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

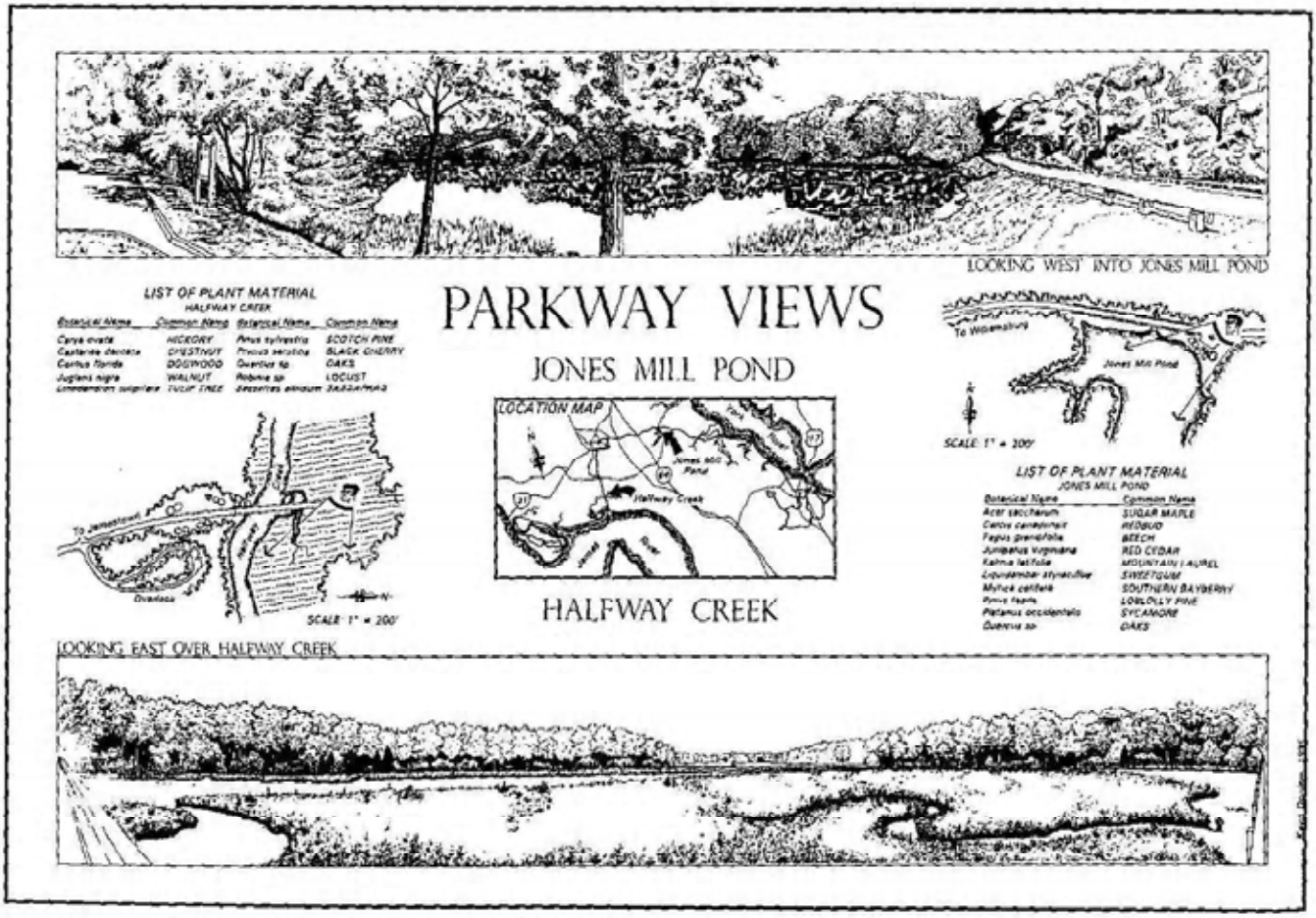
Undertaking project work without understanding the effect on existing spatial organization and land patterns. For example, constructing a structure that creates new spatial divisions or not researching an agricultural property's development history.

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.

