olmsted National Historic Site.



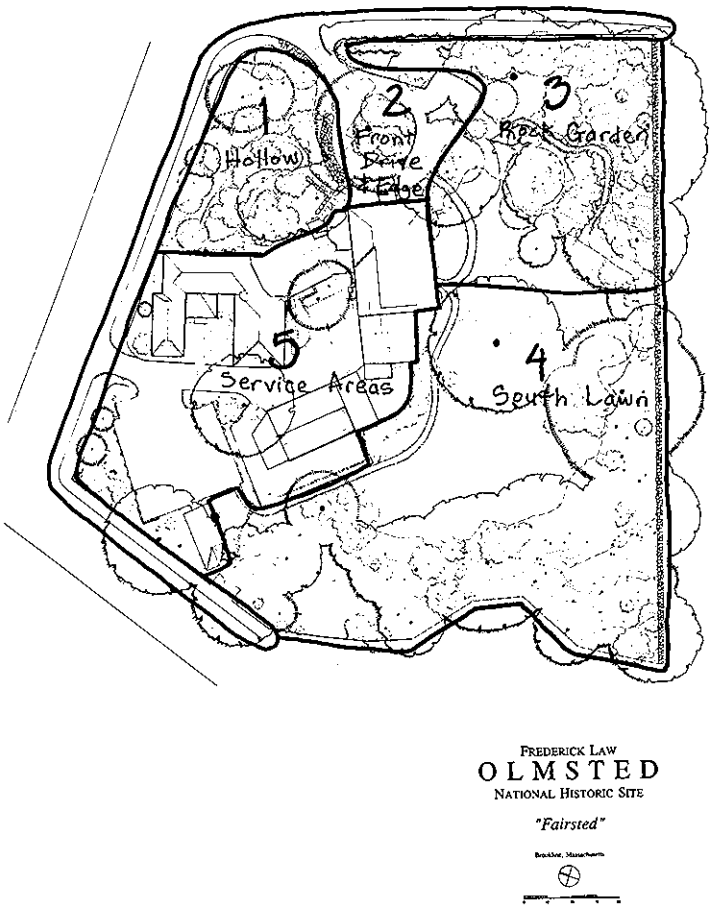
Frederick Law Olmsted National Historic Site

AREAS & CATEGORIES OF FEATURES

Property map:

a

b



Area# - Category# Names

c

1 -	**Hollow**
1 - 1	- trees
1 - 2	- shrubs & vines
1 - 3	- herbaceous plants
1 - 5	- stone walls & steps
1 - 6	- paths
1 - 9	- drainage systems
2 -	**Front Drive & Edge**
2 - 1	- trees
2 - 2	- shrubs & vines
2 - 3	- herbaceous plants
2 - 4	- lawn
2 - 5	- stone walls & steps
2 - 6	- paths
5 - 8	- fences & gates
2 - 9	- drainage systems
3 -	**Rock Garden**
3 - 1	- trees
3 - 2	- shrubs & vines
3 - 3	- herbaceous plants
3 - 5	- stone walls & steps
3 - 6	- paths
4 -	**South Lawn**
4 - 1	- trees
4 - 2	- shrubs & vines
4 - 3	- herbaceous plants
4 - 4	- lawn
4 - 5	- stone walls & steps
4 - 6	- paths
4 - 8	- fences & gates
4 - 9	- drainage systems
5 -	**Service Areas**
5 - 1	- trees
5 - 2	- shrubs
5 - 3	- herbaceous
5 - 5	- stone walls & steps
5 - 6	- paths
5 - 7	- drives & parking areas
5 - 8	- fences & gates
5 - 9	- drainage systems

d

Sources:

All areas defined in the "Historic Grounds Report and Management Plan for Frederick Law Olmsted National Historic Site," prepared by Lucinda A. Whitehill in 1982. Also based on current maintenance practices as described by Barbara Harty, Grounds Supervisor, Olmsted NHS, June 1993. Existing Conditions map drawn by Catherine Morris, 1993.

Figure 14: Map and list of areas and categories of features.

AREAS AND CATEGORIES OF FEATURES

To organize information within a Preservation Maintenance Plan, the landscape needs to be divided into clearly defined areas, much like a house is divided into rooms. Examples of areas include a front lawn, formal garden, orchard, parking lot, meadow, woodland, or a wetland. Areas are likely to range in size from many acres to small spaces according to the size of the property and level of maintenance.

Within each defined area, the landscape is likely to contain many features. Features are objects or group of objects that individually or collectively contribute to the physical appearance of the landscape. Features that are similar in material, function, or care can be grouped into categories, much like similar types of home furnishings. Examples of categories include trees, shrubs, herbaceous plants, fences, paths, roads or water systems. Each area, and the categories of features within, are assigned numbers and descriptive names *(Figure 14)*. Below are some recommendations on how to establish areas and categories.

a Areas

Obtain a map of the site. Ideally this would be a recent map that locates all landscape features. If a recent map is not available, any map of the site can be used to get started. For example, a United States Geological Survey (USGS) Map, enlarged several times, can serve as an initial map. Using the map, walk the site to determine logical divisions for the site. These divisions may be based on historical or current use, type of maintenance practices, or by clearly defined boundaries such as paths or fences.[6] Note that the creation of too many areas may make the numbering system too cumbersome to use. Draw lines on the map to illustrate the boundaries of each area. For example, *Figure 14* illustrates how the Olmsted NHS is divided into five areas, most delineated by paths, fences, and structures.

b Categories

Within each area, study the composition of the landscape. Group features into categories that are similar in material, function, or care. For example, *Figure 14* contains the categories of features at the Olmsted NHS including trees, shrubs & vines, herbaceous plants, stone walls & steps, fences, paths, roads, and water systems. It is likely that different areas will contain many of the same categories.

c List of names and numbers

Once areas and categories are defined, assign names and numbers to each area and category to simplify communication and documentation. For example, at Olmsted NHS, 4-1 refers to the South Lawn (area number 4) and trees (category number 1). In later sections of this Guide, these numbers will be used frequently to organize features that require similar care.

d Sources

Indicate whether defined areas were based on historical or current use, maintenance practices, or clearly defined boundaries. Include the names of people that defined the areas, dates, and relevant documents. Also record the source and date of the map.

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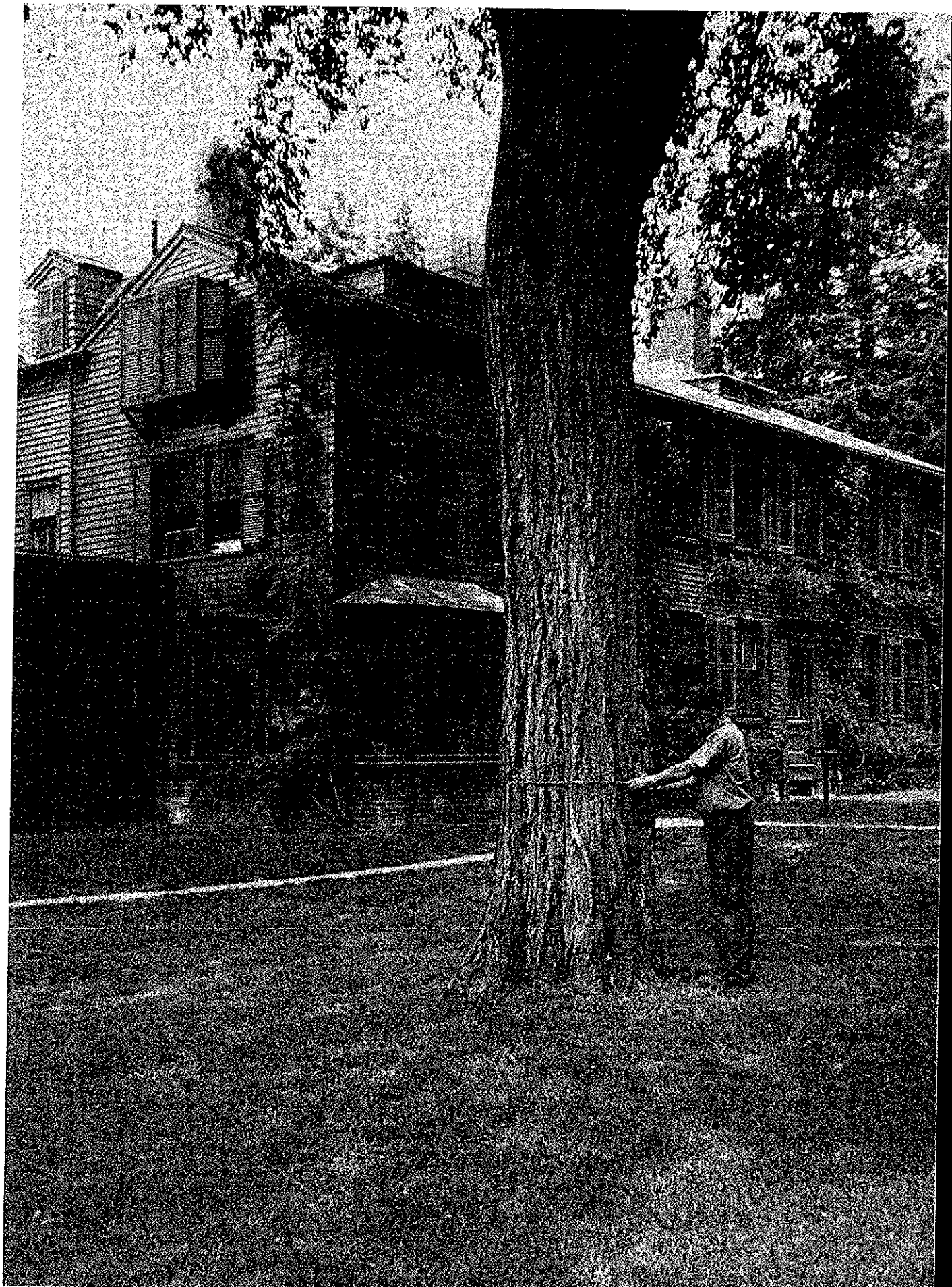
[6] For NPS properties, areas may have been defined in the property's *General Management Plan* or *Cultural Landscape Report*. For an explanation of these documents, refer to Appendix A.

Figure 15: American elm at Frederick Law Olmsted National Historic Site.

3 • INVENTORY OF LANDSCAPE FEATURES



Frederick Law Olmsted National Historic Site

INVENTORY OF LANDSCAPE FEATURES

a Inventory conducted by: B. Harty, C. Pepper, M. Coffin Date July 10, 1993

b Category & Feature name	Field ID#	Field Tag	Size	Origin & Age (if known)
c	d	e	f	g
VEGETATION				
1. Trees				
Tuliptree *(Liriodendron tulipifera)*	1-1-1	yes	2" dbh, 10' h, 6' w	replaced, 1991
N. Red Oak *(Quercus rubra)*	1-1-2	no	-	
Flowering Dogwood *(Cornus florida)*	1-1-4	yes	14 & 5" dbh, 30' h, 25' w	installed, c. 1900-1905
American Elm *(Ulmus americana)*	4-1-1	no	34" dbh, 80' h, 70' w	retained, 1883
2. Shrubs				
Summersweet *(Clethra alnifolia)*	1-2-1	yes	6' h, 7',w	unknown
Mountain Laurel *(Kalmia latifolia)*	1-2-2	yes	4' h, 6' w	unknown
3. Herbaceous Plants				
Goutweed *(Aegopodium podagraria)*	1-3-1	no	throughout area	unknown
Pachysandra *(Pachysandra terminalis)*	1-3-2	no	throughout area	unknown
4. Lawn				
South lawn, class A	4-4-1	no	approx 3000 sq ft	unknown
CIRCULATION				
5. Paths				
Rough stone edge	1-6-1	no		installed, c. 1890
Steel edge	4-6-1	no	200 linear ft	installed, 1986
Stonedust walk	4-6-2	no	800 sq ft	replaced, annually as needed
6. Drives & Parking Areas				
Stone edge	2-7-1	no	250 linear ft	installed, c. 1880-1890
Gravel & compacted earth surface	2-7-2	no	1500 sq ft	replaced, annually as needed
Stones defining edge of parking area	5-7-1	no	30 stones, approx 8 x 8"	unknown
Steel edge	5-7-2	no	100 linear feet	installed, 1986
Cinder surface	5-7-3	no	3000 sq ft	replaced, annually as needed
SMALL SCALE FEATURES				
7. Stone Walls & Steps				
Cut field stone wall	1-5-1	no	20' length	installed, c. 1890
Rough field stone wall	1-5-2	no	30' length	installed, c. 1890
8. Fences & Gates				
Spruce pole gate	2-8-1	no	6' h, 3.5' w	replaced, 1982
Spruce pole entrance arch	2-8-2	no	2' h, 20' w	replaced, 1982
Spruce pole fence	2-8-3	no	100' length	replaced, annually as needed
Green board fence gate	5-8-1	no	8' h, 8' w	installed, 1986
Green board fence	5-8-2	no	8' h, 85' length	installed, 1986
SITE ENGINEERING				
9. Drainage Systems				
Grate	1-9-1	no	1 x 1'	unknown
Pipe from hollow to central drain	1-9-2	no	40' length, 8" dia.	unknown
Fan grate along Warren St near arch	2-9-1	no	18" x 15'	unknown
Pipe from fan grate to street drain	2-9-2	no	20' lenth, 8" dia.	unknown

Figure 16: Inventory of landscape features.

INVENTORY OF LANDSCAPE FEATURES

To further define the scope of the Preservation Maintenance Plan, each individual feature is located and described. In previous sections, a "landscape feature" has been defined as an object or group of objects that individually or collectively contribute to the physical appearance of the landscape. In this section it is necessary to assign a name and number to each feature. To facilitate this process, features should also be defined by their maintenance requirements. In this respect, a large feature may be a group of objects that require uniform maintenance practices throughout, such as a lawn, hedge, fence or path. In some cases a feature may be defined as an entire area, such as a meadow or woodland. In contrast, a small feature is likely to require detailed, individual care, such as a specimen tree, fence gate, fountain, trellis, or statue.

A comprehensive inventory of all landscape features in all areas within a property may be an extensive project. A recommended strategy is to first concentrate on individual features that are most historically significant or potentially significant. Second, incorporate all features that are within the most intensively managed portions of the property, such as the individual plants around a historic home. Third, include all features throughout the property that require maintenance to ensure they are monitored and cared for as needed.

Before conducting the inventory, assemble helpful information such as maps, aerial photographs, management documents, and other inventories.[7] Compile a preliminary inventory, then verify information in the field. A good strategy when conducting the inventory of landscape features is to complete an inspection or feature condition assessment simultaneously. Combining the initial inventory and inspection will save time and facilitate the gathering of information for the Plan. The following section of this Guide, Field Inspection, details how an inspection might be completed and what types of information should be recorded. Below is a list of information to collect and organize in a format similar to *Figure 16*.[8]

a Date and names
For future reference, specify the date and the names of the people conducting the inventory.

b Scope of inventory
Define the scope of the inventory and the types of information to be collected. Create headings for each type of information across the top of the form.

c Feature name
Describe each feature with an individual name such as "Front Gate" or "Entrance Path." For plant material, this would be a name such as "Mixed Pine and Oak Forest" or "American elm *(Ulmus americana)*."

d Field identification number
Assign a field identification number (field ID #) to differentiate each feature. This number helps with field monitoring, mapping, work assignments, and other record keeping. Numbers may be assigned to missing features or non-historic features to facilitate record keeping of all features associated with a particular landscape. A three-part field ID # is recommended as described on the following page:

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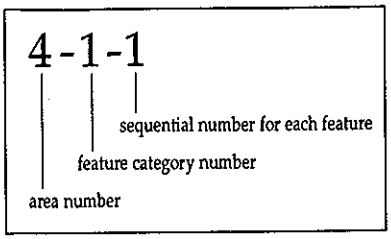
[7] In many cases an inventory has already been carried out and simply needs to be updated. A *Cultural Landscape Inventory* is being carried out for many NPS properties.

