

Master Plan for Renewing Louisville Kentucky's Olmsted Parks and Parkways

A Guide to Sustainable Landscape Management

Portions of this paper are from the *Master Plan For Renewing Louisville's Olmsted Parks & Parkways: A Guide to Renewal and Management*, © 1994 by the Louisville Olmsted Parks Conservancy, Inc., prepared for the Conservancy in conjunction with the Louisville and Jefferson County Parks Department, Louisville, Kentucky. The master planning team included Andropogon Associates, Ltd., master planners; LANDSCAPES, historic resources; PDR Engineers, Inc., infrastructure and engineering; Eco-Tech, Inc., natural resources, and Dr. Charles Beveridge, The Frederick Law Olmsted Papers, historical research. Portions of this paper are also from a *Landscape Management Guidebook*, © 1994 by Andropogon Associates, Ltd. and currently in preparation, which has been supported by grants from the Design Arts Program of the National Endowment for the Arts and the Graham Foundation for Advanced Studies in the Fine Arts.

Introduction

“**P**LANS MUST BE SUITABLE. That these plans may be suitable to the future wants of the growing population of the city; that they may be nicely adjusted to the varied local conditions which they are intended to fit; that they may be judiciously auxiliary and complimentary to each of the others, the first step to be taken is that of procuring elaborate records of measurements and data of the ground to which they are to be fitted. . . . It would be folly to have them made hurriedly, as it would be folly to go to work except with plans deliberately pondered with fluent imagination and abundant exercise of searching, comprehensive forecast. . . . The cost of maintaining parks is a matter of more importance in determining plans for them than the cost of forming them.”

—Excerpts from *First Annual Report, Louisville Board of Park Commissioners*, July 1891, prepared by F. L. Olmsted & Co., Landscape Architects

One of the greatest frustrations for Frederick Law Olmsted was the fact that there was rarely adequate follow through on the maintenance and

management of the landscapes he and his firm were designing. Deterioration due to misuse, overuse and poor care in Central Park and Prospect

Park was a problem he decried even before the landscape installations were completed. This situation has only worsened over time to the detriment of nature and culture. This paper is about recognizing that landscape management is essential to sustaining natural and cultural values and must be elevated to fully achieve a park's renewal.

Louisville's Olmsted Parks & Parkways, one of the last major works by Frederick Law Olmsted, Sr., and one of only five parks and parkways systems he designed, had fallen into various states of disrepair and misuse by the 1980s. In 1989, Mayor Jerry Abramson established a planning and funding partnership between the city and the private sector—the Louisville Olmsted Parks Conservancy—to undertake a master plan and raise money for its execution. Its mission is “to preserve the legacy of Louisville's Olmsted Parks and Parkways for all generations to come.”

The genius of the Louisville Olmsted Parks System is rooted in the distinctive and diverse landscapes that characterize each park. Olmsted's design sought to bring order and drama to each site by clarifying and heightening its predominant character. It is that special character that still dominates current perceptions of these parks—the wild forest of Iroquois, the rolling pastoral terrain of Cherokee and the expansive river front of Shawnee. But the landscapes of the parks today, both natural and designed, are very changed from those that inspired Olmsted.

The planning team of landscape architects, historical landscape architects, historians, civil engineers and ecologists sought a common ground between natural and cultural resource management. For historic landscape preservation, the primary issue was character definition of the landscape that would preserve and recapture lost spatial organization, views and vistas, vegetation types, circulation systems and built elements.

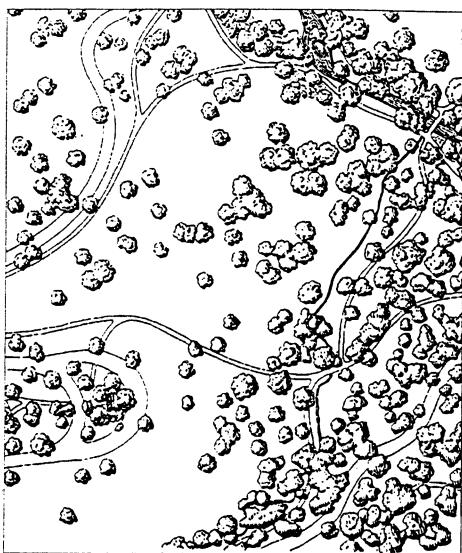
The master plan recognizes that the overall context of these landscapes has changed substantially since Olmsted's era. Simply recreating an Olmsted design in these altered settings will not restore the original vision nor accommodate current uses and conditions. We have to confront the need to restore the larger settings of these designs, including the indigenous natural communities, the historic pastoral scenery, the green parkway links, as well as the spirit of positive community involvement.