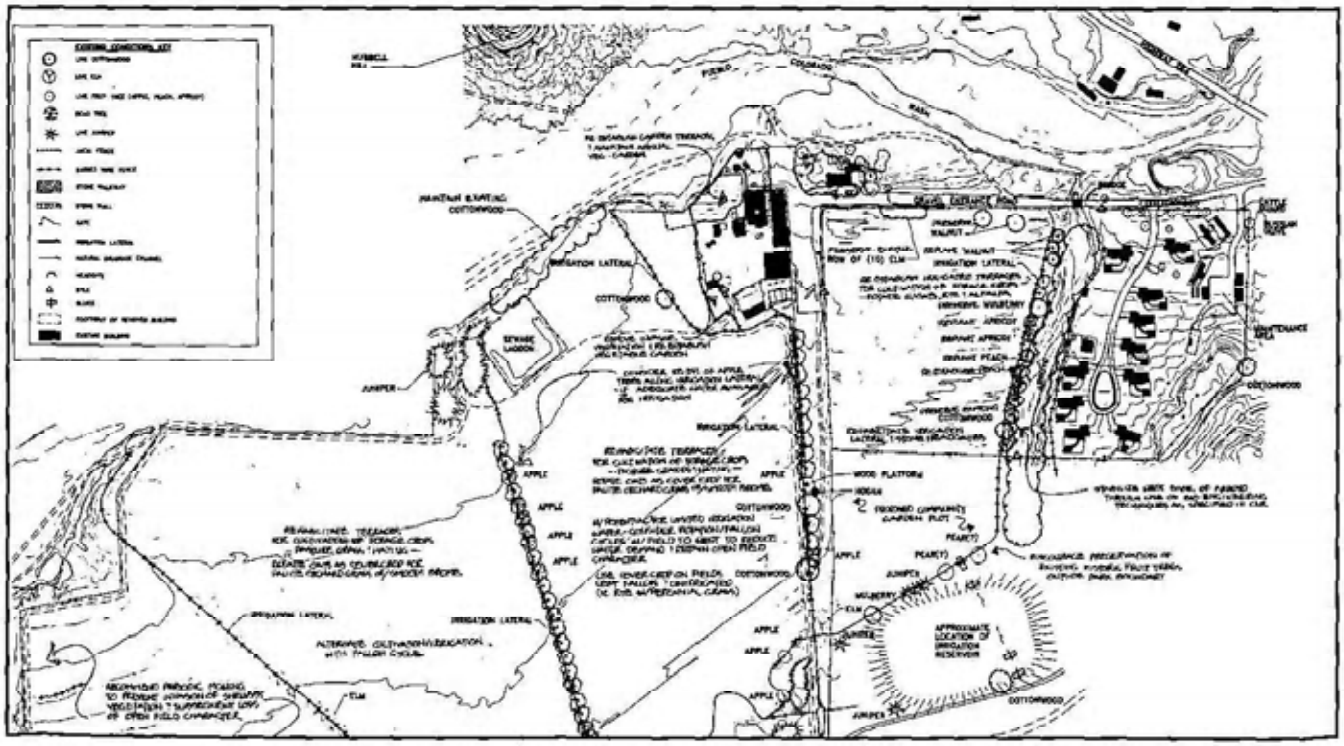
Removing a feature that is beyond repair and not replacing it; or, replacing it with a new feature that does not respect the spatial organization and land patterns.

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.

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

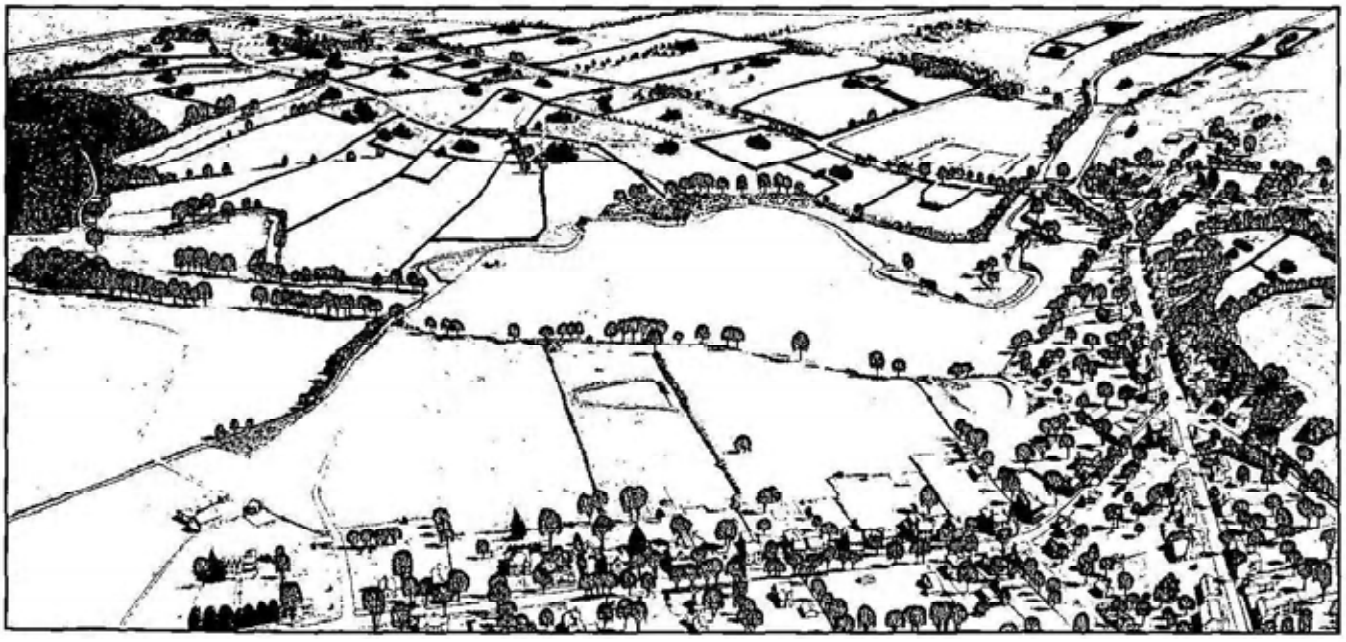
Placing a new feature where it may cause damage to, or be intrusive in spatial organization and land patterns. For example, inserting a new visitors center that blocks or alters a historic view or vista.