[8] The information to be collected relates specifically to maintenance. The Historic American Buildings Survey (HABS) has generated more detailed standards for landscape inventory and documentation. Refer to Appendix C for cultural landscape references.



Area and feature category numbers - Using the areas and feature categories defined in Section 2, list only the numeric descriptions to save time and space on the inventory form.

Sequential code number - Assign a sequential number to each feature within an area and category.

Example: The American elm at Olmsted NHS located in area 4, is in category 1, and is the 1st individual tree inventoried. Thus, the complete field ID # is 4-1-1.

e Field Tags

Some properties may benefit from field tags on features in the landscape to facilitate identification, mapping, and future inventory field checks. The tag may list the field ID #, the name or other relevant information. At a minimum the tag may contain the sequential number in order to differentiate similar features that are located near each other in the landscape, such as trees in an orchard. It may also be helpful to note what information is on the tag.

f Size

Determine the size of the feature and record the unit and type of measurement.

g Origin and Age

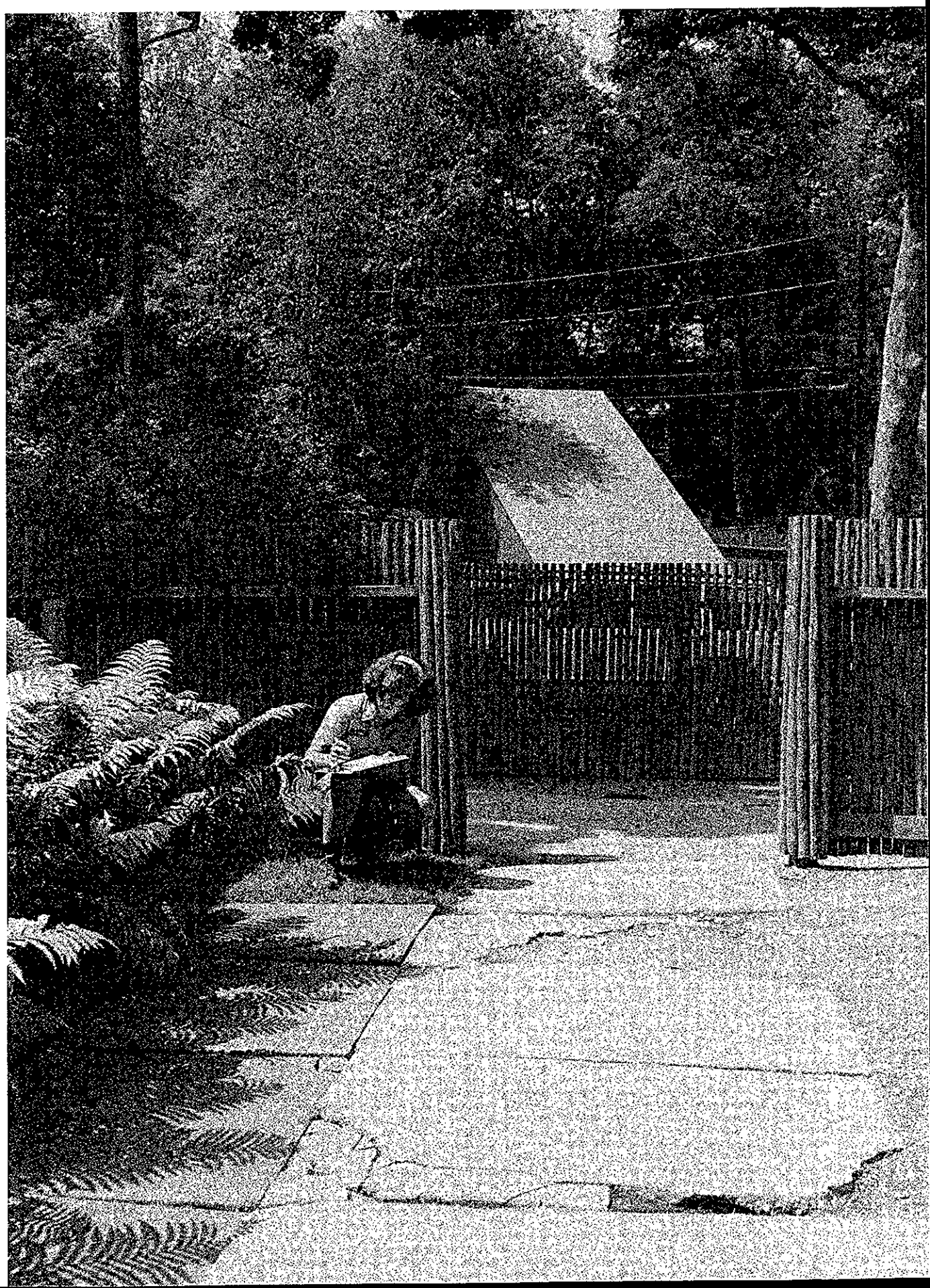
The origin and age of each feature is an important part of the history of the landscape.[9] If a feature originated before or during the period of significance of a site, its condition and care may be of a higher priority than a feature that was installed or, for plants, was self-sown, after the period of significance. Possible origins and associated codes are listed below.

Installed, year	=	Installed during the year _____
Retained, year	=	Retained, predates the year _____
Self, year	=	Self-sown during the year _____
Replaced, year	=	Replacement during the year _____
Unknown	=	Origin of feature is unknown

Example: The American elm, #4-1-1, at the Olmsted NHS was growing on the property prior to the arrival of Frederick Law Olmsted, Sr. in 1883. Therefore, the code is "Retained, 1883." Additional information about the history of individual features will be covered in later sections of this Guide.

[9] If available, this information may be extracted from the property's *Cultural Landscape Report*. In particular, period plans that illustrate the historic appearance of the landscape may be useful.

Figure 17: Inspection of the courtyard at Frederick Law Olmsted National Historic Site.



Frederick Law Olmsted National Historic Site

FIELD INSPECTION - SPECIMEN TREES

Inspected by: a MC, BH

Date: 7/15/93

Feature Name and Field ID#:	Overall Form	Leaf, Shoots	Branches	Cables	Trunk	Roots, Soil	Flower, Fruit	Pests, Diseases	Tag Present (y/n)	Size (dbh)	Comment on condition: / Comment on stabilization and/or repair work needed:	Further Diagnosis Needed (y/n)	Work Needed (X) Critical Work (*)	Stabilize Immed (S) Plan for Repair (P)
			c											
b			d								e	f	g	h
Tuliptree #1-1-1	X		X						y	48"	Fair condition, prune out dead branch on north side		X	
N. Red Oak #1-1-2			X						n	4"	Replacement tree planted in spring, prune to improve structure		X	
Shagbark Hickory #1-1-3	X	X	X						y	34"	Dieback in crown, prune out deadwood. Inspected cable - o.k.		X	
Flowering Dogwood #1-1-4	X	X	X						y	10"	Limb obstructing walkway, prune to lighten. Some purple spots on leaves, may be anthracnose.	y	*	
Hemlock #1-1-5	X	X	X						y	11"	Poor condition - dieback throughout, poor needle color, plan for replacement		*	P
Hemlock #1-1-6											ABSENT - needs replacement		X	P
Hemlock #1-1-7									y	8"	Good condition.			
Hemlock #2-1-1	X	X	X						y	9"	Dieback in crown, dead limb over parking area, prune.		*	
American Elm #4-1-1	X	X	X						y	40"	Good condition, prune out minor deadwood.		X	
Norway Maple #4-1-14									y	36"	Good condition.			

Recommended Equipment for Inspection: i

- *binoculars*
- *pruning shears*
- *map*
- *insect jars*

Figure 18: Field inspection format for specimen trees.

FIELD INSPECTION

Periodic field inspections of landscape features reveal evidence of damage, deterioration, or potential problems. There are three kinds of inspections. First, a comprehensive inspection of all features to record the current condition. This initial inspection could be combined with the field inventory discussed in the previous section of this *Guide*. Second, a series of targeted inspections, at the appropriate times of year, to monitor for specific problems, such as rodent damage in the winter; potholes and erosion in the spring; or plant vigor in the summer. Third, an inspection in response to unplanned events such as storm damage, drought, vandalism or a pest infestation. The observations recorded during all of these inspections are very important. Without written and/or photographic documentation, it is difficult to assess changes in condition from one year to the next.

The effectiveness of an inspection is dependent upon the inspectors' ability to identify problems. This may require bringing in a consultant or forming a team of specialists with different areas of expertise. Inspectors should be able to:

- monitor conditions during the appropriate time and frequency throughout the year(s);
- monitor changes in health due to decay, pests, diseases, environmental, or cultural problems, including vandalism or inappropriate maintenance practices;
- identify external threats such as visitor use, construction, air quality, etc.;
- diagnose conditions in the field when possible, or note that further diagnosis is needed;
- describe what level or threshold of damage is acceptable and when action is necessary; and
- describe work required to treat the condition, or know where to get more information.

The results of an inspection may include written notes, photographs, marked-up maps, specimen samples, drawings and correspondence. These are all very valuable as part of the history and evolution of the property and should be retained or referenced in the Preservation Maintenance Plan. The contents of an inspection form are described below *(Figure 18)*.

a Inspected by and date
Name of person or team conducting the inspection and date.

b Feature names and field identification numbers
List names and field identification numbers as described in previous sections. Ideally, inspector(s) would also have a map of the property illustrating the location and numbers for each feature.

c Type of feature and criteria for inspection
For each type of feature, create a list to prompt inspectors, either where to look, or what to look for. Each type of feature will have a different set of criteria for inspection. *Figure 18* contains the criteria for specimen trees. Criteria for other types of features are provided in Appendix B.

d Inspection results

As each feature is inspected for the criteria listed in section "c" of the form, problem areas are marked with an "x" in the space provided indicating where problems exist. For example, an "x" in the "cables" column indicates that either the tree needs a cable, or the existing cable needs repair.

This system allows the inspector to indicate problem areas in a quick manner. Column "e" of the form, "comments on condition and work needed," is used to describe the specific problem in greater detail.

e Comment on condition, size, stabilization and/or repair work needed

Describe in detail all conditions observed. This description is very important since it communicates the degree and scope of a problem. When describing damage, an effort should be made to quantify the extent of the damage. This, in turn, can be used to determine the acceptable level of tolerance, or threshold for the situation. Quantification of the problem will also be useful in the next year to determine whether the condition has changed.

f Further diagnosis needed

Use this column to flag problems that could not be diagnosed or if there are any doubts about the structural stability of a feature.

g Work needed (x), critical work (*)

If work is needed, mark an x to draw attention to the feature. Use an asterisk * to indicate a serious or potential safety problem that should be attended to as soon as possible.

h Stabilize immediately (S); Plan for repair (P)

If a feature is threatened or deteriorating, to the extent that it may be lost if no immediate action is taken, mark an S to indicate the need for stabilization. If a feature is stable but work is needed to improve its' condition, mark a P to indicate the need to consider for future repairs when preparing budget and work plans.

i Equipment needed to conduct assessment

List items needed for an inspection such as: a clipboard, measuring tape, binoculars, camera, hand lens, specimen vials, shovel, knife, pruning shears, ladder, map or diagram of the area, and/or field copies of reference photographs. Good equipment and a clear map help ensure that all features are thoroughly inspected.

Figure 19: Sidewalk repair at Frederick Law Olmsted National Historic Site, 1995 (Courtesy H. Eliot Foulds).

FREDERICK LAW OLMSTED
NATIONAL HISTORIC SITE
HOURS
FRI.SAT.SUN
ENTRANCE ON
DUDLEY STREET

Frederick Law Olmsted National Historic Site

SUMMARY OF WORK NEEDED

Season	Work Needed, Field ID#s, Feature names (optional)		Field notes, Hours spent, & Date completed
a Winter	Prune out deadwood and hangers b		c
	1-1-1	Tuliptree	✓rem'd 1 branch, 3/3/94, 1 hr.
	1-1-2	N. Red Oak	✓pruned, 3/3/94, 1 hr.
	1-1-3	Shagbark Hickory	✓rem'd deadwood, 3/3/94, 4 hrs.
	1-1-4	Flowering Dogwood	✓lightened branch, " 1 hr.
	2-1-1	Eastern Hemlock	□ need bucket truck to finish
	4-1-1	American Elm	✓rem'd minor deadwood, 3/4/94, 3 hrs.

d **Special considerations for historic appearance, design, or significance:**

- When pruning the Flowering Dogwood (#1-1-4) pruning tools should be sterilized between cuts to reduce the likelihood of spreading Dogwood Anthracnose.

- Remove only deadwood and dead hangers. Lower limbs should be retained to provide a visual screen.

- For more information on pruning practices, refer to the Feature Data sections for each tree species in the Preservation Maintenance Plan.

- Provide maintenance staff with training on the effects of mower damage on vegetation.

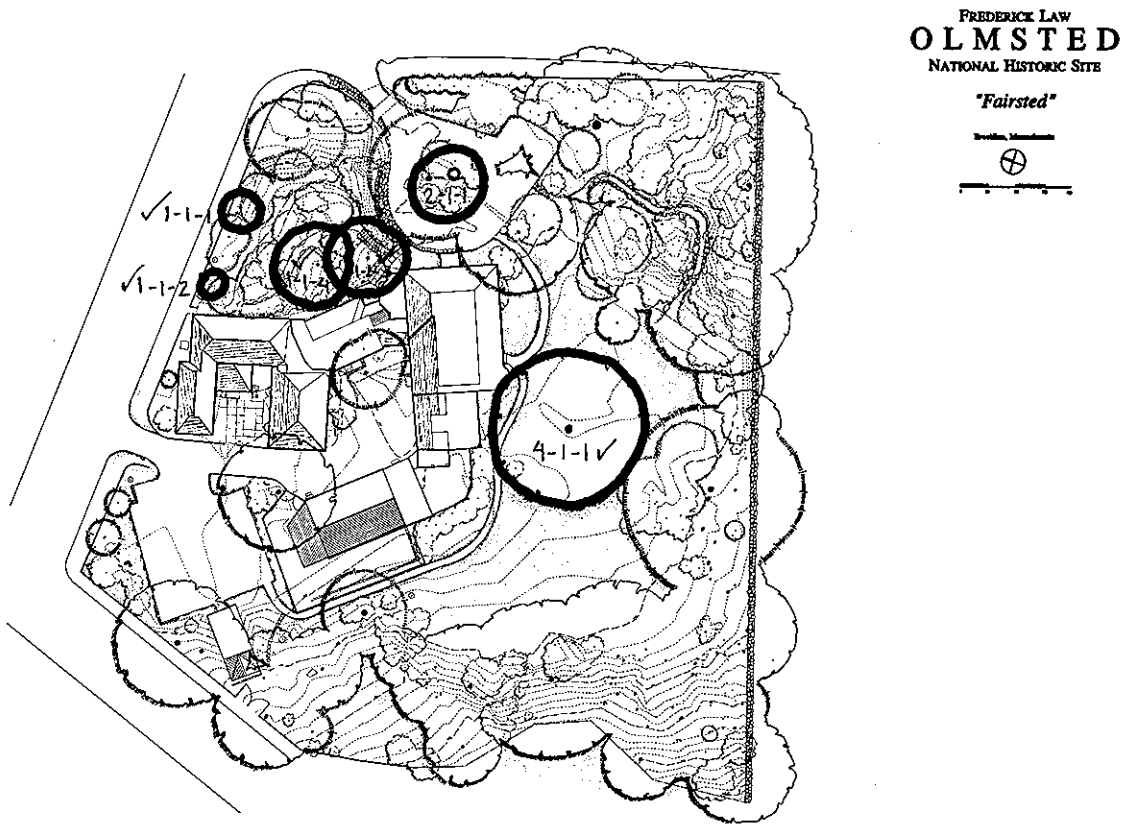


Figure 20: Summary and map of work needed.