For natural resource management, the primary issue for sustainability was the need to reconcile longstanding user conflicts and update management practices. This master plan's process proposes a depth of dialogue between those who use and care for these landscapes that will empower both to be stewards into the 21st century. The transition to sustainable park management depends on developing the expertise of the parks department and related city agencies, as well as the level of participation and education of the public at large. This approach integrates natu-

Vista and Landscape Management Historic Design Intent

Barringer Hill, Cherokee Park, Louisville Olmsted Parks Conservancy & Metro Parks, Louisville, Kentucky.

Historic Design Intent: Original conditions of the site, from an 1891 survey, show a mature beech woods, with black walnut, sycamore and elm, and a largely open understory. Barringer Hill was in pasture, with a few hedgerows of black locust, cherry and ash. Olmsted's proposed park plan of 1897 shows the design intent of a vista through the woods from the overlook to the creek and hillside beyond. Groves of mature trees overlap the edges of the vista, with views under and through the groves as well as over the tops of tree canopies. Many trees had enormous canopies and were underlain with carpets of wildflowers and a rich woodland ground-cover.



Historic Design Intent: Plan of Barringer Hill, as proposed in F. L. and J. C. Olmsted's General Plan of 1897.



Historic Design Intent: Barringer Hill Vista, as proposed in F. L. and J. C. Olmsted's General Plan of 1897.

ral, cultural, and social resources and proposes an implementation process keyed to training, education and community involvement. The purpose of the master plan is to focus attention and energies on the most significant factors that are responsible for the pattern of deterioration and to define a renewal program for the parks and parkways that frames a broader vision, recognizing original intentions, restoring health and function, and creating a new spirit of positive involvement.

Field trials and staff training workshops have been undertaken as parallel efforts to the development of capital projects and serve as ongoing vehicles for assessing and improving the process through to implementation on the ground. An in-house management log that includes ecological, aesthetic, historic and use-related documentation of all management practices has been initiated and will be expanded over time to give a continuous record and evaluation of landscape objectives and conditions. Staff management of volunteer efforts is also anticipated and will lead to development of a highly trained staff and volunteer corps to augment and enrich the public's role in the renewal of these parks.

The vision of the Louisville Olmsted parks that is contained in the master plan represents a level of care and management of landscapes that has never been achieved by any park system. Much of the country is faced with crisis conditions in the com-

munity infrastructure. Maintenance has been undervalued and deferred, based on rote practices, and routine to marginal tasks like trash pick-up and lawn mowing. Neither management nor labor have the expertise and staff necessary to accomplish a comprehensive renewal of these landscapes. Louisville is not alone, as every major city administration is facing similar problems. Moreover there are no well established techniques for sustainable landscape management. This is a field that is in its infancy.

It is important to acknowledge that we cannot know enough at any one point about a site to accurately predict the future or to fully specify what actions are appropriate to take. This entire program is, to some extent, a grand experiment that we have no choice but to embark upon. It is a program that will evolve over time. The crucial steps include training workshops yoked to key demonstration projects that will provide on-the-ground trials and real feedback.

A Perspective on Current Landscape Management Practices

Given that protecting and managing the natural resources of the parks and parkways is a priority goal, it should be pointed out that this is not possible to achieve within the present structuring of the parks department maintenance operations. There is no room for natural resource management without expansion and restructuring. Current landscape management includes the following tasks:

SPRING / SUMMER

60%–70%	mowing lawns
25%–30%	trash collection
15%–20%	special summer events, moving bleachers and picnic tables

FALL / WINTER

60%–70%	leaf litter and snow re- moval from park roads and city streets; equip- ment and facilities re- pair (about half the pic- nic tables are stolen or vandalized yearly)
30%	trash collection

Current Maintenance Problems of Lawns and Meadows

1. Too much turf—a ubiquitous solution that creates ubiquitous problems.
2. Turf is too demanding of energy and labor resources, and can degrade adjacent habitats.
3. Current meadows are managed inadvertently, which yields poor public acceptance.
4. The historic greensward and meadows, with a richness of grasses and forbs, have disappeared.