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

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

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

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



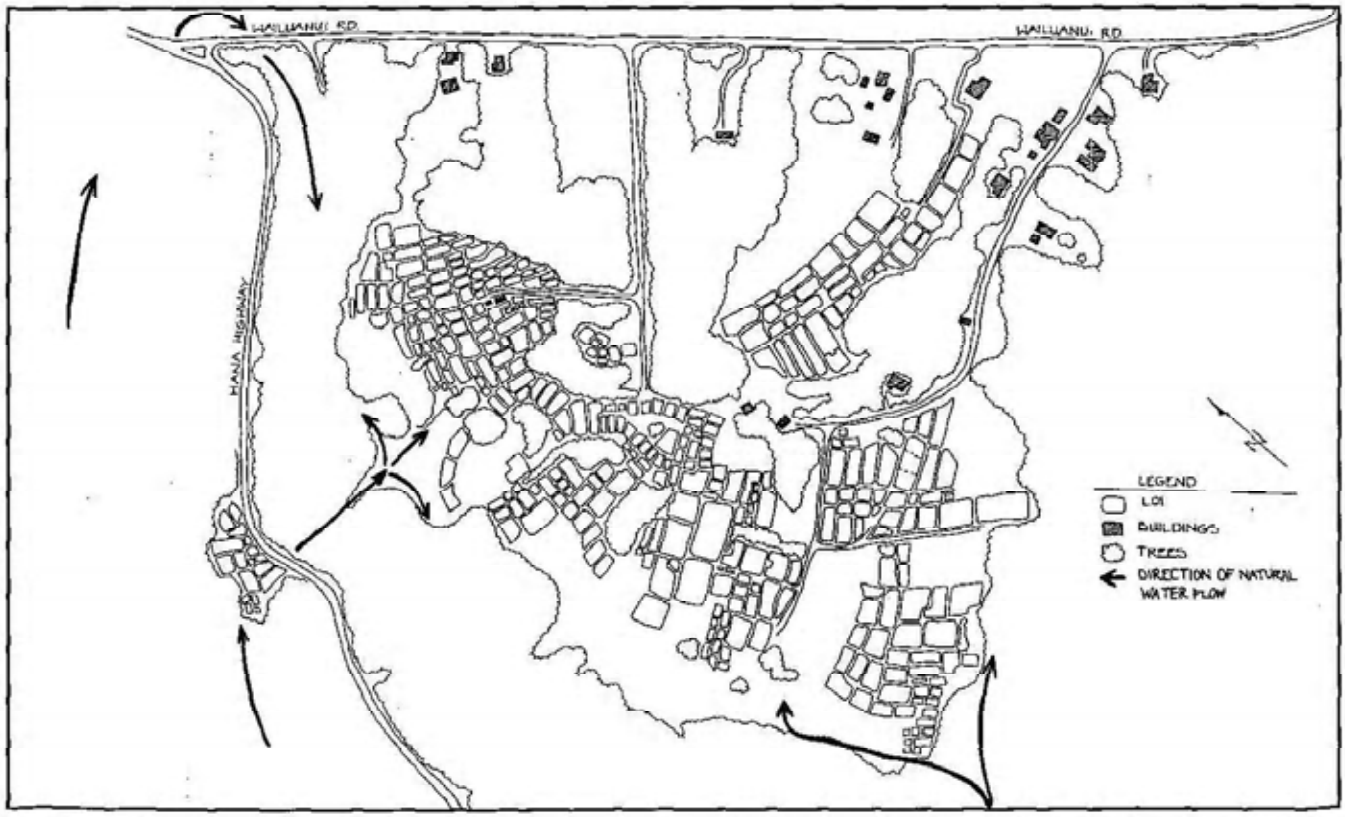
TOPOGRAPHY

Identify, Retain, and Preserve Historic Features and Materials

Recommended	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.