SUMMARY OF WORK NEEDED

As follow-up to a field inspection, a summary of observations, each with an associated map, highlights features that require work or further diagnosis *(Figure 20)*. The summary provides a concise list of widespread problems, issues to address, and scope of work needed. The maps guide the work crew in the field by illustrating areas where the highest priority work is needed. The maps can also indicate patterns, such as tree decline adjacent to salted walkways, or trees of a certain age all planted too deep. These maps should be retained in the Preservation Maintenance Plan for reference in future inspections. This information may be placed after a tab for sections 4A and 4B titled "Field Inspection & Work Needed."

In some cases, the summary of work needed may address issues that need to be resolved, such as the long-term effects of poor pruning cuts or damage to a feature by maintenance equipment. These problems need to be brought to the attention of maintenance managers to indicate the need for training or alternative maintenance practices. Summary notes should also highlight features that inspectors found remarkable, in excellent condition, one-of-a-kind, or otherwise noteworthy.

a Season
Indicate the best time of year to carry out work.

b Work needed and list of features in need of work
Describe the type of work that needs to be done. List features in need of work using the field identification numbers and names (optional). Also mark the features on a map of the area. For some properties it may be easier to reference a map printed on a larger piece of paper.

c Field notes, date completed, and hours spent
Comment on work carried out; other conditions observed in the field; the date work was completed; and amount of time spent.

d Special considerations for historic appearance, design or significance
Note any special considerations to inform the maintenance staff how work affects the historic appearance. For example, a tree that frames an important view requires specific pruning. Indicate if further reference information is available in the Feature Data section of the Preservation Maintenance Plan (to be described in the next section of this Guide).

Figure 21: Repair of spruce pole arch at Frederick Law Olmsted National Historic Site, 1995 (Courtesy of H. Eliot Foulds).

Frederick Law Olmsted National Historic Site

FEATURE DATA: Spruce Pole Gate, Arch and Fence

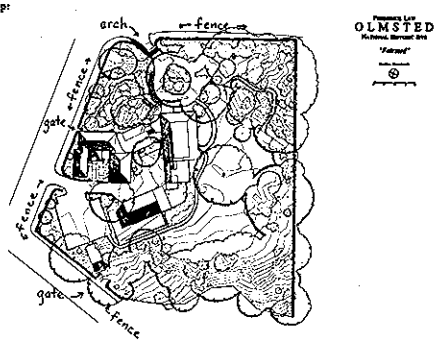
a **Category:** Fences

Feature Name & Field ID # (s):

spruce pole gate	2-8-1
spruce pole arch	2-8-2
spruce pole fence	2-8-3

b **Source of Name:** Correspondence, F.L. Olmsted, 1884

c **Location Map:**



d **Descriptive Characteristics:**

poles - *spruce, stripped bark, hand peeled, 1.5 - 2" diameter, 5 - 10' length*
fence posts - *spruce, stripped bark, hand peeled, 5.5 - 6" diameter, 4.5 - 7' height*
wrought iron posts - *1 x 1" width, 4.5 - 7' height*
horizontal straight rails - *rough stock cedar, 2 x 5" width, 6.5 - 7'6" length*
horizontal curved rails - *cypress, 4 x 12" width, lengths cut to fit*
arch frame - *white cedar, 4 x 4" width, 12' length or as needed for curves*
bolts for rails, 6"
nails, galvinized, 8 & 16 penny
strap hinges for gates, 18"
wood preservative

e **Historical Appearance, Design or Significance:**

A spruce pole fence and arch were installed by F.L. Olmsted in 1884. The gate was installed at a later date. The fence, arch, and gate have been altered several times as described in detail in the 'fences' section of the Olmsted NHS Historic Structures Report, draft 1987 - 1991.

Frederick Law Olmsted National Historic Site

FEATURE DATA: Spruce Pole Gate, Arch and Fence

f **Preservation Practices and Work Procedures:**

Ordering replacement parts -

Measure damaged pieces and use as patterns for replacement pieces. Replacement poles should be cut when fence work is in progress since the wood used is green and tends to warp.

Setting Cedar Posts -

Cedar posts are set into the ground at a minimum depth of 2' and preferably 3' to ensure stability. Dig post holes wide enough to encircle the bottom foot of the post with gravel fill. In some areas, posts are over bedrock and may only be set to a depth of 1'.

The tops of the cedar posts should be high enough that the spruce poles extend 12 -14" above. However, in some areas, such as where the topography changes near the arch, the spruce poles may extend more than 12 - 14". Cedar posts are placed approximately 7'8" apart on the straight sections and 6'5" apart on the curved sections of the fence. Once set, upper horizontal rails are nailed to the tops of cedar posts. Lower horizontal rails are placed in notches. Cedar posts are notched 6 - 8" above the ground to hold the lower 2 x 4" horizontal rail. For straight sections, the notch is cut 4" wide and 1" deep. For curved sections, a 2 x 5" horizontal rail is with the 5" side up, and the notch is 2" wide and 1" deep.

Setting Iron posts -

There are five iron posts at the southern end of the Warren Street fence section. These add stability where it is a shallow depth to bedrock.

Setting horizontal rails -

For straight sections, top rails 2 x 4" wide with the 4" side up. Bottom rails are 2 x 4" with the 2" side up. For curved sections, top and bottom rails are 2 x 5" with the 5" side up. Curved rails are cut using the old rail as a pattern.

For straight sections, bottom rail ends are cut on an angle and joined with 6" bolts. Excess bolt ends are cut off. Nails may be added to secure the joint between the rails. These joints are made in the middle of the fence sections when possible. For curved sections, joints are located at the post and secured to the post with nails.

Bottom rails are nailed to the posts first, then a bar level is used to place the top rail parallel to the bottom rail.

Installation of Spruce Poles -

The bottom one inch of each spruce pole is cut to expose fresh wood and soaked in a wood preservative for 20 minutes or until the preservative has been absorbed to a height of one foot. Some poles will be installed with the narrower end down to maintain even spacing, so some should be freshly cut at the narrow end and placed in the wood preservative.

Spruce poles are nailed to the horizontal rails through pre-drilled holes to minimize cracking. 8 penny nails are used at the narrow end of the poles and 16 penny nails at the wider end.

Most poles are placed with the wider end at the base of the fence. However, a pole is flipped ever few poles to keep the spacing even and vertical. At fence ends the spruce poles are nailed to the fence post.

Frederick Law Olmsted National Historic Site

FEATURE DATA: Spruce Pole Gate, Arch and Fence

Preservation Practices and Work Procedures (continued):

December, January, February, March, April

Apply sand to driveway during and after snow and ice storms to prevent cars to skidding into the fence, in particular near the south side of the arch.

After heavy snow storms, pile snow in front of this section as a buffer for skidding vehicles.

Best time of year to order spruce poles.

May, June, July, August, September

Inspect the structural stability of the gate, arch and fence, particularly at joints. Examine each fence section for rotting, cracked wood, and loose nails.

Repair damaged sections of fence. When work is in progress, block off the area with safety caution tape and place orange cones along the street. (repair procedures outlined on page 3 of Feature Data)

October, November

Remove accumulated leaves, soil, and vegetation from base of fence as it contributes to decay of the fence poles and posts.

g **Potential Problems or Parts:**

Frederick Law Olmsted National Historic Site

FEATURE DATA: Spruce Pole Gate, Arch and Fence

Recommended replacement method:

repair damaged and decayed parts as needed

h **Sources of replacement parts:**

Mastercraft Fence Co. International Wood Industry, Inc, Box 39, Greensboro, Vermont 05841, contact: Jose Cartes

Joseph Richards, TSI Contractor, Box 691, Greenville, Maine 04441

Utilization and Marketing Forester State of Maine, Department of Conservation, State House Station 22, Augusta, Maine 04333, contact: Peter Lammert

Peter Ackerman, Cabot, Vermont 05647

Concord Woodworking Co., Inc. 100 Church Street, Lydonville, Vermont 05851

Huntingdon Fence Company, South Strafford, Vermont 05070, contact: James Condict

Green Mountain Fence Company, PO Box 115, Glover, Vermont 05839, contact: Howard Conley

Westwood Fences, Inc. Barton, Vermont, 05822, contact: Gaston Poirer

Vermont National Industries, RR 1, Box 680, Windsor, Vermont 05089

i **Additional Sources of Information:**

Correspondence file D52, Spruce Pole Fence, Frederick Law Olmsted National Historic Site administrative files.

Historic Structures Report: spruce pole fence. Carden and Gilmore, draft 1987 - 1991, pages 60 - 68.

Historic Grounds Report and Management Plan, Whitehill, 1982, page 10.

Figure 22: Feature data format for fences.

FEATURE DATA

The Feature Data section contains reference information on each feature or groups of features on the property. This information includes location, descriptive characteristics, historic significance, preservation practices, potential problems, and other relevant information needed by the maintenance staff. For some properties, this information may be available, but is stored in many different locations. Thus, the Preservation Maintenance Plan serves to consolidate information. For other properties, preservation practices and potential problems are known by the maintenance staff, but have never been recorded. In this case, the Plan is a mechanism for documenting the 'how to' and 'why' of these site-specific procedures *(Figure 22, see Appendix E for another example).*

With both large and small properties, a completed set of data sheets for all features is an extensive project. For this reason, information should be gathered first for features that require the most care or those that are most significant. Over time, data sheets can be added, amended, and updated for each feature.

When the Preservation Maintenance Plan notebook is assembled, each Feature Data sheet should be marked with a tab so it is easy to find. Examples of feature data tabs are: spruce pole fence, elm, dogwood, lilac, and drainage. It is helpful to supplement the data sheets with related information such as: photographs, diagrams, maps, pest fact sheets, and correspondence.

a Category, feature name and field identification number(s)
As described in previous sections.

b Source of name/identification
For certain historic features it is important to know by whom and when a feature was given its name, such as the name of a water feature. For plants, this would be the source of identification. Record the source, affiliation, and date.

c Locator map
Use a map or portion of a map to highlight the location(s) of the feature.

d Descriptive characteristics
Describe in detail the physical characteristics, functions, and/or materials of a feature. If the feature is ever altered or lost, this description will be helpful in repairing or replacing it. Supplemental photographs or diagrams are recommended.

e Historical appearance, design, or significance
The maintenance of a historic landscape is challenging because of the need to preserve its historical appearance, design, or significance. To help guide maintenance operations, summarize the history of the feature with information quoted directly from preservation documents, such as the *Cultural Landscape Report,*[10] with the source and page numbers cited.

f Preservation practices and work procedures
Describe, in as much detail as possible, how to inspect for potential problems and the feature-specific work required. Organize the information in an annual calendar format.[11]

---

[10] For a definition of a Cultural Landscape Report, refer to Appendix A.

[11] By organizing this information in an annual calendar format, preservation practices and work procedures for all features within the property can be consolidated into one calendar. This will be described in more detail in Section 6.

For *inspection of potential problems,* it is helpful for the reader/user to receive instructions in a similar format throughout the calendar. When giving recommendations for monitoring pest and disease problems, provide instructions in a standardized format such as:

- when to look for the problem
- where on the feature to look for the problem
- what evidence of damage to look for
- what causes the damage
- what level of damage or threshold can be tolerated
- what action should be taken
- what references should be consulted

For *feature-specific work required,* it is also helpful to give instructions in a standardized format such as:

- when work is best carried out
- what the work is, i.e. prune, paint, etc.
- what part of the feature requires work
- how work is carried out, step-by-step
- what equipment is used
- what potential problems or safety precautions staff should be aware of
- what references should be consulted

g Potential problems or pests

Describe potential or existing problems that affect the feature; whether the problem can severely damage the feature; and where additional information can be found. Some of this additional reference material on specific problems, pests or diseases may be added to the Preservation Maintenance Plan notebook.

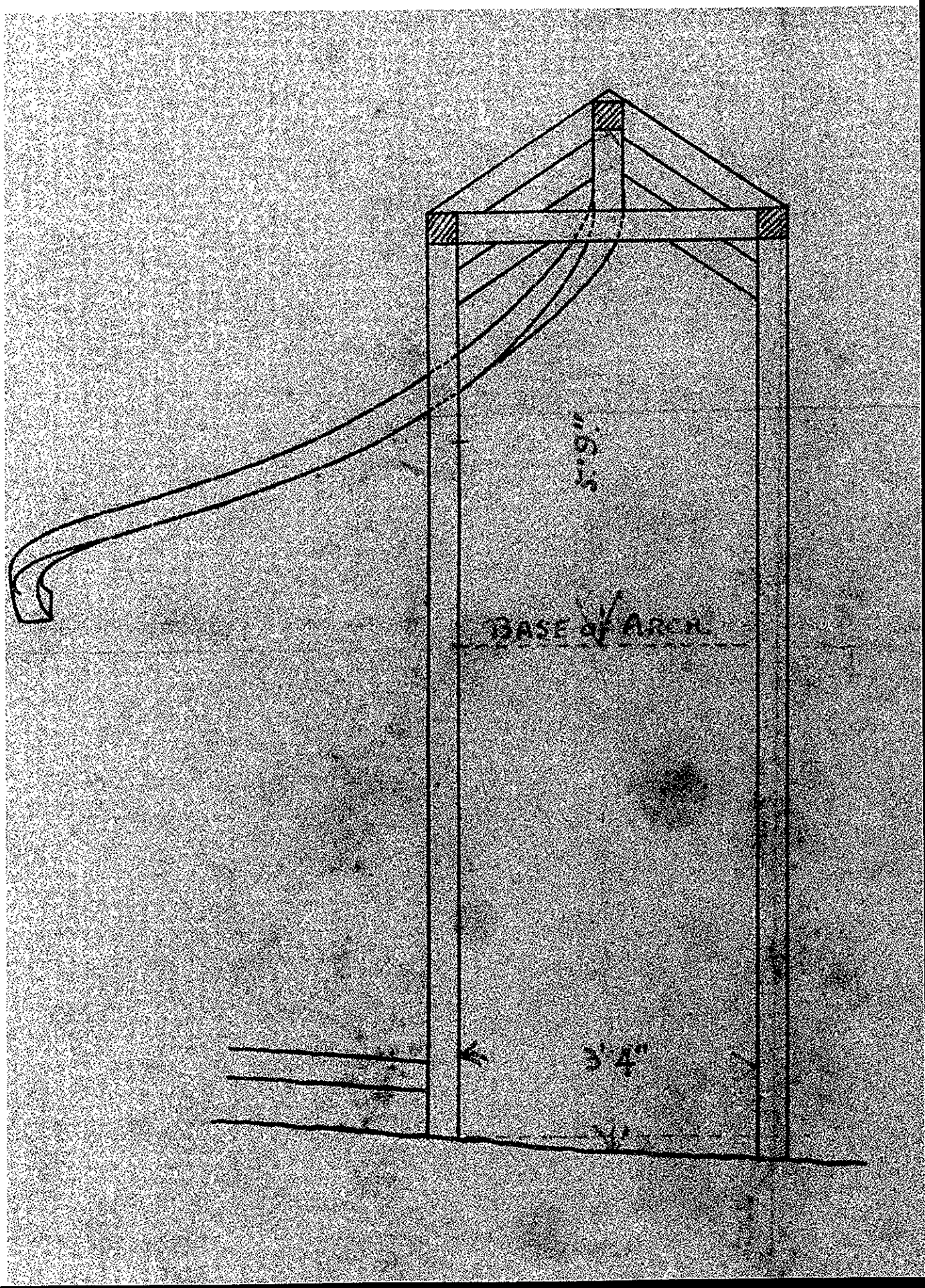
h Source(s) for repair, replacement parts, or propagation (for plants)

List sources for repair and replacement parts. Also list specialists that can provide assistance. If known, include address, phone number and person to contact. For plants that are significant and need to be propagated, list contact person and/or organization, method of propagation, and best time of year. For work carried out, note sources used in the next section, Record Keeping.

i Additional sources of information

List useful references. For texts, include the publisher and year. For specialists, include their name, title, organization, address and phone number.

Figure 23: Historic sketch of the spruce pole arch, c. 1883
(Courtesy Frederick Law Olmsted National Historic Site Archives).