Olmsted is generally credited with having popularized the extensive use of lawn in the modern landscape. But it is important to remember that the lawn of today is very different from that of Olmsted's day. Ever since turf was distinguished from pasture as a purely aesthetic and recreational landscape type, the trend has been toward an increasingly uniform carpet of cool-season grass. But not until after World War II, with the development of rotary mowers, new hybrid grasses and the increasing re-

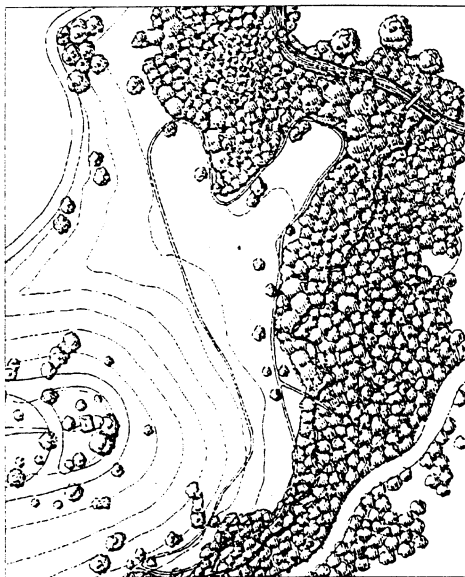
liance on inorganic fertilizers and pesticides, did the very short and often monospecific turf of today appear. The historic photographs consistently show many areas of longer turf as well as tall grass and wildflowers that were not distinguished from turf on the design plans. The proposed "greensward" management is intended to come closer to that of Olmsted's day than current management practices.

The greensward of Olmsted's era was also more "green" with regard to maintenance. The use of organic fertilizers prevailed and pesticides were largely unused, resulting in a more diverse soil flora supporting dense, lush growth. The greensward was relatively diverse and often included numerous broad-leaved herbs, such as veronicas and chickweeds in addition to mixed grasses. And perhaps most importantly, the grass was cut long, that is cut to a length of about four to five inches instead of two to three inches, and often regrew to six to seven inches before being cut again. From a maintenance

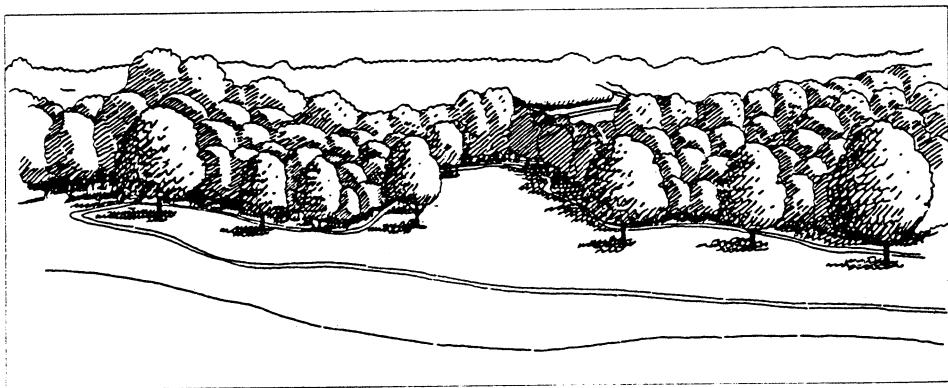
Vista and Landscape Management—Current Conditions

Barringer Hill, Cherokee Park, Louisville Olmsted Parks Conservancy & Metro Parks, Louisville, Kentucky.

Current Conditions: The 1974 tornado felled over two thousand trees in Cherokee Park. Barringer Hill in particular was devastated—the tornado cleared a swath on both sides of Beargrass Creek. Many of the mature trees were completely uprooted. The sudden loss of canopy reduced the forest cover substantially and fostered the spread of invasive, non-native species. The twenty years of unmanaged understory growth has resulted in a dense thicket of vegetation that blocks the historic vista from the hill above. The mature trees have been replaced by stands of younger, relatively even-aged trees, with an understory clogged with invasive shrubs and vines.



Current Conditions: Plan of Barringer Hill, 1994.