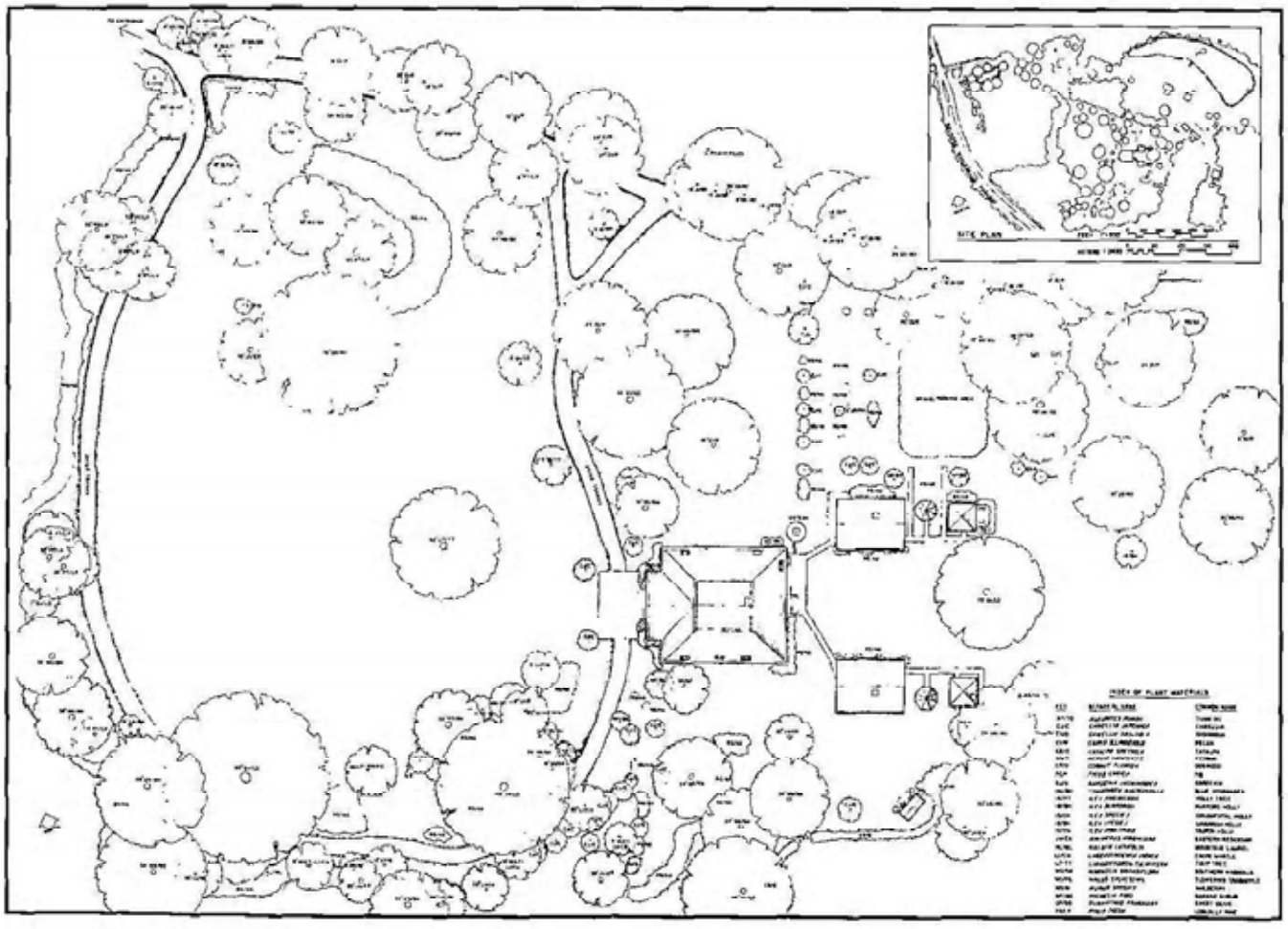
Placing a new feature where it may cause damage, or is incompatible with historic topography. For example, failing to provide proper drainage for a new feature which results in the decline or loss of topographic features.

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.

Failing to undertake preventive maintenance of vegetation.

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

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.

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.