BASE of AREA
3'4"

Frederick Law Olmsted National Historic Site (a)

RECORD KEEPING - *feature:* Spruce Pole Gate, Arch & Fence

(b) Record notes on measurements, conditions, work performed, reason for removal, replacement or installation, propagation method and growing location, status of feature, or reference to a related report, etc.	(c) Measurement	Condition/ Problem	Major Work/ Change	Removal	Replacement	Installation	Propagation	Other	(d) Date and Initials Also note references for any additional information
Two trees in the hollow fell and									BH 8/20/91
damaged 3 sections of fence and the									
gate to the hollow during Hurricane									
Bob.		X							
Replacement spruce poles picked up									EB, PL
from Joseph Richards, TSI, Greenville, ME									10/15/91
(listed in sources on FEATURE DATA sheet)								X	
Fence damaged during Hurricane Bob									LG, PL, SF
repaired.					X				10/30/91
Fence section by arch damaged									BH 3/21/92
by skidding car, traveling at									
excessive speed during snowstorm.									
(photographs taken)		X							
Damaged section repaired.					X				LG 5/1/92
Replaced rotted poles by shed, and									BH, LG
discovered evidence of brick driveway						X			9/15/92

Figure 24: Record keeping sheet for spruce pole gate, arch and fence.

RECORD KEEPING

Ongoing record keeping is closely associated with gathering data for each feature. A Record Keeping sheet is included with each Feature Data section within the notebook. It is, in essence, a continuation of the history of the feature (Section 5A, Item e.) from the present, into the future. Maintenance staff should record detailed information related to changes in condition, form, major work performed, removal, replacement, propagation, and any other activities related to the condition and maintenance of landscape features. If time for record keeping is limited, at a minimum the staff should be encouraged to retain receipts, notes, and other documentation related to maintaining a landscape feature in the binder until such time that it can be recorded in the record keeping section of the Plan. As years pass and personnel changes, record keeping becomes an extremely valuable source of documentation of the history of the property *(Figure 24)*. Inspection forms are also a form of record keeping and should not be discarded.

a Feature name and field identification number
List as in previous sections.

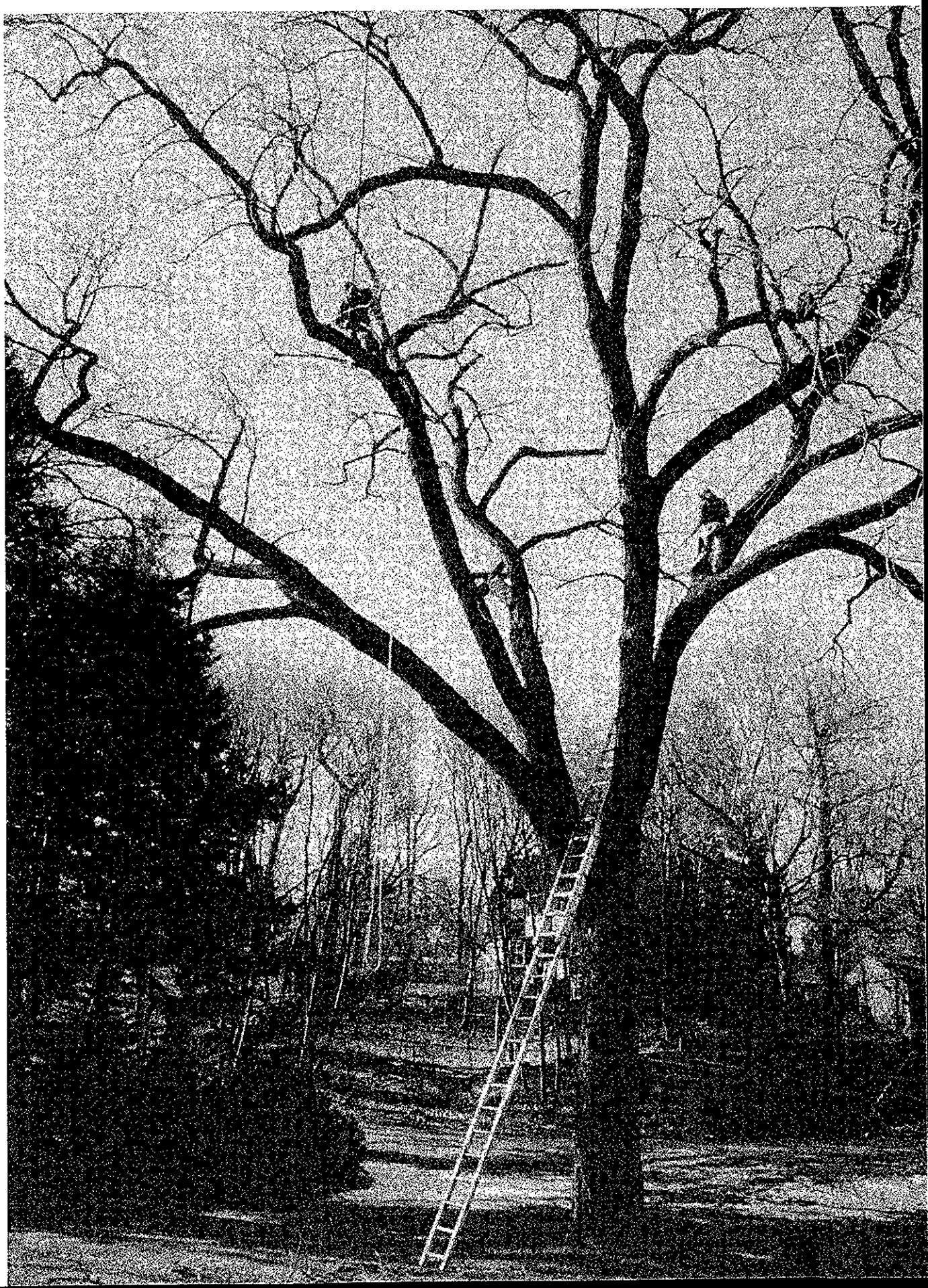
b Notes
Describe in detail any observations or events associated with the feature.

c Type of record
Mark the type of note, such as a measurement, a critical condition or problem, major work performed, a major change, removal, replacement, installation, propagation, or other observation.

d Date and initials
Indicate the date and name of the recorder. Also list any associated documents or correspondence.

Figure 25: Pruning American elm at Frederick Law Olmsted National Historic Site, 1981 (Courtesy Frederick Law Olmsted National Historic Site).

6 • SEASONAL CALENDAR



Frederick Law Olmsted National Historic Site

a CALENDAR FOR INSPECTION AND WORK - January

b

Trees

American elm, *Ulmus americana* (4-1-1)

Prune out dead, damaged, and diseased wood as needed. c

Eastern Hemlock *Tsuga canadensis* (1-1-5, 1-1-6, 1-1-7, 2-1-1)

Inspect hemlocks for pest and disease damage, particularly hemlock wooly adelgid and spider mite. Spray in April with a 2% dormant oil.

Shrubs and Vines

Common Lilac *Syringa vulgaris* (4-2-16, 5-2-3)

Prune out dead, damaged and diseased wood but carry out structural pruning after flowering in late spring.

Stone Walls and Steps

Cut field stone wall, rough field stone wall (1-5-1, 1-5-2)

Place snow stakes along edges of drive in early winter to facilitate snow removal and protect stone walls.

Paths

Crushed Bluestone path (4-6-1)

Place snow stakes along edges of walk to facilitate snow removal.

Fences

Spruce Pole Gate, Arch and Fence (2-8-1, 2-8-2, 2-8-3)

Apply sand to driveway during and after snow and ice storms to prevent cars to skidding into the fence, in particular near the south side of the arch.

After heavy snow storms, pile snow in front of this section as a buffer for skidding vehicles.

Best time of year to order spruce poles.

Frederick Law Olmsted National Historic Site

CALENDAR FOR INSPECTION AND WORK - May

Trees

American elm, *Ulmus americana* (4-1-1)

Lightening Cables. Check terminals every 2-3 years to see if they need to be raised. Loosen cable as needed to prevent tree from growing over/around cable.

Inspect trees for any branches showing signs of Dutch Elm Disease. Signs include wilting, yellowing, or leaf drop. Prune out immediately, well back into healthy wood. Send in cuttings for identification and verification of Dutch Elm Disease.

Shrubs and Vines

Common Lilac *Syringa vulgaris* (4-2-16, 5-2-3)

Protect young replacement shoots at the base of the plant from string trimmer and mower damage. Instruct new staff not to remove young rejuvenative shoots from the base of the plant.

Rejuvenative Pruning is essentail for maintaining the long-term viability of lilacs. Some pruning should be done each year in the late spring or early summer, immediately after blooms have passed. The lilac plant should contain several strong canes of various ages. Only the strongest young suckers should be encouraged to grow from the base, all others should be cut out from the base.

Renewal Pruning of old lilacs should be done gradually over several years. Never remove more than one third of the overall shrub. Cut old stems back to the point where the branches originate near the ground.

Structural Pruning should open up the center of the plant to improve light and air circulation.

Deadheading of flowers that have passed improves next year's bloom. Remove flowers promptly after they fade to brown to prevent seed development, which competes with the initiation of flower buds for the next year.

Paths

Crushed Bluestone path (4-6-1)

Rake surface with a fan rake to remove litter and debris.

Fences

Spruce Pole Gate, Arch and Fence (2-8-1, 2-8-2, 2-8-3)

Inspect the structural stability of the gate, arch and fence, particularly at joints. Examine each fence section for rotting, cracked wood, and loose nails.

Repair damaged sections of fence. When work is in progress, block off the area with safety caution tape and place orange cones along the street. (repair procedures outlined on page 3 of Feature Data) d

Frederick Law Olmsted National Historic Site

CALENDAR FOR INSPECTION AND WORK - July

Trees

American elm, *Ulmus americana* (4-1-1)

Trunk protection. Take preventative actions to protect the base of each tree from string trimmer and mower damage. Train all equipment operators. Hand trim around tree bases.

Prune out watersprouts and sucker growth.

Inspect trees for any branches showing signs of Dutch Elm Disease. Signs include wilting, yellowing, or leaf drop. Prune out immediately, well back into healthy wood. Send in cuttings for identification and verification of Dutch Elm Disease.

Shrubs and Vines

Common Lilac *Syringa vulgaris* (4-2-16, 5-2-3)

Inspect lilacs for pest and disease damage.

To prevent pest and disease problems, maintain good drainage, good soil, good sun, and good air circulation. Prune out dead or scale infested wood.

Some Powdery Mildew can be tolerated since it does not have a serious effect on the vigor of the plant. In some years, the spread of the disease is heavier than others. To diminish, spray with a mix of 4 Tablespoons baking soda, 1 Gallon of water and several flakes of ivory soap. This solution changes the pH of the leaf surface so that it is unfavorable for the growth and spread of of the powdery mildew.

Paths

Crushed Bluestone path (4-6-1)

Rake surface with a fan rake to remove litter and debris.

Fences

Spruce Pole Gate, Arch and Fence (2-8-1, 2-8-2, 2-8-3)

Inspect the structural stability of the gate, arch and fence, particularly at joints. Examine each fence section for rotting, cracked wood, and loose nails.

Repair damaged sections of fence. When work is in progress, block off the area with safety caution tape and place orange cones along the street. (repair procedures outlined on page 3 of Feature Data)

Frederick Law Olmsted National Historic Site

CALENDAR FOR INSPECTION AND WORK - October

Trees

American elm, *Ulmus americana* (4-1-1)

Raking. Elms tend to drop a lot of small branches after wind storms.

Eastern Hemlock *Tsuga canadensis* (1-1-5, 1-1-6, 1-1-7, 2-1-1)

Inspect hemlocks for pest and disease damage, particularly hemlock wooly adelgid and spider mite. Spray in September or April with a 2% dormant oil.

Flowering Dogwood *Cornus florida* (1-1-4)

Rake up leaves and dispose off site to reduce the amount of overwintering spores of Dogwood Anthracnose.

Paths

Crushed Bluestone path (4-6-1)

Rake surface with a fan rake to remove litter and debris.

Fences

Spruce Pole Gate, Arch and Fence (2-8-1, 2-8-2, 2-8-3)

Remove accumulated leaves, soil, and vegetation from base of fence as it contributes to decay of the fence poles and posts.

e

Figure 26: Seasonal calendar format.

SEASONAL CALENDAR

The seasonal calendar is an aggregation of all feature-specific calendars developed in the Feature Data section. This calendar is extremely useful because it serves as a checklist for all inspections and work needed in the landscape for a particular time of year. It is also very easy to compile when preservation practices are organized by month for each feature (refer back to Section 5A, Item f). For example, all procedures for the spruce pole fence in January are combined with procedures for trees, shrubs, stone walls, and paths as illustrated in *Figure 26.*

a Calendar periods
Inspection and work needs are combined into a calendar of seasonal, monthly, biweekly, or degree-day periods.

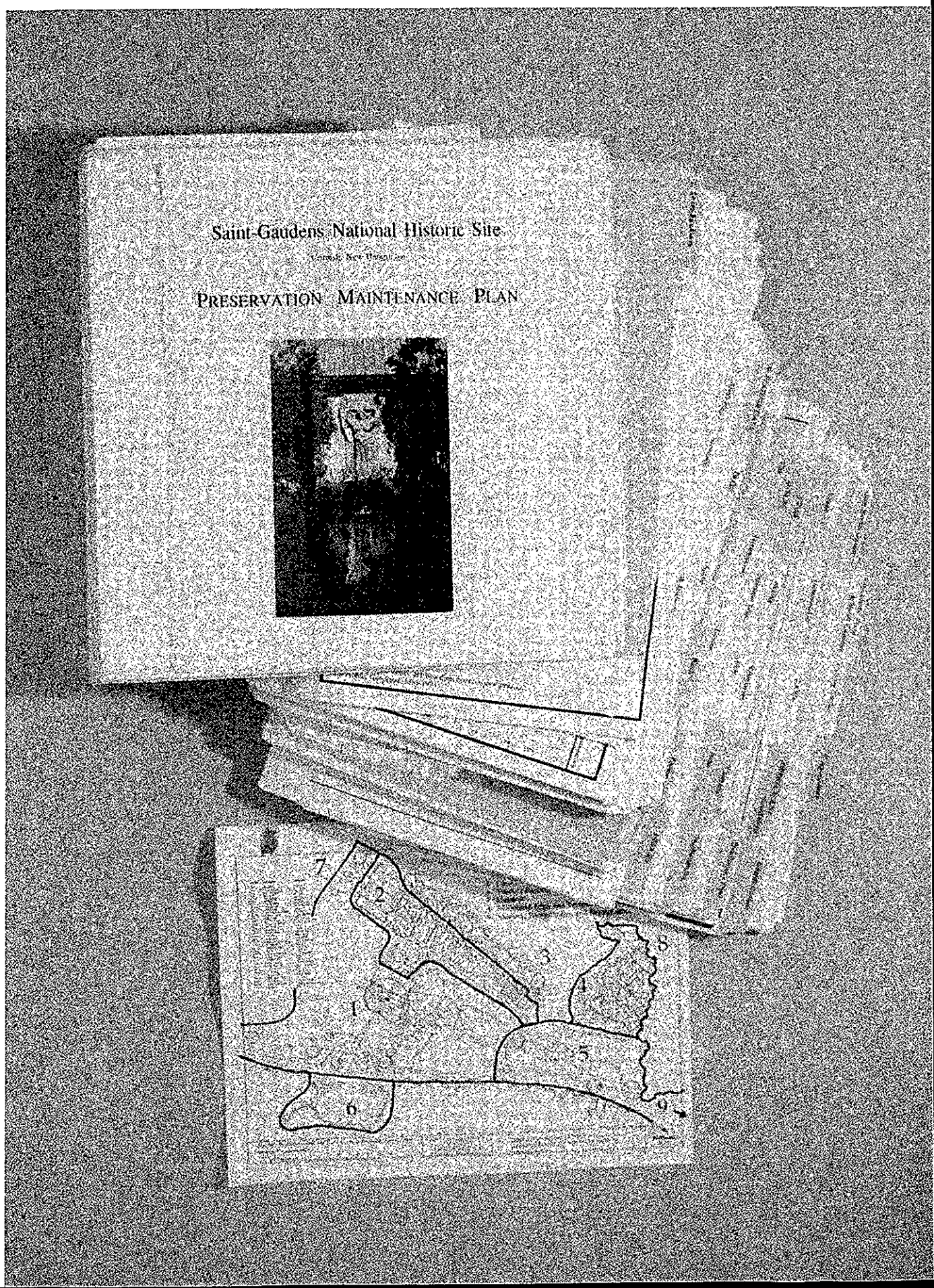
b Categories, feature names and field identification numbers
Within each calendar period, organize instructions into categories and feature names as defined in previous sections.

c Inspections and work needed
Compile all of the feature-specific procedures developed in Section 5A, Feature Data, Item f. If Feature Data sheets were not developed, interview maintenance staff and gather information on inspections and work performed from previous maintenance records, references, and guidebooks, including those listed in Appendix C.

d References
Most instructions require additional information. Put sources of additional information in parenthesis at the end of a recommendation when appropriate.

e Additional space
Where possible, leave blank spaces on each page of the calendar so that additional information can be added. By using the calendar and adding to or modifying it each year, it becomes increasingly valuable as a site-specific maintenance plan.