Current Conditions: 1994 Barringer Hill Vista, with vista blocked by trees, Shrubs and vines.

perspective, this practice reduced drought stress while conserving energy and labor. Environmentally, it increased infiltration of water and produced less rapid runoff than today's turf.

Even when lawn is relinquished, the resulting released landscapes bear little resemblance to the waving grasslands and wildflowers meadows envisioned. Thinking that meadows mean no management is a common fallacy. In a climate that would normally support a forest, meadows are by definition managed landscapes. In a disturbed landscape, meadows can gradually be overtaken by exotic invasives, such as honeysuckle or Japanese knotweed, and can serve as a continuous source of infestation that give meadows a bad name and do not help change public perceptions of the messiness of "natural" landscapes.

The open landscapes of the Olmsted parks are nearly all mown turf, comprised largely of mixed cool-season grasses. With the exception of the golf course and some athletic fields, the turf areas are given only limited maintenance, which is generally adequate to maintain vegetative cover except where there is compaction, erosion or sedimentation due to uncontrolled use or excess stormwater. There are also areas of parkland where large trees, in groves or as specimens, occur in turf, although many are in poor condition, due to soil compaction, mower damage to the trees, or species unsuited to site conditions.

Three major management directions are recommended and will be evaluated over time to ensure there is no compromise in the original character of the design. They are intended to better foster the landscape effects that Olmsted intended.

1. Limited reduction in the extent of turf by expanding the area of more diverse, managed natural habitats, such as meadow, prairie and savannah.
2. Modifications to current turf management to reduce the level and impacts of maintenance by emulating historic management practices—"greensward" management.
3. Reduction of the impact of runoff from mown grass onto adjacent woodlands by maintaining a margin of meadow as a filter strip to reduce runoff velocity, trap sediment and absorb nutrients.

These proposed directions are remarkably consistent with the goal to renew the landscape character of the Olmsted era for these parks. Many of the management recommendations are more like those of the turn of the century than current conventions which rely on newly hybridized grasses, modern mowing machinery and high impact maintenance.

Current Maintenance Problems of Woodlands and Forests

1. Continued proliferation of invasive exotics.
2. Mowing and clearance of understory eliminates native reproduction.
3. Soil disturbance from compaction,

erosion and stormwater runoff and from maintenance activities such as grubbing and clearing.

4. Thinning of the canopy encourages exotic over native plants.

5. Unresolved use and facilities conflicts.

The visitor to the park today probably has no idea of the richness and grandeur of the natural landscapes that so inspired Olmsted. He preserved the natural features and made them integral to the vision of each park. His designs sought to heighten and dramatize the most characteristic patterns of each landscape and he was renowned for his ability to 'edit' and enhance the landscape—adding and removing plants selectively to reveal the general landscape character that he found already in place. But these effects, which contributed so greatly to the original design, did not persist as the environmental quality of these habitats declined over time. Woodlands that initially featured masses of spring ephemeral wildflowers were gradually overwhelmed by exotic invasive vines and shrubs, some of which escaped from planting elsewhere in the parks and in the city. This problem was greatly accelerated by disturbance from understory clearance to maintain views. Although these design effects collapsed with the degradation of the environment, many can with management be restored.

Two primary forest management needs are clear. The first is to restore and sustain the forested areas of the Olmsted parks using largely native

plant communities similar to those that served as the inspiration of each park at its inception. The second is to develop appropriate management practices for achieving selected design effects, especially related to increasing visibility. The success of these efforts will depend on the control of the misuse and overuse of the natural areas due to trampling and off-trail use. Stormwater management is equally important and will require a comprehensive approach and program.

Sustainable Landscape Management—A New Process

Learning to sustain rather than degrade the landscape will require a revolution in conventional landscape maintenance.

"We are on the verge of a new renaissance. After training people to sweep concrete for twenty years, we will now have to train them to become managers of living environments."

—Adrienne Bresnin, former Director of Capital Planning for New York City's Department of Parks & Recreation; currently Director of Historic Preservation for New York City's Department of General Services.