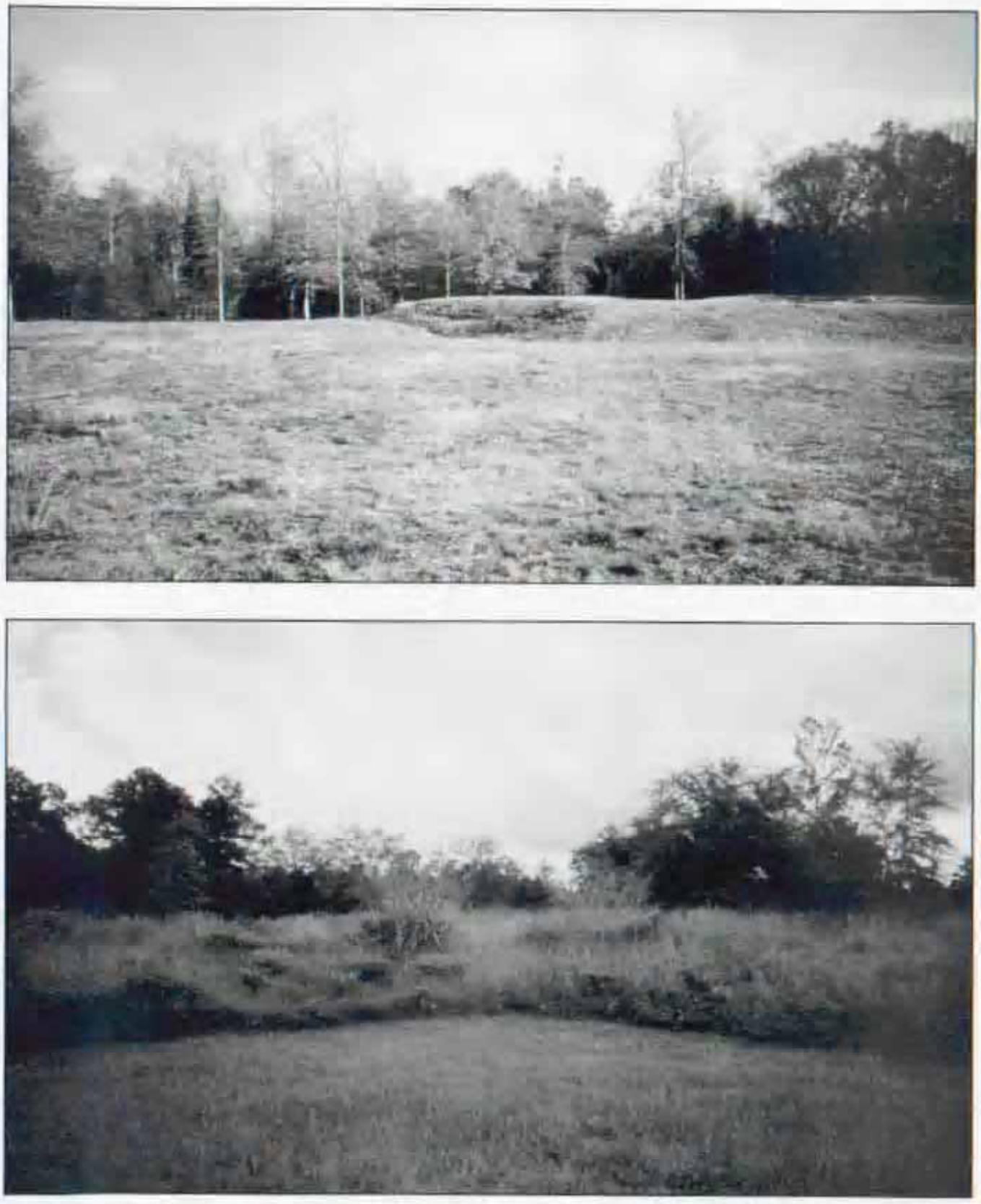
Alterations/Additions for the New Use

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.

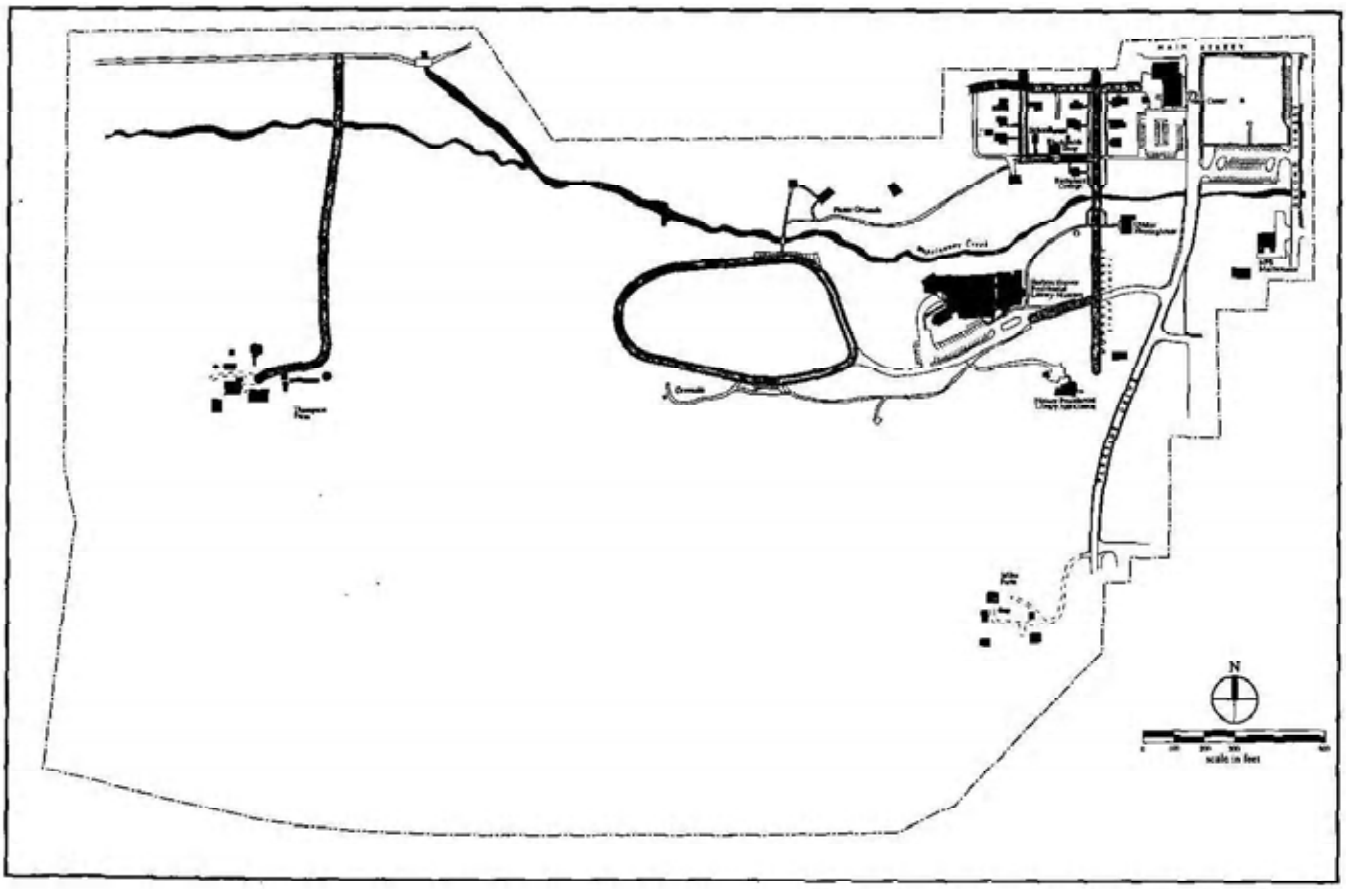
Using materials such as salts and chemicals, that can hasten the deterioration of surface treatments.