Figure 27: Preservation Maintenance Plan notebook.


Saint-Gaudens National Historic Site
PRESERVATION MAINTENANCE PLAN

CONCLUSION

A complete Preservation Maintenance Plan notebook serves many functions. The maps of areas and inventory organize and clarify maintenance operations. For example, the named areas within the landscape at Olmsted National Historic Site allow for communication between all divisions and all staff in different management areas. A comprehensive inspection and list of work needed can serve as the scope for funding a major work project. For example, at Edison National Historic Site in West Orange, New Jersey, the inspection of 450 trees resulted in a pruning project to remove hazardous limbs in 60 trees. A map indicated the trees to prune in priority order, which allowed the large field crew to move quickly. A series of inspections over several years is useful for monitoring the extent of pest damage. For example, at Saint-Gaudens National Historic Site in Cornish, New Hampshire, the extent of damage caused by bronze birch borer has been documented for four years. This information was essential for deciding whether pest control was necessary and effective.

The Plan is a repository for information that might otherwise be lost. For example, at Adams National Historic Site in Quincy, MA, several fruit trees have been propagated. The date, location and contact person for these plants was recorded in the notebook. This will eliminate confusion when it is time for the plants to be replaced. Information is often lost when there is a change in personnel. The calendar section is particularly useful for new maintenance staff to understand the timing and range of maintenance work to be accomplished. Historians will also find the Preservation Maintenance Plan very useful as a source of information on how the landscape has changed.

A Preservation Maintenance Plan is built from the ground up. It is an aggregation of large amounts of detailed information. Although the format presented herein can be replicated and adapted to many historic landscapes, an actual Plan is very site-specific. The value of the Plan increases over time as memories fade and we rely increasingly on written and graphic documentation. To be most effective, a Preservation Maintenance Plan needs to be updated and amended regularly. This documentation of the ever-changing landscape will be used by many people in the years ahead.

Additional information on setting up a Preservation Maintenance Plan may be requested from the Olmsted Center for Landscape Preservation, 99 Warren Street, Brookline, Massachusetts, 02445.

Figure 28: Resetting steps at Minuteman National Historical Park, 1994 (Courtesy of Lindsay Self).

APPENDIX A. TERMINOLOGY AND RELATED PROGRAMS

Cultural and Historic Landscape Types

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.[12] Types of cultural landscapes include:

Historic Landscapes are defined as types of cultural landscapes and include:

Historic Site: landscapes significant for their association with important events, activities, and persons. Examples include battlefields and presidential homes.[13]

Historic Designed Landscape: a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, or horticulturist according to design principles, or an amateur gardener working in a recognized design style or tradition. The landscape may be associated with a significant person(s), trend, event in landscape gardening or architecture; or illustrate an important development in the theory or practice of landscape architecture. Aesthetic values play a significant role in designed landscapes. Examples include parks, campuses, and estates.[14]

Historic Vernacular Landscape: a landscape that evolved through use by the people whose activities or occupancy shaped that landscape. Through social or cultural attitudes of an individual, family or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives. Function plays a significant role in vernacular landscapes. They can be a single property such as a farm or a collection of properties such as a district of historic farms along a river valley. Examples include rural villages, industrial complexes, and agricultural landscapes.[15]

Ethnographic Landscape: a landscape containing a variety of natural and cultural resources that associated people define as heritage resources. Examples are contemporary settlements, religious sacred sites and massive geological structures. Small plant communities, animals, subsistence and ceremonial grounds are often components.[16]

Preservation Maintenance Terminology

Character describes the physical appearance and use of a landscape as it relates to its period of historical significance. Certain features in the landscape are likely to play a larger role in portraying the unique character and use of a landscape, such as a bridge, a single specimen tree, or a fountain. These are described as character-defining features.[17]

Historical Significance is a term used to describe the role of a physical feature in the landscape in relation to an event, activity, person, design concept, tradition, custom, or other pattern of settlement or land use. In some cases historical significance may be ascribed to more than one period on a landscape's physical and cultural evolution.[18]

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[12] Birnbaum, Charles. *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 DC, 9/1994, p.1.

[13] Ibid, p. 2.

[14] Ibid, p. 2.

[15] Ibid, p. 2.

[16] Ibid, p. 2.

[17] National Park Service. *NPS-28: Cultural Resource Management Guidelines, release #4*. Washington D.C.: U.S. Dept. of the Interior, NPS. July 1994, p. 93.

[18] Ibid, p. 96.

Preservation Maintenance: the act or process of mitigating wear and deterioration of a historic property without altering its historic character; including the practice of monitoring change, controlling growth, replacing in-kind, and minimizing disturbance in the landscape to ensure that features, such as vegetation, paths, walls, and other landscape furnishings, are not lost and the character of a place is not compromised. Most maintenance activities are divided into two types:

> *Routine Maintenance:* maintenance procedures that are repeated at regular and predictable intervals, such as sweeping, raking, oiling, pruning, etc.
>
> *Cyclic Maintenance:* maintenance procedures that are performed less frequently than annually and usually involve a major adjustment or change, such as resetting steps, replacing a tree, or resurfacing of paths and drives.

Stabilization: the act or process of applying measures necessary to reestablish the stability of an unsafe, damaged, or deteriorated site while retaining the essential form as it exists at present.

Treatment: work carried out to achieve a historic preservation goal. Selecting a treatment is based on many factors, including historic and proposed use; historic significance and integrity; existing physical conditions; operational and code requirements; staffing and maintenance; and cost. A treatment plan, in combinationwith a preservation maintenance plan, provides long-term guidance and specifications for the management and maintenance of a property.[19] Four approaches to treatment are defined in *The Secretary of the Interior's Standards of the Treatment of Historic Properties* (1992) as follows:

> *Preservation:* the act or process of applying measures necessary to sustain the existing form, integrity, and material of a 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 additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-related work to make properties functional is appropriate within a preservation project.[20]
>
> *Rehabilitation:* 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 or cultural values.[21]
>
> *Restoration:* 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 removing features from other periods in its history and reconstructing missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical and plumbing system and other code-required work to make properties functional is appropriate within a restoration project.[22]
>
> *Reconstruction:* 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.[23]

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[19] Portions of this definition extracted from: Birnbaum, Charles. *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 DC, 9/1994, p. 11-12.

[20] Ibid, p. 13.

[21] Ibid, p. 13.

[22] Ibid, p. 13.

[23] Ibid, p. 13.

Related Site Documents

Cultural Landscape Report (CLR): A comprehensive report that includes the documentation and analysis of all periods of the landscape's history and significance, an evaluation of the existing conditions and integrity, and treatment recommendations. A more detailed definition is contained within NPS-28.

General Management Plan (GMP): A document that provides a broad framework for the management, development, and use of a park for its legislatively defined purposes.

Resource Management Plan (RMP): A plan that describes the park's natural and cultural resources, documents their status, and sets forth a comprehensive management program. The RMP includes a series of project directives to complete research and documentation of the park's resources and to develop integrative programs to preserve, protect and interpret those resources.

NPS Computerized Information and Management Systems

Cultural Landscape Inventory (CLI): A computerized, evaluated inventory of historic sites, historic designed landscapes, and historic vernacular landscapes in which the National Park Service has, or plans to acquire, any legal interest. The CLI will gather information on cultural landscapes within the national park system, including their location, historical development, character-defining features, and management. Once completed, the CLI will assist park managers in defining their cultural landscape resources.

Cultural Resources Management Bibliography (CRBIB): A computerized multi-disciplinary inventory of all professional reports, books, articles, and other publications that address cultural resources in the National Park System. The CRBIB contains information on title, author, date, report location, and number of reports, and is organized by discipline and geographic area.

Inventory and Condition Assessment Program (ICAP): A computerized methodology developed for all properties within the National Park Service for inventorying, assessing conditions, identifying maintenance and major deficiencies, and for providing corrective work recommendations for all site features.

Maintenance Management Program (MM): A computerized program developed for all maintenance divisions within the National Park Service properties. The program is designed to assist maintenance managers to plan, organize and direct park maintenance programs. MM provides detailed documentation of maintenance workload and helps to identify when specific activities should be performed. ICAP has been developed to complement the MM program.

Historic Properties Preservation Database (HPPD): A computerized database containing technical information on the treatment of historic and prehistoric structures and cultural landscapes. It is used to develop work procedures (skill requirements, work considerations, material and equipment selection, and work instructions) for the ICAP - MM program, and to provide information for rehabilitation and restoration.

APPENDIX B. INSPECTION CRITERIA

The following are a sample of inspection criteria for the Field Inspection section. More specific monitoring criteria (i.e. what time of year, where to look, and what to look for) are listed in the Feature Data section under preservation practices.

For trees - Inspect overall condition, leaves, shoots, twigs, branches, cables, trunk bark, trunk flare, roots, soil, flowers, fruits, pest & disease problems, whether tag is present.

For shrubs - Inspect overall form, overhead shading, adjacent crowding, leaf, shoots, twigs, branches, support cables, base, roots, soil, rejuvenative growth, flowers, fruit, weeds, pest and disease problems.

For vines - Inspect overall form, condition of trellis or climbing support structure, weight, overhead shading, leaf, shoots, base, roots, soil, rejuvenative growth, flowers, fruit, pest and disease problems.

For hedges - Inspect overall form, batter, overhead shading, adjacent crowding, density at bottom, density at top, branches, cables, base, roots, soil, water stress, snow & ice damage, weeds, pest and disease problems.

For lawns - Inspect for holes, ruts, erosion, drainage problems, wilting, browning, mower damage, excessive thatch layer, debris on surface, pest and disease problems, weeds, compaction, soil type, pH and nutrient analysis.

For garden beds with flowering annuals and perennials - Inspect for wilting, vandalism, dead flowers, dead plants, fallen or broken stems, undefined or altered edge of garden bed, crowding, pest and disease problems, weeds, soil type, pH and nutrient analysis.

For fences and walls - Inspect for surface, finish, supports, base, deterioration, cracks, water damage, leaning, collapsed, loose or missing parts, and accumulated debris or leaf matter.

For paths, drives, and parking areas - Inspect surface for potholes, puddling, cracks, soft areas, deterioration, edge, weeds and debris.

For trails - Inspect for debris, encroaching vegetation, holes, soft areas, obstacles, and slope instability.

APPENDIX C. REFERENCES

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APPENDIX D. DATABASE STRUCTURE

Trees

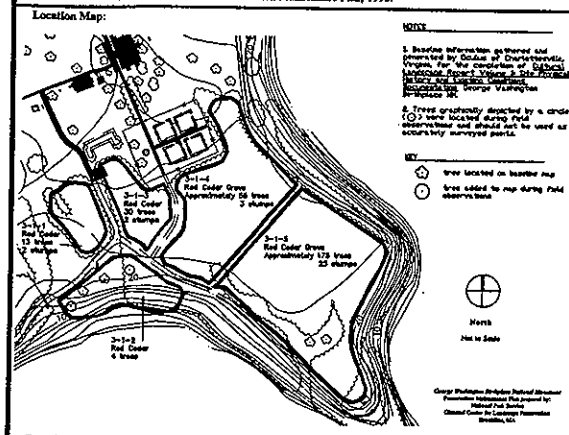
LOC	Location/Area	Character	7
ID	Field ID#	Numeric	10
SCINAME	Scientific Name	Character	50
COMNAME	Common Name	Character	50
FORM	Overall Form	Character	5
LEAF	Leaf, Shoots	Character	5
BRANCH	Branches	Character	5
CABL	Cables	Character	5
TRUNK	Trunk	Character	5
ROOTS	Roots, Soil	Character	5
FLOWE	Flower, Fruits	Character	5
PESTS	Pests, Diseases	Character	5
TAG	ID Tag Present	Character	5
DBH	Diameter	Numeric	10
COMMENTS	Comments on Condition	Memo	200
DIAG	Further Diagnosis Needed	Character	5
WORKREQ	Work Needed	Character	5
STAB/REP	Stabilize and/ore Repair	Character	5

APPENDIX E. FEATURE DATA EXAMPLE—CEDAR GROVE

George Washington Birthplace National Monument
FEATURE DATA: Cedar Grove

Category:	Vegetation		
Feature Name & Field ID # (s):	cedar grove	3-1-1	13 trees; 2 stumps
	cedar grove	3-1-2	4 trees
	cedar grove	3-1-3	30 trees; 2 stumps
	cedar grove	3-1-4	55 trees; 3 stumps
	cedar grove	3-1-5	175 trees; 25 stumps
Source of Name:	Preservation Maintenance Plan, 1996.		

Location Map:



Descriptive Characteristics:

Eastern Red Cedars - Their habit is densely pyramidal when young and slightly pendulous in old age, variable in wild from columnar to pyramidal.

Grove Boundaries - The cedar grove is located on Burnt House Point. The boundaries of the grove extend from the waters edge around the point to near the edge of the Colonial Garden. The boundaries of the grove are critical and maintaining them is imperative in order to maintain the spatial quality of the historic core which existed historically.

Historical Appearance, Design or Significance

The cedar grove potentially has historic significance. According to an early history of Westmoreland County, Popes Creek was once called Cedar Island Creek because of the abundance of cedar trees on the islands and banks (*DRAFT George Washington Birthplace National Monument Cultural Landscape Report*, 1996, p. 2-10-2-11).

George Washington Birthplace National Monument
FEATURE DATA: Cedar Grove

Preservation Practices and Work Procedures

Winter

Prune out dead, damaged, and diseased wood as needed. Red Cedar normally accumulates dead foliage over time. This can be removed in areas where it is unsightly.

Remove snow from young plants promptly to avoid broken and mis-shapen limbs.

Inspect structural form of tree to determine if cables are needed. Cables may be needed to repair damage caused by snow and ice.

Monitor for Cedar Apple Rust and remove galls.

Spring

Take preventative actions to protect the base of each tree from string trimmer and mower damage. Train all equipment operators. Hand trim around tree bases.

Transplant new replacement plants. Eastern Red Cedar transplants balled and burlapped readily.

Monitor for pests and diseases. Prune out Cedar Apple Rust Galls and infected foliage as they appear, especially in warm rainy weather. Spruce Spider Mite prolific in cool weather causing foliage to appear stippled yellow or grayish and dirty. Two-spotted Spider Mites develop in hot dry weather.

Summer

Take preventative actions to protect the base of each tree from string trimmer and mower damage. Train all equipment operators. Hand trim around tree bases.

Prune out broken limbs or unwanted growth, but leave foliage to maintain a natural appearance.

Water newly transplanted trees so that they receive one inch of water every 10 days.

Monitor for pests and diseases.

Fall

Monitor for pests and diseases.

Water newly transplanted trees so that they receive one inch of water every 10 days.