The objective of this plan is to develop an ongoing landscape management program that is rooted in the idea that those who use and care for a landscape should be responsible for sustaining its value over time. Implicit in this concept is the process of ongoing assessment of what is happening on a site and continuous adaptation

of the management program as information about the site is documented and trends are observed. These guidelines are founded on the premise that landscape management and restoration is a heuristic process—that is, one in which the participants learn by doing while being guided by certain principles, including:

1. Recognizing the landscape as a living system that needs to be restored and sustained.

Sustainable landscape management is rooted in and celebrates the diverse patterns and plant communities of the indigenous landscape. The restoration of the landscape is an essential component of sustainable design and should be incorporated into all planning and management activities. New site management presents an opportunity to encourage recovery and to promote the ecological health of the larger environment.

2. Creating a participatory design process.

The degradation of the environments around us is due to a breakdown in the relationship between the community and the landscape. Those who use and care for the land should be responsible for sustaining it over time, but they cannot do this well if they are not involved, informed and empowered. Participatory design is an ongoing process of education and communication. It involves a broad array of users and managers to reconcile conflicts and promote stewardship of the landscape. Decisions

based on real consensus are implemented because they meet multiple goals.

3. Integrating ecological restoration and historic preservation.

Renewing historic landscapes calls for a blend of history, ecology, contemporary use and management and requires that we learn to support many overlapping and interrelated values, rather than favoring one over the other.

4. Making a habit of restoration.

Restoration is accomplished slowly, in many repeated efforts over time, such as removing exotics, rebuilding soil biota, restoring drainage corridors and replanting native plant communities. Ultimately, sustainability of the character and quality of the landscapes will depend on how they are managed, and requires new skills, training, staffing, volunteer coordination, and a stable funding base.

5. Developing a monitored landscape management program.

Developing a monitored landscape management program is crucial to ensure that policy and management fulfill long-term goals and are informed by real science. A key objective is to ensure that the most effective strategies are applied and that chronic problems are not exacerbated by routine maintenance operations. Building a site database becomes an important ongoing activity. This information is incorporated into a management log that is used to

record and revise management decisions.

Proposed Landscape Management Plan

The first step in determining the management program was to delineate each of the major management areas in each park, because sustainable landscape management is primarily centered on whole places, such as Barringer Hill, rather than on isolated tasks, such as mowing. This is an important distinction. The objective is for the participants to understand the whole landscape not just the parts. In the end, most mismanagement is based on misinformation and, in particular, a failure to see long-term trends. This can be corrected by research and monitoring and asking questions based on careful observation of real site conditions.

The management areas for each park are simply those places with the highest degree of local identity. Typically they embrace a major physiographic area, such as a stream valley or a hill. This may be modified by the dominant landscape character, such as the extent of forest or a large maintained field. These places typically have names and are easily identified by park users. The closer the designation of management areas conforms to the community's general experience of the place, the easier it will be for a wide group of people to participate in and contribute to the overall process of becoming good stewards.

A management log will be kept for each management area to record

change over time and the impacts of management and use. A case study of a management log addresses Barringer Hill and the vista restoration project that was initiated in the spring of 1994.

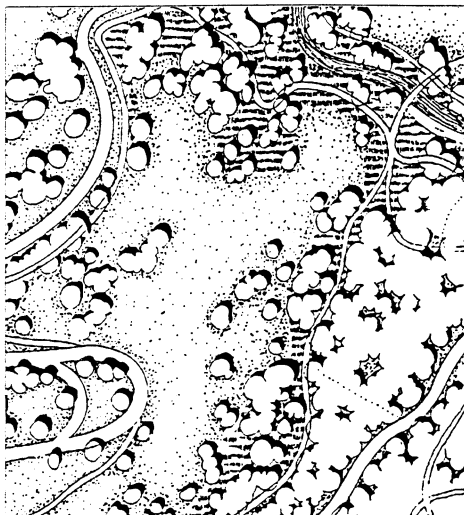
Within each of these management areas, a mosaic of cover types is proposed that describes the management objectives in terms of the structure and type of the vegetation. These cover types reflect both the original Olmsted design intention as well as the environmental conditions that pertain today and are intended to serve as a bridge between the historic character and the ecological functions of natural landscape systems.