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 Marlott)

Replace Deteriorated Historic Materials and Features

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

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

Design for the Replacement of Missing Historic Features

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

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

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

Alterations/Additions for the New Use

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

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

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

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

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

WATER FEATURES

Identify, Retain, and Preserve Historic Features and Materials

Recommended

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

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

Not Recommended

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

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

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

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

Protect and Maintain Historic Features and Materials

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

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

Failing to undertake preventive maintenance of water features and materials.

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

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

Repair Historic Features and Materials

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

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

Jamaica Pond has an ongoing erosion problem, exacerbated by wave action. To stabilize the shoreline, this stone rip-rap was modeled after the original detail implemented by the Olmsted firm. (Prellsley 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.

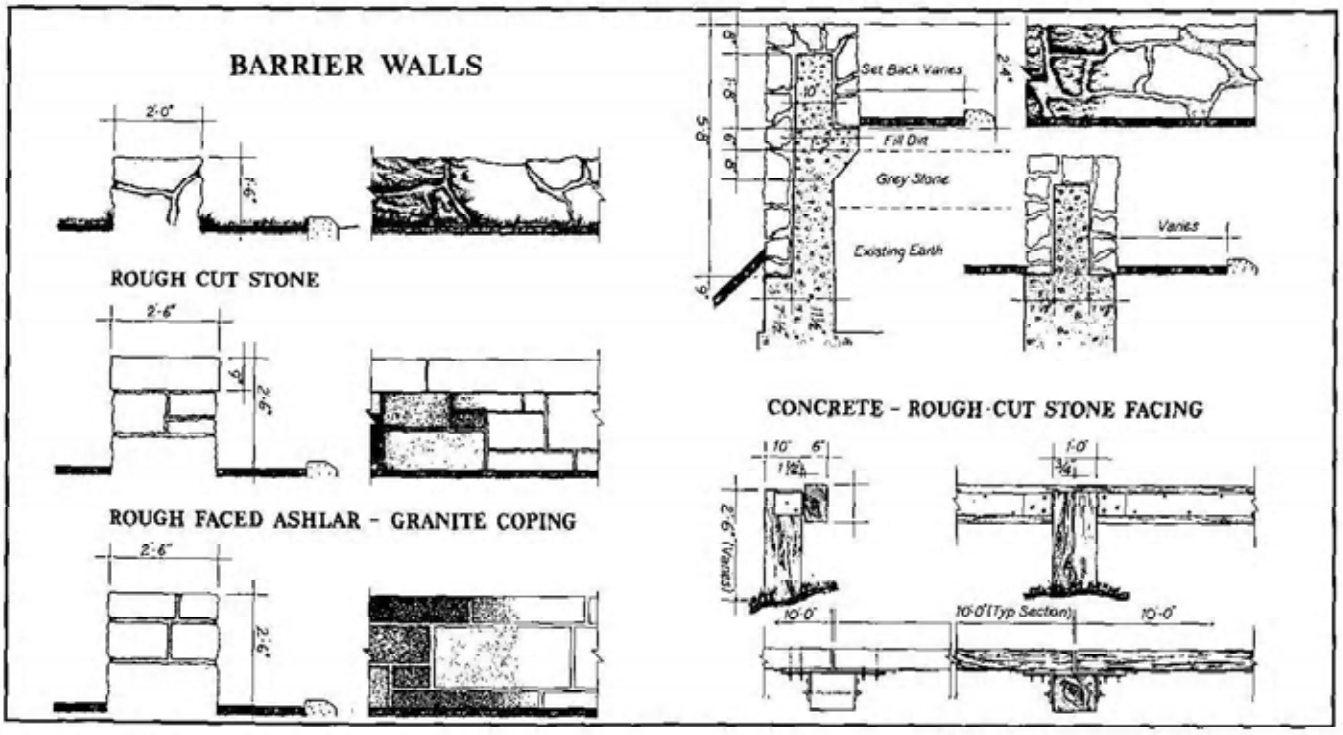
Removing a structure, furnishing, or object that is deteriorated and not replacing it, or replacing it with a new feature that does not convey the same visual appearance. For example, removing a wooden rustic footbridge and replacing it with a concrete bridge.

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.