George Washington Birthplace National Monument
FEATURE DATA: Cedar Grove

Preservation Practices and Work Procedures (continued)

The cedar grove is a historically important feature of the landscape. Each tree in the grove is not individually significant, it is the character, size and area of the grove as a whole that is important.

Replacements -

If replacement is necessary and

a. there are 6 or more hours of sunlight per day, the tree(s) should be replaced in-kind, in or close to its original location. This option has the least visual impact and retains the best original character of the site.

b. there is less than 6 hours of sunlight per day, the following four treatment options can be considered to increase available sunlight before replanting - in descending order:

1. record the removal and wait until adjacent trees need to be removed
2. reduce the canopies of adjacent trees by removing deadwood
3. selectively prune living branches and thin adjacent tree canopies
4. clear a section of the grove and replace all trees

It is critical to maintain the existing shape and size of the grove. When replacements are made, they should be made within the existing boundaries of the grove.

Stump removal -

The stumps resulting from tree removal should be treated in one of the following ways:

1. No Action - Wherever possible, stumps should be cut flush to the ground and left to decompose naturally.

2. Accelerated Decomposition - Decomposition may be enhanced by drilling 1" diameter holes to a 6" depth into the stump, spaced every 2-3" in a honeycomb or diamond pattern. The holes should be filled with a mixture of 1 part finely screened compost, 1 part sand to enhance drainage, and 1 part high-nitrogen fertilizer such as a slow-release synthetic fertilizer or a 100% organic fertilizer such as dried blood (see below for other sources of high nitrogen fertilizer).

3. Stump Grinding - In some cases, stump grinding may be necessary to provide sufficient planting space for the replacement of missing historic vegetation. Grind stumps to a depth of 12-24" depending on the anticipated size of new plantings. The depression should be backfilled and leveled using parent soil found onsite or a new material that closely matches the existing soil composition.

4. Roots Cut at Trunk Flare - In some cases, tree stumps need to be removed mechanically to allow for planting. They should be removed by a) washing the soil from the tree base to expose lateral roots at the trunk flare; b) cut lateral/stabilizing roots as close to trunk flare as possible; c) remove trunk; d) backfill hole with parent soil found onsite or with a new material which matches the existing soil composition.

George Washington Birthplace National Monument
FEATURE DATA: Cedar Grove

Recommended replacement materials:

seedling replacement or transplant from the vicinity
nursery stock or other off-site source

Sources of replacement materials:

Seedlings are freely produced wherever mature trees occur.

Eastern Red Cedars are common stock at many nurseries.

Additional Sources of information:

Manual of Woody Landscape Plants, fourth edition. Michael Dirr. Atlanta, GA: Stipes Publishing Company, 1990.

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APPENDIX F. BLANK FORMS

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

AREAS & CATEGORIES OF FEATURES

Property map:

Area#	Category#	Names

Sources:

Olmsted Center *for* Landscape Preservation

INVENTORY OF LANDSCAPE FEATURES

*Category:*__________________ *Inventory conducted by:*________________________________ *Date*____________

Feature name	*Field ID#*	*Field Tag(y/n)*	*Size*	*Origin & Age (if known)*

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

SUMMARY OF WORK NEEDED

Season	*Work Needed, Field ID#s, Feature names (optional)*	*Field notes, Hours spent, & Date completed*

Special considerations for historic appearance, design, or significance:

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

INSPECTION - SPECIMEN TREES

Feature Name and Field ID#:	Overall form	Leaf, Shoots	Branches	Cables	Trunk	Roots, Soil	Flower, Fruit	Pests, Diseases	Tag Present (y/n)	Comment on size, age, condition, field diagnosis and work needed:	Further Diagnosis Needed (y/n)	Work Needed (X) Critical Work (*)	Replace Immed (I) Plan for Repl (P)	Action Completed (date)

Recommended Equipment for Inspection:

- hand pruner
- binoculars
- insect jars

Inspected by:

Date:

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

INSPECTION - SHRUBS, VINES, & ROSES

Category:

Areas:

Feature Name and Field ID#:

	Overall form	Overhead Shading	Adjacent Crowding	Leaf, Shoots, Twigs	Branches, Cables	Base, Roots, Soil	Rejuvenative Growth	Flower, Fruit	Pests, Diseases, Weeds	Comment on condition, size, age, field diagnosis and work needed:	Further Diagnosis Needed (y/n)	Work Needed (X) Critical Work (*)	Replace Immed (I) Plan for Repl (P)	Action Completed (date)

Recommended Equipment for Inspection:

- hand pruner
- binoculars
- insect jars

Inspected by:

Date:

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

INSPECTION - MASONRY

Category: Area: Feature Name and Field ID#:	Deteriorated	Cracked	Loose/missing mats.	Leaning	Collapsed	Veg. in contact with	Veg. growing from	Veg. causing disturb.	Other	Comment on condition and work needed:	Further Diagnosis Needed (y/n)	Work Needed (X) Critical Work (*)	Replace Immed (I) Plan for Repl (P)	Action Completed (date)

Recommended Equipment for Inspection:

- hand pruner
- hand trowel
- gloves
- camera

Inspected by:

Date:

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

INSPECTION - FENCES & WALLS

Category:

Areas:

Feature Name and Field ID#:

Deteriorated	Cracked	Damaged	Leaning	Collapsed	Loose, missing parts	Accumulated debris	Needs refinishing	Other	Comment on condition, field diagnosis and work needed:	Further Diagnosis Needed (y/n)	Work Needed (X) Critical Work (*)	Replace Immed (I) Plan for Repl (P)	Action Completed (date)

Recommended Equipment for Inspection:
- hand pruner
- hand trowel
- gloves
- camera

Inspected by:

Date:

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

INSPECTION - ROADS & PARKING AREAS

Category: Areas: Feature Name and Field ID#:	Potholes	Loss of surface	Puddling	Drains	Soft areas	Weeds	Debris	Edge damage	Other	Comment on condition, field diagnosis and work needed:	Further Diagnosis Needed (y/n)	Work Needed (X) Critical Work (*)	Replace Immed (I) Plan for Repl (P)	Action Completed (date)

Recommended Equipment for Inspection:

- hand trowel
- gloves
- camera

Inspected by:

Date:

OLMSTED CENTER *for* LANDSCAPE PRESERVATION

RECORD KEEPING - FEATURE: ____________________

Record notes on measurements, conditions, work performed, reason for removal, replacement or installation, propagation method and growing location, status of feature, or reference to a related report, etc.	Measurement	Condition/ Problem	Major Work/ Change	Removal	Replacement	Installation	Propagation	Other	Date and Initials

AN OUTLINE OF CONTENT FOR A TYPICAL CLR PROJECT AGREEMENT

Part A: Statement of the Project

Preamble: This project agreement is an obligatory compact between (party A - client) and (party B - provider) and describes the specific project requirements to be fulfilled and duties to be performed by the principal parties in order to produce or supply the services and products agreed to below.

1. Project Setting - Description of the Project Area

2. Purpose - Description of how the project relates to the mission and management goals of the park unit

3. Problem and Need - Issues to be dealt with and problems to be corrected that make the project necessary

4. Special Considerations and Issues - Description of constraints (e.g., cultural, legal) specific to the unit or project that need to be considered in order to complete the project

5. Data Needs - A listing and description the information and data that must be obtained in order to provide the products and to complete the project

6. Regulatory Requirements
   a. A description of the regulatory requirements that must be complied with to complete the project
   b. A preliminary decision on the level of NEPA and NHPA section 106 documentation required and external agencies to be involved (e.g., USFWS, SHPO, ACHP, Native Americans, partners)

7. Public Involvement - A description of how the public will be informed and involved in the project process to meet both agency policy and regulatory requirements

Part B: Agreement of Principal Parties

1. Requirements to be Fulfilled - Special criteria the products need to meet in order to satisfy customer needs

2. Products to be Produced - A description of the products or deliverables to be produced

3. Roles and Responsibilities
   a. A clear listing of individuals or groups and the step or product each is responsible for (includes partners and other agencies)
   b. Identification of the accountable party/office for each step and product
   c. Identification of the core team

4. Project Schedule
   a. A detailed schedule of all project milestones and product delivery dates
   b. Go/no-go points in the project
   c. A description of the remedy for failure to meet schedule (as applies to both parties)

5. Cost Estimate - Estimate of cost of steps and products, and an agreed upon maximum net construction amount for design-related products

6. Product Warranty - Description of how and when the party responsible for a product will correct any errors and omissions

7. Project Agreement Amendment Process - A description of conditions under which the project agreement can be amended in order to suit changing circumstances and when/how each party can initiate an amendment

8. Principal Parties' Signatures

A Sample Project Agreement For Contracting Photogrammetry Services

Project Agreement (Scope of Work)
Sagamore Hill National Historic Site
Aerial Photography and Photogrammetric Survey

Project Description:

Prepare a georeferenced topographic base map for Sagamore Hill National Historic Site located in the town of Oyster Bay, New York. The property occupies approximately 85 acres of wooded and landscape grounds with several small building complexes.

We are seeking a survey at a scale of 1" = 40 (or other scale as determined by the scale of aerial photographs provided) documenting the following features:

1. Property boundaries, based on information provided (accurate to 1' horizontal).

2. Building footprints (accurate to 1' horizontal).

3. Roads, drives, and footpaths (accurate to 1' horizontal).

4. Miscellaneous built features (i.e. fences, walls, foundations, etc.; accurate to 1' horizontal).

5. Hydrological features (accurate to 1' horizontal).

6. Gross vegetation cover types (i.e. open forest, brush).

7. Major trees and shrubs (6" diameter and larger; trunk & canopy locations; accurate to 1' horizontal).

8. Topographic contours at 1' interval, referenced to mean see level (accurate to 1' horizontal and 6" vertical).

The map should be developed on (1) hard-copy ink on mylar and (2) digital format (see additional description below); based upon data interpreted from aerial photographs. Note: 1992 black and white (at 1:350) and 1992 infra red aerial (at 1:350) photography and horizontal and vertical control points will be provided.

All hard copy and digital products should be georeferenced to UTM coordinate system. Documentation for these should indicate root mean square error (RMSE) of rectification and any significant edge matching adjustments.

Products:

Hard copy maps should be prepared in ink on mylar.
Digital item: Vector digital format for use in Autocad ver. 11 minimum, PC based. Separate map layers (files) for each type of feature listed above.
Preferred media: 3½" 1.44MB Floppy.

We are anxious to move forward with this project, so replies are requested prior to 10/20/92. Please submit your proposal with separate estimates for

1. preparing hard copy map on mylar

2. all digital deliverables

3. unit price for additional mylar hard copies of the map to:

Scott Shannon
State University of New York
College of Environmental Science and Forestry
Faculty of Landscape Architecture
1 Forestry Drive
Syracuse, New York 13210
Phone: (315) 470-6541 Fax: (315) 470-6540

A Sample Project Agreement For Contracting Photogrammetry Services

Project Agreement (Scope of Work)
Jefferson Expansion Memorial
Aerial Photography and Photogrammetric Survey

Description of Work:

Prepare a georeferenced topographic base map for the Jefferson National Expansion Memorial located in St. Louis, Missouri and aerial photography of East St. Louis study area. The property occupies approximately 91 acres of landscaped grounds, several buildings, and the Gateway Arch. The East St. Louis study area occupies approximately 200 acres.

Purpose of Project:

The purpose of the project is to prepare a topographic base map of the property an the Missouri side, including built and natural features, for future planning and construction needs. Aerial photography of the East St. Louis study area will be used for planning purposes and future base map compilation.

Title I Services:

The A/E shall provide the necessary field and office effort to complete the following survey items:

I. Topographic Surveying

A. Aerial Photography

1. Color and black and white photography (both types of film) for mapping covering areas shown in Exhibit A. In addition to the flight line photography there shall be one black/white overview photograph of the Missouri side taken at an appropriate altitude so that it covers the whole park on one 11" x 17" photograph (or comparable appropriate size).

2. The proposed flight map for the project shall be submitted to the National Park Service for approval before beginning flying. Flight lines shall be parallel to the project boundaries. Approval will be given within five days.

3. Take photographs at the height above average ground elevation based on the

specified map scale, contour interval, detail, and accuracy. Permitted deviation from proposed photographic scale = 5%.

4. End lap (in the line of flight) shall average 60%.

5. Side lap shall average 30%.

6 Crab shall be less than 3 degrees as measured by a line joining the principal points of each negative strip.

7. Tilt of any one negative shall be less than 3 degrees between any two adjoining negatives, and shall average less than 1 degree for the entire project.

8. All photography shall be titled with the following information across the top of each photograph:

DATE SCALE FOCAL LENGTH JEFF(FL#) (EXP#)C

The "C" is the designation for color photography.

9. Flying shall take place after the leaves are off the trees and when the ground is not obscured by haze, smoke, dust, clouds, or snow.

10. Photography shall be at a scale of 1"=200' for producing topographic maps at a scale of 1"=40' and a 1' contour interval.

11. The A/E shall provide the following flight line photography: two sets of black and white prints, two sets of color prints, and the mapping photography (color diapositives and a set of black and white control prints (with control and picture points marked]). The A/E shall also provide one black/white overview of the Missouri side as described above in I.A.1.

B. Photogrammetric Compilation

1. In accordance with National Map Accuracy Standards, the A/E shall arrange for the compilation of the aerial photography into 1" = 40' topographic maps with a 1' contour interval for the Missouri property only. Color diapositives shall be used for the compilation. The compilation shall be drafted on 24" x 36" 5 mil double matte mylar sheets. Mapping shall be provided in digital form acceptable to AutoCAD Rel. 12 or higher.

2. Final maps shall not have pass points or photo centers shown. The final maps shall be of archival quality, electrostatic plots are not acceptable.

3. Each drawing sheet shall also be set up as an individual electronic drawing file,

these sheets shall be cut from the original base drawing file.

4. The mapping information shall be located on different layers within the electronic drawing file (s). The information on the unfrozen layers shall produce the equivalent of a conventional base map. These layers shall include:

   a. Property boundary (based on information provided by NPS).

   b. Building footprints (accurate to 1' horizontal).

   c. Roads, drives, and footpaths (accurate to 1' horizontal).

   d. Miscellaneous built features (i.e., fences, walls, foundations, manhole covers, etc. (accurate to 1' horizontal).

   e. Hydrological features (accurate to 1' horizontal).

   f. Gross vegetation types (i.e., open, brush, forest).

   g. Major trees and shrubs (2" diameter and larger; trunk locations accurate to 1' horizontal).

   h. Topographic contours at 1' interval referenced to NGVD (mean sea level), separate layer of index contours (5' intervals); accurate to 1' horizontal and 0.5' vertical.

   i. Spot elevations which, in conjunction with the contours, are required to communicate critical elevations (building elevations, areas where spot elevations are required to indicate anomalies in the ground surface, areas where contours are more than fifty feet apart elevation shall be shown every 50').

   j. Border/title block.

   k. Sheet grid.

   l. Other text.

5. The frozen layers shall contain the remainder of the survey information.

6. The information shown on all layers, unfrozen and frozen shall be free of conflicts when displayed in a composite format.

7. Graphic symbols, letter sizes, text orientation, types shall be consistent on all layers and sheets.

8. The format for the title block will be provided by the National Park Service in digital format. The minimum letter/number/symbol height shall be 0.100 inch (Leroy 100 template), the contour lines shall be solid, and the north arrow shall be a standard surveying north arrow.

9. Based on found evidence, but not involving a full boundary survey, the railroad right-of-way and any other readily apparent property lines shall be shown on the final maps.

10. All field survey coordinates shall be incorporated into the photogrammetric base to produce the final map.

C. *Field Survey Work*

1. Horizontal control should be based on the Missouri State Plane Coordinate System.

2. Vertical control shall be based on National Geodetic Vertical Datum (NGVD).

3. The A/E shall do field completion surveys of the photogrammetrically compiled maps at the Jefferson National Expansion Memorial.

4. The A/E shall verify the location of all major and minor structures, including, but not limited to: buildings (including underground Visitor Center) overlooks, bridges, manholes, and water features.