The cover types have been grouped in two major kinds: those that are comprised primarily of woody plants, such as trees and shrubs, and those that are comprised primarily of herbaceous plants, such as grasses, wildflowers and ferns. The wooded cover types are characterized by a structure that may be comprised of many layers of plants, from canopy and understory trees to shrubs and a ground layer. The soil is covered by a layer of leaf litter and is very intolerant of trampling. The prime management focus is to ensure that the indigenous plants are continuously replacing themselves to sustain the native communities. In addition to forests and more open woodlands, these landscapes include the special places that are small openings in a forest that are called glades. The herbaceous landscapes, on the other hand, are typically much smaller in

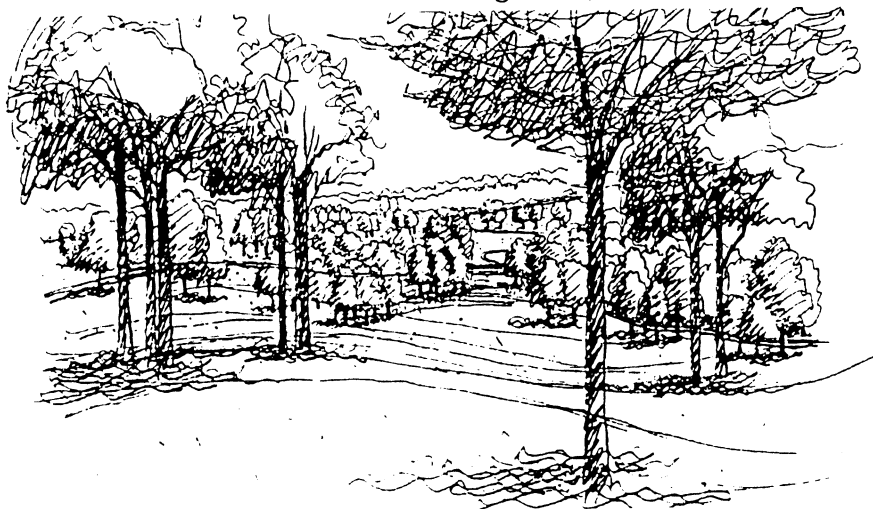
Vista and Landscape Management Proposed Renewal

Barringer Hill, Cherokee Park, Louisville Olmsted Parks Conservancy & Metro Parks, Louisville, Kentucky.

Proposed Renewal: The plan shows the proposed scenario of landscape cover types that is the overall goal of landscape management at Barringer Hill. An open woodland cover type is proposed for the present dense woodland thickets; a savannah of long grasses and tree groves is proposed for the central historic vista; and a greensward of mixed forbs and grasses is proposed for the open hillside. The primary objective is to restore the spatial character of the open woodlands that Olmsted retained as part of the 1897 General Plan. The chief task is the removal of invasive shrubs, vines and trees that presently form a dense green wall between the forest and the meadow. Removals will be done incrementally and by hand, beginning with vines and shrubs and progressing to young trees, with follow-up work to favor wildflower and woodland ground-cover development.



Proposed Renewal: Plan of Barringer Hill, 1993 Master Plan.



Proposed Renewal: The historic vista and woodland renewal for Barringer Hill. 1994 conceptual sketch.

scale, ranging from short turf underfoot to knee-high, or even shoulder-high grasses and wildflowers in wet meadows. The ground is not visible when effectively stabilized. These landscapes generally have to be managed by mowing or other methods to prevent the eventual growth of forest cover, and include turf and green-sward meadow and savannah, as well as open parklands.

Renewing Louisville's Olmsted Parks and Parkways

Renewing the Olmsted parks cannot be accomplished by doing several capital projects and providing no follow through. Without a matching increase in staffing, expertise and commitment, improvements degrade quickly and the investments fail to fulfill their promises. A reality that must be faced for this master plan to succeed is that the parks department has very limited staffing, insufficient equipment and is in need of addi-

tional skills. The current work force is not adequate to meet the challenge of sustaining the Olmsted legacy. Thus, renewing the parks and parkways must go hand in hand with renewing the parks department, with the support of the Conservancy and the public. The renewal projects reflect these interwoven components. The users are involved in educational programming and are pivotal to the realization of the projects by their direct actions. At the same time, the caretakers are keeping monitoring logs and assessing and revising implementation techniques to make them more cost effective over time. The transition to sustainable park management will depend on developing the expertise of the parks department and related city agencies, as well as the level of participation and education of the public at large, who are as much a focus of this plan as capital improvements.



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