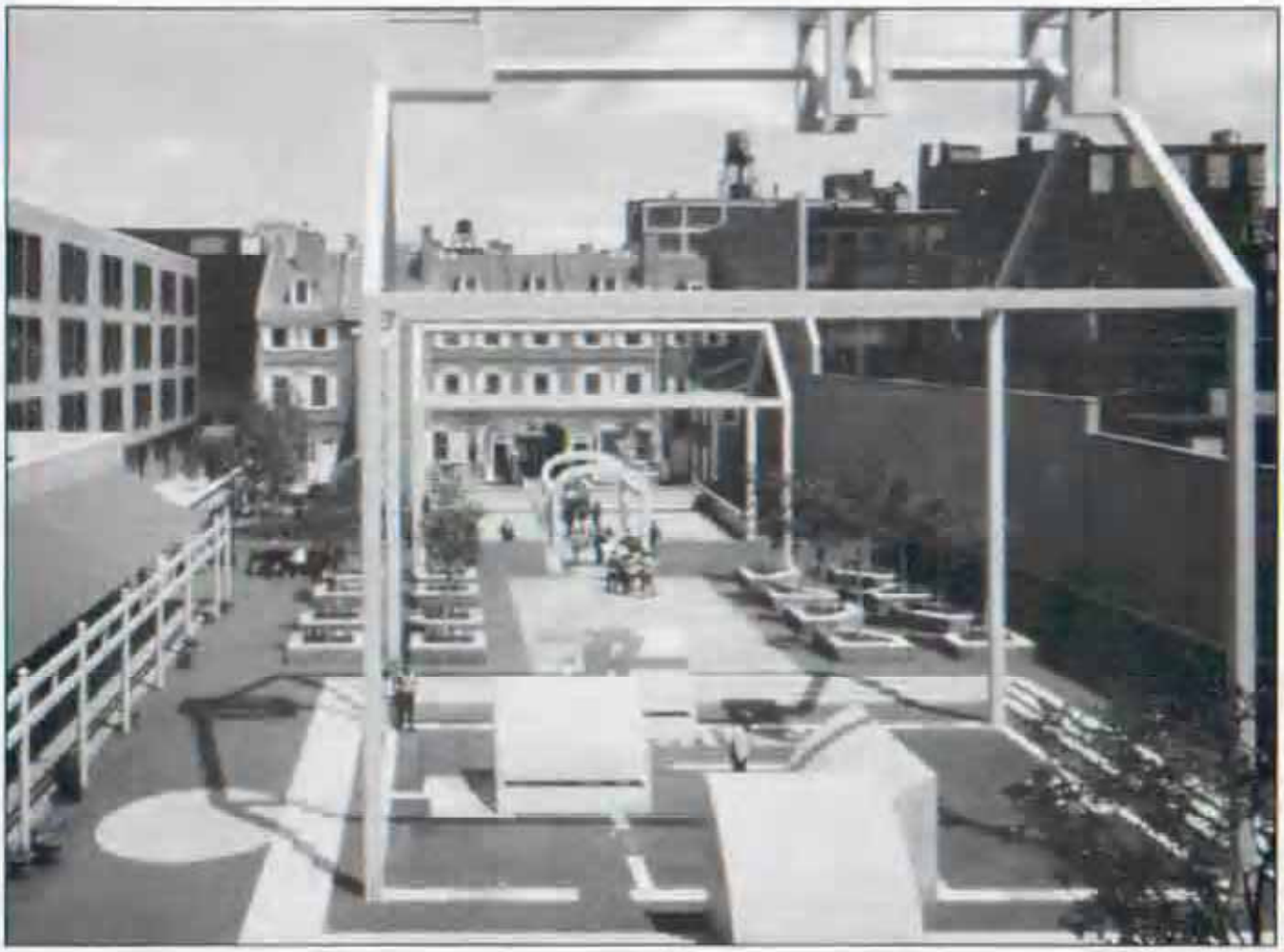
Creating a false historical appearance because the replaced feature is based on insufficient historical, pictorial and physical documentation.

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

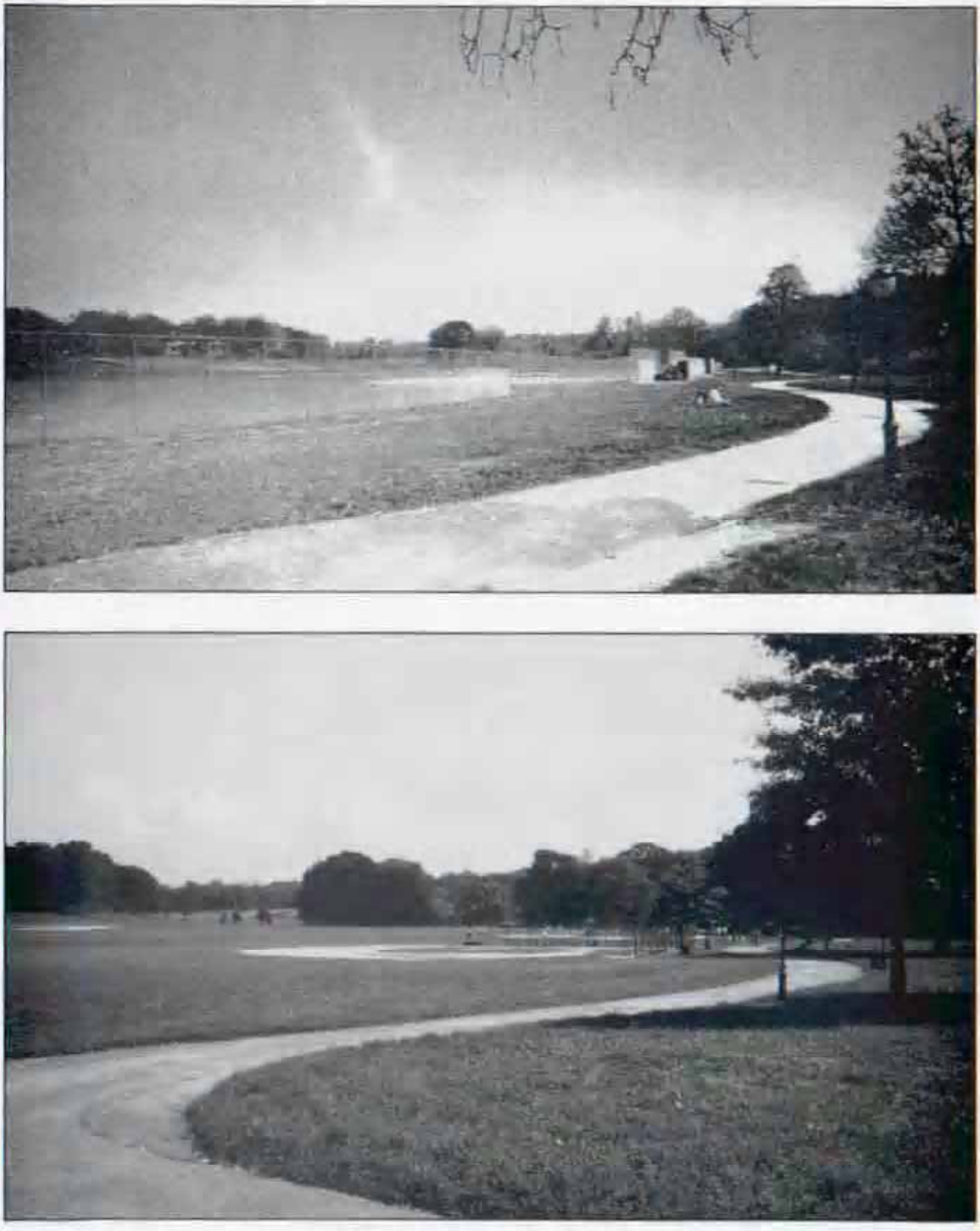
Designing and installing a new structure, furnishing or object when required by the new use, which is compatible with the preservation of the historic character of the landscape. For example, constructing a new farm outbuilding utilizing traditional building materials or installing appropriately scaled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