II. Contacts

Before starting work the A/E shall contact the following: David Bubac, Facility Manager, 11 North Fourth Street, St. Louis, Missouri at (314) 425-4468. The contractor shall prepare and provide proposed horizontal control points (on the East St. Louis side) and work schedule to the National Park Service prior to placement due to permissions required to access property. Require 15 days notice to landowners.

III. Schedule and Reviews

1. Contract award and start of work - April 1, 1995

2. Work shall be 100 percent complete and all products shall be submitted no later than June 1, 1995.

Material to be provided by the Government:

The government will provide the following material:

1. Boundary maps and current construction drawings (accuracy not guaranteed).

2. Title block for drawings in digital format.

Material to be provided by the Contractor:

The Contractor shall provide the following materials and information:

1. Hard copy original film mylars prepared in ink and two sets of prints.

2. For all digital deliverables; format for use in AutoCAD, Rel. 12 minimum. Separate map layers for each type of feature listed above. Preferred media - 3 ½" [1.44 mb] floppy.

3. Original field books and calculations for the work. For data that is collected electronically the A/E shall provide field data on 3 1/2" [1.44 mb] floppy disks.

4. All aerial photography materials.

Definition of Bid Items;

Base bid should include:

1. Black and white photography.

2. Color photography.

3. Black and white overview photography (Missouri side only).

4. Digitizing (Missouri side only).

Additive bid should include:

1. Color infrared photography of the Missouri side and the East St. Louis study area (Exhibit A).

A Sample Project Agreement for Contracting Geophysical Survey Services

Project Agreement (Scope of Work)
Geophysical Survey at Virginius Island,
Harpers Ferry National Historical Park, W. Virginia.

Introduction

Extensive archeological investigations on Virginius Island (Package 123 of the Harpers Ferry Restoration Project) will begin in June 1991. Only scattered above-ground ruins remain of this once-vibrant industrial center, which in the mid-nineteenth century contained over a dozen industries and housed over 200 people. To define the location of historical features, in this case dwellings and their related outbuildings, a geophysical survey is required on approximately four acres (Figures 1 and 2). To conduct this work, the National Capital Region is soliciting proposals to accomplish the following project agreement (scope of work).

Need for Study

A geophysical survey has the potential to locate underground features, such as stone foundations, through ground-penetrating radar and electromagnetic induction surveys, neither of which involve ground disturbance. Such surveys can be conducted over the project area at a relatively low cost and in a fraction of the time of exploratory archeological excavations alone. The resulting geophysical survey report will provide archeologists with information on the location and possible interpretation of underground features.

On Virginius Island, twelve dwellings once stood within the proposed geophysical survey area. Although a good understanding of their general location and appearance exists through historical documentation such as maps and photographs, their precise location in many cases is unknown. In addition, little or no information exists on the outbuildings and yard areas associated with these structures. The geophysical survey will allow archeological investigations in this area to concentrate on recovering important data which otherwise may go undetected, resulting in a more accurate interpretation of the physical development and social history of Virginius Island.

Objectives

The objective of the geophysical survey is to provide an understanding of the distribution and types of potential below-ground historical resources in one section of Virginius Island. The results of the geophysical survey will be described and interpreted in a comprehensive report.

Specifications

1. Survey Specifications:

The project area encompasses about four acres, most of which is covered by extensive undergrowth. It will be the responsibility of the archeology staff at Harpers Ferry National Historical Park to clear this area and establish a site grid of 5-ft squares prior to the geophysical survey. Archeological staff members also will be available to assist with the survey.

A ground-penetrating radar survey will be performed initially. Radar profiles will be taken at 5.0-ft intervals over the most archeologically-sensitive areas, which encompass approximately two acres. Radar profiles on the remaining two acres will be spaced at 10-ft intervals. An electromagnetic induction survey will be conducted at 5-ft intervals over the same two acres chosen for the 5-ft interval ground-penetrating radar survey. If initial field results warrant, the specifications outlined above may be modified to substitute or incorporate other equipment or field techniques with the concurrence of both the contractor and the project and park archeologists; however, an equivalent amount of field work will be conducted whatever equipment or procedures are used.

Prior archeological work in the project area established that the soils consist primarily of water-deposited sand and silty sand, sometimes in combination with clay, which extend at least four to five feet in depth. In 1987, this silty sand adversely affected readings of a SIR System-7 ground-penetrating radar survey conducted on a nearby section of Virginius Island. A survey conducted at this same location by a Scintrex MP-2 proton magnetometer was more successful in defining anomalies. In addition, while some building foundations are apparent above ground, flood deposits cover others up to three feet in depth. Other considerations include the active railroad tracks running through the center of the project area.

2. Prepare Final Report:

A final report shall be written upon completion of fieldwork. It shall include all data, printouts and maps which illustrate detected anomalies in the survey area. The report shall describe the location and nature of all below-ground anomalies discovered during the geophysical survey, and provide interpretation of these anomalies.

3. Period of Study:

Archeological fieldwork is scheduled to begin June 1991. As a result, the geophysical survey and report shall be completed by May 1, 1991, to allow sufficient time for the archeology staff the analyze the data and plan its

excavation strategies. Due to heavy ground vegetation, it would be advisable to conduct the survey after the end of October 1990 and before the end of March 1991.

Deliverables

1. Two copies of the interpretive report. This report shall include the following sections: management summary, methodology, analysis, conclusion, and recommendations.

2. All maps generated from the ground-penetrating radar and electromagnetic induction surveys, and all printouts derived from the ground-penetrating radar survey.

REQUEST FOR PREASSIGNMENT OF LIBRARY OF CONGRESS CATALOG CARD NUMBER

NOTE: *Card numbers cannot be preassigned to books which are already published. Works that receive a preassigned Library of Congress catalog card number are not eligible to receive Cataloging in Publication data for that same edition of the work.*

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YOUR NAME: _____ PHONE NUMBER: _____

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Library of Congress Catalog Card Number preassigned is:

Transcribe the information in items 1-8 exactly in the form and order in which it will appear on the title or copyright pages of the printed book. Use only those abbreviations which will actually appear on these pages. **(Please attach a copy of the proposed title page, if available.)**

1. Author(s) _____
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4. Subtitle _____
5. Edition (exactly as printed in the publication, e.g. second edition, revised edition, etc.) _____
6. U.S. place of publication: City _____ State _____
7. Any copublisher(s) and place _____
8. Series title and numbering, exactly as printed in the publication _____

_____

9. Approximate number of pages _____ 10. Number of volumes _____
11. ISBN (Hard cover) _____ ISBN (Paperback) _____
12. Proposed date of publication: Month _____ Year _____ 13. Language of text, if other than English _____
14. Does (or will) the title in item 3 appear at periodic intervals, e.g. annually, quarterly, etc.? ☐ Yes ☐ No

For each title which is preassigned a Library of Congress catalog card number, the Library of Congress requires one non-returnable complimentary copy of the best edition of the published book. If selected for the Library's collections, the book will be cataloged. This copy is in addition to copyright deposit copies. Continuing participation in the PCN program is contingent on full compliance with this obligation.

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5. The person listed here will be contacted when questions of an editorial nature arise or if insufficient information was provided. Also provide phone number and Internet number if available.

6. On occasion, library staff may need to contact the in-house editor with questions concerning the forthcoming book. Also provide phone number and Internet number if available.

7. When there is more than one author, record their names in the same order they appear on the title page. Use this block also to record editors, translators, illustrators, etc., noting their function.

   Because author's full names are to be recorded in this block, the form of the names will not necessarily match the form of the names appearing on the title page.

   Include birth dates of persons listed on the title page if at all possible. If you do not supply the birth date(s) and a date is subsequently necessary to distinquish a particular individual from another with the same or similar name already in our files, you may be contacted for this information which will delay processing of your application.

8. Supply the title and subtitle exactly as they will appear on the title page or its substitute.

9. The information in this block is particularly important for works which are complete in more than one physical volume.

11. If a previous English-language edition (published either by your house or by another house) was issued with a different or variant title, record the previous title here.

12. If the work is a translation, provide the original title in the original language. Identify the language of the original.

13. Include with your application a copy of the page(s) on which the series title and number appear. Indicate the International Standard Serial Number (ISSN) if it will appear in the book. If the series is numbered, be sure to include the numbering designation, e.g., "volume 1," "vol. 1," "number 1," or "#1," etc.

15. See Tables for Block 15 on other side.

16. If you check "General," do not fill in Block 18. If a work is intended for a specialized audience, check "Other" and specify the particular audience, e.g., health care specialists, musicians, lawyers, etc.

19. Supply ISBNs in their complete (10-digit) form, including the initial group identifier, your publisher prefix, and all subsequent numbers and hypens. Indicate beside each ISBN the particular format, e.g., hard cover, paperback, library binding. If one or more formats will be printed on permanent paper, check the appropriate infinity symbol box(es).

20. The summary should indicate topics covered (including time span and geographical coverage), general thrust of the work, and the disciplinary approach taken, e.g., "a sociological analysis." In instances where more space is required, please continue on a separate sheet.

    Because fiction titles suitable for children and young adults have a brief, non-critical annotation included as part of the catalog record, it is particularly important that you submit a concise summary for fiction titles intended for these audiences. Your summary should indicate the content of the item and any special features or unusual aspects, such as a unique perspective on a particular subject or a special physical format feature, e.g., a miniature or oversize book, board pages, or pop-up illustrations. This summary will be used in conjunction with the core required materials to create the cataloging annotation and to assign the juvenile subject headings.

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Certain subjects are marked with an asterisk. Books about these subjects which are related to the regions/languages listed under SPECIAL REGIONS/LANGUAGES should be coded R. For example, in the case of a biography of a Buddhist monk, choose R, because "Religion" (although listed under SOCIAL SCIENCES below) is preceded by an asterisk and Buddhism is an eastern religion related to the SPECIAL REGIONS/LANGUAGES.

ARTS AND SCIENCES — Code: A

Agriculture
Anatomy
Animal Culture
Antiques
Architecture
Art
Astronomy
Biology
Biotechnology
Botany
Chemistry
Computer Sciences
Cooking
Craft Books
[Dancing *see* SOCIAL SCIENCES]
Driver Education
Engineering
General Science
Geography
Geology
Home Economics
Hunting
Mathematics
Medical Sciences
Microbiology
Military Science
Motion Pictures
Natural History
Naval Science
Oceanography
Performing Arts
Photography
Physics
Physiology
Plant Culture
Psychiatry
[Psychology *see* SOCIAL SCIENCES]
[Statistics *see* SOCIAL SCIENCES]
Technology
Television
Theater
Visual Arts
Zoology

HISTORY AND LITERATURE — Code: H

Archaeology
Fiction
Folklore, Juvenile
[Other Folklore *see* SOCIAL SCIENCES]
Genealogy
Heraldry
*History
[Indians of the Americas *see* SOCIAL SCIENCES]
Library Science
*Literature
Numismatics
Poetry
Shorthand
Typing

For the following types of materials, if associated with a particular discipline, use the code appropriate to that discipline. For example, for a children's book about animals, choose A.

Bibliography, General
Biography, General (Autobiography)
Children's Literature
Dictionaries/Encyclopedias

SOCIAL SCIENCES — Code S

Aesthetics
Agricultural Economics
Anthropology
Astrology
Ballet
Business
Commerce
Communism
Crime
Dancing
Demography
Diplomacy
Economics
Education
Ethics
Family
Finance
Folklore
[Juvenile Folklore *see* HISTORY AND LITERATURE]
Games
Indians of the Americas
Insurance
Labor
Law
Management
Marketing
Philosophy
Political Science
Psychology
Public Administration
Puzzles
Recreation
*Religion
Sociology
Sports
Statistics
Transportation
Welfare

SPECIAL REGIONS/LANGUAGES — Code: R

Catalogers with skills related to the regions (and their languages) listed below are grouped in this division. These catalogers are also responsible for the subjects (asterisked above) related to these regions (and their languages).

REGION

Far East Asia
Southeast Asia
South Asia
Middle East
North Africa

LANGUAGES

Arabic
Armenian
Burmese
Chinese
Hebrew
Indic
Indonesian
Japanese
Korean
Nepali
Persian
Sinhalese
Thai
Turkish
Urdu
Vietnamese
Yiddish

SPECIAL MATERIALS — Code: M

Microforms (all subjects)
Music (books about music)

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1. Name of publisher exactly as it appears on title page

2. Date form completed

3. First U.S. city named on title page as a place of publication

4. Projected publication date

Month _____ Year _____

5. Contact person

Phone ( ) Ext.

Internet account number

6. In-house editor

Phone ( ) Ext.

Internet account number

7. Full names of authors appearing on title page (last, first, middle)

1. _____

2. _____

3. _____

Birth date

Month / Day / Year

Month / Day / Year

Month / Day / Year

8. Title and subtitle

9. If title in Block 8 consists of more than one physical volume, the number of volumes planned is

This application is for volume number

10. Check if book has

☐ Bibliographical references

☐ Index

11. Titles of other English language edition(s) if different from this title

12. If this is a translation from a foreign language, give original title

Language of original title

13. If the title belongs to a series having a comprehensive title, the series title exactly as it will appear in the book is

The series number is

14. If the series reflects a change in title, the earlier title of the series was

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15. Distribution code

16. Primary audience

☐ General

☐ Other _____

17

☐ Novel

☐ Fiction/Literature

☐ Textbook

☐ Clinical Medicine

18. If for children or young adults

☐ Age _____

☐ Grade _____

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ISBN _____ ☐ ∞ ISBN _____ ☐ ∞

20. Summary of book's content

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607-6 (rev 3/94)

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(R 1-89) P. 57870-3

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You are hereby authorized to manufacture and ship the following described product in accordance with the purchase order and specifications indicated.

DEPARTMENT	REQ. NO	DATE	PURCHASE ORDER NO.	PRINT ORDER NO.
CONTRACTOR		JACKET NO.	ESTIMATED COST	SHIP/DEL DATE
TITLE		OBJECT CLASS / STATE CODE	CONTR'S CODE	PROGRAM NO.

PROOFS	SETS	DATE DUE TO GOV'T	DAYS GOV'T WILL HOLD	RETURN DATE TO CONTR.	APPROPRIATION CHARGEABLE	BILLING ADDRESS CODE (BAC)	QUANTITY
Galley							
Page					COMPOSITION: Phototype / Cold Type / Hot Metal	QUALITY LEVEL	TRIM SIZE
Blues							

MATERIAL FURNISHED TO CONTRACTOR: Manuscript | Halftones | Line Illus. | Camera Copy | Negatives | Binders | Other

TEXT STOCK	COVER STOCK	NO. OF TEXT PAGES (Including Blanks)	FOLD-IN STOCK

FOUR COLOR PROCESS PRNTG. Cover 1 / 2 / 3 / 4 / Text	COLOR OF INK Cover / Text	COVER PRINTS 1 / 2 / 3 / 4	FOLD-INS/FORMS Face Only / Face & Back	STRIP-INS	NEGATIVES (No. Required)

BINDING			
1 ULC	Sew	Band units of	Drill ____ round holes ____ " in diameter on ____ side ____ inches c. to c.
Saddle	Trim 4 Sides	Shrink Film Wrap units of	Center of holes ____ inches from ____ edge of sheet
Side	Perf. on Fold	Other	Pads of ____ sheets/sets each. Pad on the ____ " side. Chipboard required.
Perfect	Adhesive Strip		Pack ____ per shipping container. ☐ Pallets required.

DISTRIBUTION

RETURN NEGS TO GPO FOR STORAGE NO ☐ YES ☐

RETURN ORIG. AND/OR NEGS. TO:

Departmental Authority (Signature and Title)	Purchase Obligation	DATE SENT TO CONTRACTOR

CONTRACTOR TO COMPLETE BOTTOM PORTION AND MAIL ENTIRE FORM TO: COMPTROLLER-FME, FINANCIAL MANAGEMENT SERVICE, U.S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D.C. 20401

Contractor Invoice No. ____ Date Prepared ____

Date of Delivery/Shipment ____ Discount Terms ____

ARTICLES OR SERVICES	QUANTITY	UNIT PRICE COST	UNIT PRICE PER	AMOUNT
IF ADDITIONAL SPACE IS REQUIRED, USE STD. FORM 1034, 1035, OR ATTACH YOUR INVOICE.			TOTAL	

I CERTIFY THAT THE MATERIAL, GOODS, OR SERVICES HAVE BEEN DELIVERED/SHIPPED ON THE DATE INDICATED ABOVE AND THAT PAYMENT OR CREDIT HAS NOT BEEN RECEIVED.

The penalty for making false statements to the Government is prescribed in 18 USC 1001.

____
(Signature of person authorized to sign)

PART 1 - CONTRACTOR

NOTIFICATION OF INTENT TO PUBLISH—FORM 3868

To insure that your publication will receive proper consideration for inclusion in our Sales and Depository Library programs, please supply all of the requested information available at the time this form is submitted. Please submit at least 30 days before sending in your Printing Requisition, whether you recommend your publication for sale or not. Two copies of the completed form should be sent to: Documents Control Branch (SSMC), U.S. Government Printing Office, Washington, DC 20402.

Stock Number _____ (SuDocs will provide.)

Printing and Binding Req. Number _____

RPPO Control Number _____

Date Submitted _____

Please type. Form is aligned for typewriter use.

Part I. To be completed by AGENCY PUBLISHER or PROGRAM OFFICER.

_____ (Publisher, Program Officer, or Author's Name) _____ (Position or Title) _____ (Area Code) (Phone)

_____ (Publishing Agency) _____ (Bureau)

1. Title of publication _____

2. What publication does it supersede? Stock Number _____ Title _____

3. How does this compare with previous editions? _____

4. Intended target audiences. (Please be as specific as possible, e.g., indicate *fossil fuel energy researchers* instead of *researchers or scientists.*)

5. Brief description of contents _____

6. Quantity for agency distribution _____ Specific audiences for agency distribution _____

7. Recommended for sale ☐ Yes—Quantity _____ ☐ No Reason for recommendation _____

8. Suggested audiences for sale copies _____

9. Will agency mailing lists be used for your promotional mailings? ☐ No ☐ Yes If yes, number of addresses available _____

10. Please check types of promotions planned by agency for sales copies:
   - ☐ Flyer—Quantity _____ Audiences _____
   - ☐ Press Releases—Quantity _____ Audiences _____
   - ☐ Review Copies—Quantity _____ Audiences _____
   - ☐ Advertising In: ☐ Agency Publications ☐ Paid Media ☐ Other _____ Est. Total Circulation _____

11. Depository Library distribution ☐ Yes ☐ No If no, reason (See reverse for explanation) ☐ 1) ☐ 2)

Part II. SPECIFICATIONS: To be completed by AGENCY PRINTING OFFICER. _____ (Printing Officer's Name) _____ (Area Code) (Phone)

12. Publication description: ☐ Non-subscription ☐ Subscription ☐ New ☐ Revision ☐ Reprint
   Series—Number _____ Anticipated revision date _____ Series—Title _____

13. FORMAT: ☐ book ☐ tape ☐ folder ☐ microform ☐ form ☐ other _____ ☐ map
   COVER: ☐ self ☐ paper ☐ casebound ☐ other _____
   BINDING: ☐ saddle stitch ☐ looseleaf ☐ banded ☐ side stitch ☐ punched ☐ shrink wrapped ☐ adhesive ☐ drilled ☐ other _____ ☐ sewn

14. Unit of Issue _____ No. of Pages _____ No. of Illustrations _____ Trim Size _____ No. of Foldins _____

15. 4-color process ☐ Yes ☐ No Smallest type size in points _____

16. Jacket No. _____ Program No. _____ Print Order No. _____

17. Printer: ☐ Main GPO ☐ Deal Direct ☐ Waiver ☐ GPO Regional Office (City) _____

Part III. To be completed by SUPERINTENDENT OF DOCUMENTS

18. SuDocs riding for _____ copies ☐ Not for sales ☐ For sale line only ☐ Individual cartons ☐ Cartons ☐ Other _____

19. Dep. Lib. riding for _____ copies File Copies _____ IES Copies _____ Item number _____

Part IV. This space may be used by AGENCY to record SuDocs information. Please notify ☐ publisher ☐ IMS initials/Date _____ printing officer of rider decision.

GPO will ride for _____ paper copies _____ cloth copies

Paper S/N _____ Price: $ _____ Cloth S/N _____ Price: $ _____

GPO Form 3868 (R 5-86)

INSTRUCTIONS FOR COMPLETING THIS FORM

To insure that your publication receives proper consideration for inclusion in our Sales and Depository Library programs, please supply all pertinent information available at the time this form is submitted. By providing complete information 30 days prior to submitting your printing requisition, you can be assured that we will have adequate time to make the best decision. Please attach an additional sheet of paper to this form if you require more space to provide complete information.

REMINDER: Please retain a copy of this completed form for your records so that you can add GPO stock numbers and prices if the Superintendent of Documents rides your requisition for sales copies.

If you have any questions or need help with the Sales, Depository Library, or Marketing programs, please call:

Sales Service	Library Programs Service	Marketing Office
Chief, Documents Control Branch	Chief, Depository Administration Branch	Director of Marketing
(202) 275-3343	(202) 275-1071	(202) 275-3634

Most of the items on this form are self-explanatory. Additional explanations for some items are given below:

Part I—Agency Publisher or Program Officer: The individual named should be knowledgeable about the content, planned distribution, and marketing of the publication (e.g., editor, publisher, author, or program officer).

2. What publication does it supersede? Supply the publication title(s), series number and stock number(s) of the edition(s) which the new publication replaces.

3. How does this compare with previous editions? Specify any differences in information, specifications, and content in the new edition.

5. Brief description of contents: If a description is contained in the preface, foreword, introduction, or title page, you may attach a copy of the appropriate section instead of filling in this section.

6. Specific audiences for agency distribution: Specify what target audience and how many copies of the publication your agency will be distributing.

7. Recommendation for sale: If yes, include specific audiences that might be targeted and the estimated size of each audience. Please be as specific as possible, e.g., indicate *energy researchers* instead of *scientists*. If no, explain.

11. Depository Library Distribution: 44 U.S.C. Section 1902 requires that Government publications be made available to depository libraries, unless they are:

1. "determined by their issuing components to be required for official use only for strictly administrative or operational purposes *which have no public interest or educational value*" [Emphasis added]

2. "classified for reasons of national security"

If you have answered "no" to question 11, you must indicate into which of the above exception categories your publication falls. (The agency does not bear the cost of depository copies if the document is printed through GPO.)

GPO Form 952
(1-93)

U.S. Government Printing Office

Desktop Publishing – Disk Information

This form should be completed and submitted with the electronic media, visual(s), camera copy, if any, and the SF-1 or GPO Form 2511.

FOR GPO USE
Jacket no. ____
Program no. ____
Print order no. ____

1. Customer

Agency/Department ____ Date ____
Job title ____
Agency requisition no. ____ Program no. ____ Print order no. ____
Name of person completing form ____ Phone no. ____
Desktop publishing technical contact ____ Phone no. ____

2. Requested Output

❑ GPO/contractor to output as required for printing requested
❑ Output as follows: Output resolution ____ ❑ Paper ❑ Film ❑ Laser proofs/no. of sets ____
Pages to be output ____ Total no. of pages of output ____
(other) ____

3. Computer, Operating System, and Media

❑ IBM® or compatible with DOS ® version ____ ❑ Windows® version ____
❑ Macintosh® Model ____ ❑ With system ____
❑ Other (Unix®, OS/2®, etc.) Describe ____
Media type: ❑ 3 1/2" floppy disk(s) ❑ 5 1/4" floppy disk(s) Quantity ____
Other (describe including size and quantity) ____

4. Software

Name of page layout (or other "main") program used ____ Version ____
Name(s) of program(s) used for illustrations ____ Version ____
Name(s) of other program(s) used ____ Version ____
____ Version ____

❑ continued in block 10 or on an attachment

File(s) supplied in: ❑ Program format ❑ PostScript format ❑ Both formats

5. Font(s) - List all fonts used in the file(s) to be output

Font name(s) and weights (light, compressed, etc.)	Font manufacturer (Adobe, Bitstream, etc.)

❑ continued in block 10 or on an attachment

Are all custom letter spacing or kerning files included? ❑ Yes ❑ No
Have you included all printer and screen fonts? ❑ Yes ❑ No
If no, explain ____

6. Visuals Submitted

Have you included a visual (laser or other proof) of all pages and illustrations? ❑ Yes ❑ No
Was the visual made at less than 100% in order to show bleeds? ❑ Yes ❑ No
Does the visual clearly show color breaks? ❑ Yes ❑ No
Was the proof made on a printer using HP brand PCL language or PostScript language? ❑ PCL ❑ PostScript

See reverse for required file and color information.

 Desktop Publishing – Disk Information

FOR GPO USE Jacket No. _____
Program/Print Order No. _____

7. File Information - List information for all files (including graphics) used in the document to be output

File Name (including extension)	File Size	Program Used	Compression Program Used, If Any	Document* ASCII or PostScript	Graphic File Format (TIFF, EPS, etc.)	Linked Graphics Yes or No
Example1	*96 KB*	*Pagemaker*	*Stuffit*	*Pagemaker*		
Exgraph1.TIF	*17 MB*	*Illustrator*	*None*		*TIFF*	*No*

❑ continued in block 10 or on an attachment *Document = program file format (provide name) ASCII = unformatted

8. Color Separation Information

Color identification system used: ❑ PANTONE Matching System® ❑ TRUMATCH® ❑ RGB ❑ Process colors (CMYK) ❑ Other _____

Have color separations been made? ❑ Yes ❑ No

Name of program used to separate colors (if any) _____ Version _____

Trapping: ❑ Supplied ❑ Not supplied ❑ Do not trap ❑ Contractor to create traps

9. Miscellaneous Checklist

Do the files provide for bleeds (if any)? ❑ Yes ❑ No

Were changes made to any file(s) after the proof was made? ❑ Yes ❑ No If yes, explain _____

10. Notes/Special Instructions

Recommendations for submitting "Electronic Mechanicals"

- If you are providing files in PostScript format only, remember these are printer driver files and usually cannot be manipulated or changed by GPO or the contractor. Therefore, if any author's alterations are required you will have to provide updated files.
- If any file has been changed for the benefit of the printout (e.g., making an image smaller to show bleeds on a printout) be sure to change the file back before making the disk you are submitting.
- After making the printout, remove any "for position only" images in the files and replace them with an ID number (referenced to the printout and supplied copy) to speed up film output and thus hold down costs.
- If any holding lines (keylines) are used in the file to indicate illustration size and position, indicate on the printout whether the lines print or not.
- On the supplied printout, clearly identify any halftones or other copy being supplied as separate camera-ready copy.
- Clearly mark any miscellaneous instructions that would have been on an overlay (e.g., folding and perforating marks), on the printout or by other means.
- Label all disks with the agency name, project name, the date the disk was made and the requisition or SF-1 number. In addition, show a disk number and total number of disks sent (e.g., 1/5).
- Keep an exact duplicate of all disks and visuals you are submitting to GPO.
- To avoid false expectations, any requested enhancements to data supplied (e.g., added trapping) should be discussed with GPO ahead of time.

For additional assistance in completing this form and submitting electronic mechanicals, see GPO Circular Letter No. 354 and Technical Report No. 31, or call your Customer Service Representative or Regional Printing Procurement Office.

Mention of any brand name product as an example is not meant as an endorsement of that product nor of its manufacturer.

GPO : 1993 O - 151-419

SF 1 PRINTING AND BINDING REQUISITION
To the PUBLIC PRINTER Please furnish the following:

JACKET NO. (Assigned at GPO) ☐ Red ☐ Black

REQUISITION NO.

FROM (Department or Government Establishment) | (Bureau or Office) | DATE

APPROPRIATION CHARGEABLE/APPLICABLE LAW | BILLING ADDRESS CODE (BAC) | AUTHORIZED BY

TITLE | QUALITY LEVEL | FORM NO.

QUANTITY (Units of finished products) | FINISHED PRODUCT (Check One) ☐ Books or Pamphlets ☐ Blank Forms (Sheets) ☐ Sets ☐ Pads or Tablets ☐ Other (Specify) | CLASSIFICATION

THIS ORDER RIDES (Department) | (Requisition No.) | (Jacket No.) | STRAP WITH REQUISITION NO.

PAPER STOCK AND INK

	FIRST CHOICE (Grade, color, and basis weight)	SECOND CHOICE (If any)	COLOR(S) OF INK
Text			
Cover			
OTHER (Specify)			

COMPOSITION

FURNISHED (Magnetic tape) ☐ Direct Drive ☐ Other | (Negatives) | (Camera Copy) | (Manuscript) | (Shoot printed copy) | PREVIOUS JACKET/REQ. (If reprint)

TEXT TYPE (Point, Face, Leaded/Solid) | DISPLAY TYPE (Face) | MARGINS (After trim) Picas/inches: Back/Left, Top, Other | FOL. LIT. | FORMS MUST REGISTER | TYPEWRITER SPACING

TYPE PAGE WIDTH (Picas) | No. of Cols. | Col. Width | TYPE PAGE DEPTH (Include running head but not bottom folio) | ILLUSTRATIONS (Total) | PICK UP FROM: Jacket No. | Req. No. | RESTORE TO ORIGINAL JACKET | HOLD REPRODUCIBLES (Specify) (Negs., type, mag. tape) Weeks

PRESS AND BINDERY

PRINT: ONE SIDE ONLY | HEAD TO HEAD | HEAD TO FOOT | OTHER | COVER PRINTS 1 2 3 4 | EMBOSS | RULING (Print or Bindery) | PERFORATE | SCORE | Position | NUMBER (Inclusive) TO | Color of ink

SIZE FLAT (Inches) FORMS, SETS, PADS X | FOLD TO (Inches) X | SIZE TRIMMED PAGE (Inches) BOOKS/PAMPHLETS X | PAGES | FOLDINS/INSERTS | PAPER COVERS (Self) (Separate)

WIRE STITCH (Side) (Saddle) (No.) | PASTE ON FOLD | LOOSELEAF | ADHESIVE BOUND | SEW | CASE BOUND (Material and Color) | STAMP TITLE (Bindery) Cover Spine Gold Im. Gold Ink (color)

PAD/SETS (Gum) (Stitch) (Pos.) (Sheets in Pad) | (Sets in Pad) | (Sheets in Set) | PUNCH/DRILL (Shape) | (No. of holes) (Diam.) (Inches Center to Center) (Pos.) | ROUND CORNERS (No.) (Position)

GATHER (Explain) | CARBON INTERLEAVE | INDEX (Cut) (Tab) (Bleed) | LIP DIVIDERS (Height of Lip) (Width of cut ⅓ etc.) (Pos.)

PROOFS AND DELIVERY

REQUESTED PROOF DATE | PROOF SETS (Galley) (Page) | DEPT. HOLD (Workdays) (Galley) (Pages) | PROOFS TO

REQUESTED DELIVERY DATE | KRAFT WRAP | SHRINK FILM | BAND IN SETS | SUITABLE | OTHER PACKAGING (Specify) | QUANTITY IN PACKAGE | PACK IN CARTONS | B/L FURNISHED

DELIVER TO

ADDITIONAL INFORMATION

FOR ADDITIONAL INFORMATION CONTACT (Name and Telephone Number)

BILLING ADDRESS (If BAC has not been assigned)

I certify that this work is authorized by law and necessary to the conduct of the business of the above-mentioned government establishment

(Authorizing Signature) (Title)

STANDARD FORM 1 (Rev July 1979)
Prescribed by GPO
Title 44 of the U.S. Code Control No. 1-110

*U.S. Government Printing Office: 1992 — 312-071/40280

NSN 7540-00-634-3955 PREVIOUS EDITION NOT USABLE