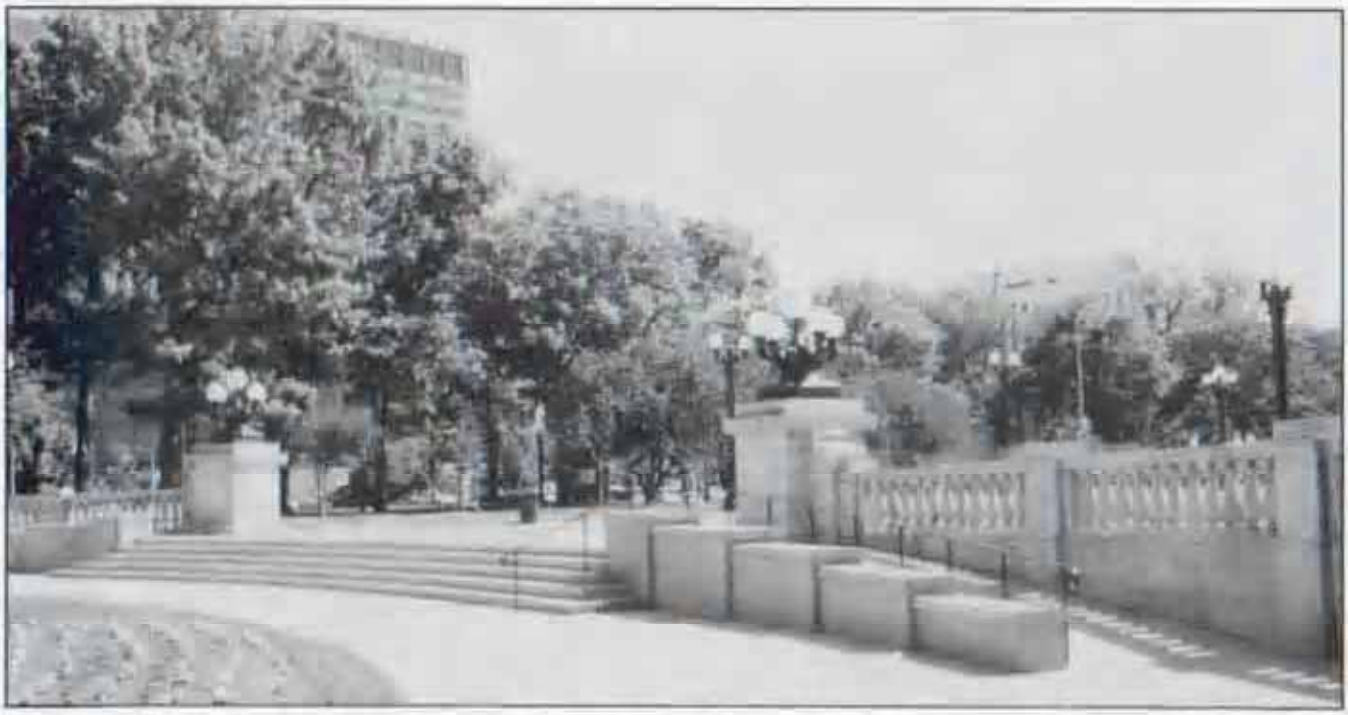
Damaging or destroying character-defining features in attempting to comply with accessibility requirements. For example, paving over gravel walks with blacktop.

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.

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

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.

Altering, damaging or destroying character-defining features, materials and finishes 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 character-defining features, materials and finishes 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 character-defining features, materials and finishes.

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.

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.

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

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.

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

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.

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.

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

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.

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

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.

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.

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.

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.

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

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.

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.