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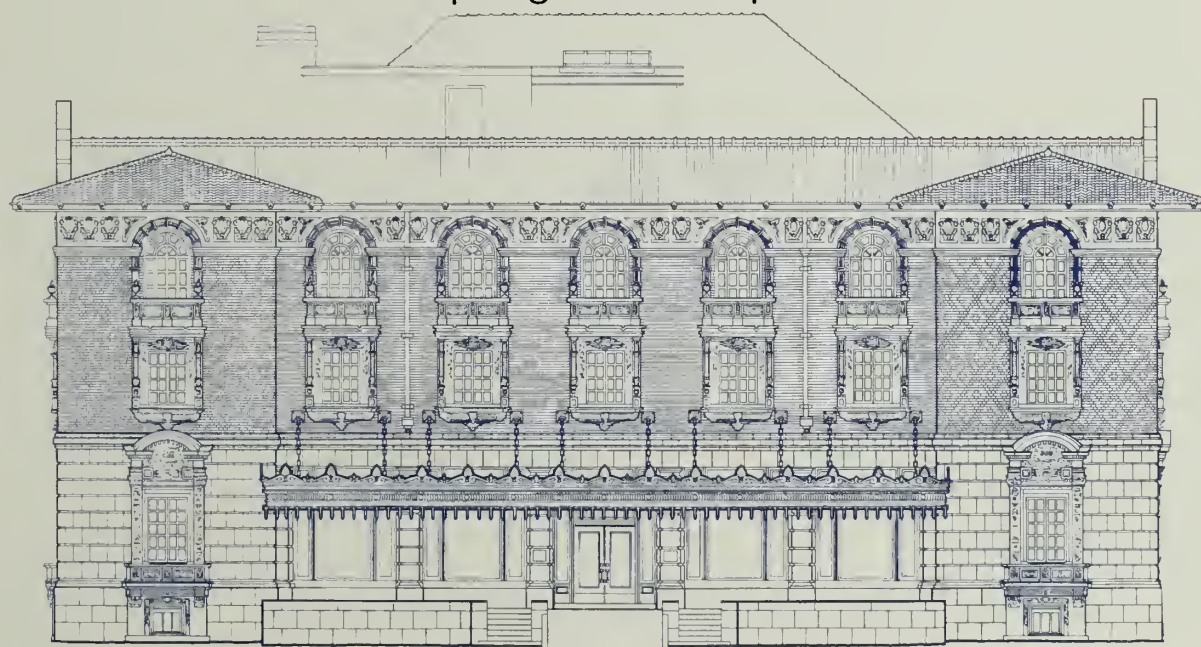
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General Management Plan Development Concept Plan

hot springs national park



RECOMMENDED

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GENERAL MANAGEMENT PLAN
DEVELOPMENT CONCEPT PLAN

HOT SPRINGS NATIONAL PARK
Garland County, Arkansas

June 1986



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SUMMARY

This document presents the National Park Service's combined General Management Plan / Development Concept Plan for the rehabilitation and long-term management of Hot Springs National Park. The plan considers the park's most critical resource management needs, and it seeks to improve the overall quality of the visitor experience, to respond to community concerns, and to increase the efficiency of park operations. The major actions of the plan are summarized below:

Cultural Resource Management - Rehabilitate the Fordyce Bathhouse to maintain its exterior appearance and significant interior features.

Offer six vacant bathhouses (Superior, Hale, Maurice, Quapaw, Ozark, and Lamar) for private adaptive use under the historic property leasing program, concessions authorities, or other authorities; if the bathhouses are not adaptively used, stabilize them to prevent the deterioration of historic fabric and to maintain their exterior appearance.

Manage the designed landscape along Bathhouse Row to maintain the historical appearance.

Initiate additional research necessary to provide for the proper management, interpretation, and protection of cultural resources.

Natural Resource Management - Ensure the preservation of the thermal springs by determining the extent of the recharge zone, by establishing a monitoring program for the recharge area, by implementing protection measures on properties in the recharge zone within the park boundary, and by working with the city of Hot Springs and Garland County to encourage compatible uses in areas of the recharge zone that are outside the park boundary.

Enhance the management of natural resources in the mountain lands area of the park by improving vegetation management and restoring disturbed areas.

Initiate additional research necessary to provide for the proper management, interpretation, and protection of natural resources.

Visitor Use and Development - Rehabilitate the Fordyce Bathhouse as the park's visitor center and primary interpretive facility.

Develop better orientation/information programs to help visitors understand the park's resources and to inform them of available opportunities.

Update the interpretive program by emphasizing the significance of the thermal springs, the history of human use of the springwaters, and the development of Bathhouse Row and the Hot Springs spa in

the context of the American spa movement and the evolution of American health, leisure, recreation, and conservation traditions.

Maintain at least one traditional concessioner-operated bathhouse on Bathhouse Row as part of the visitor experience, either by developing concession contracts that encourage updated facilities and operation, or by purchasing and rehabilitating a bathhouse, and then seeking a concessioner to operate it; continue to offer the full range of bathing services through the Libbey Memorial Physical Medicine Center/Hot Springs Health Spa; and provide thermal water to bathhouses outside the park.

Enhance the availability of recreational opportunities and the quality of the visitor experience in the mountain lands area of the park by rehabilitating existing roads, overlooks, trails, picnic areas, and the Gulpha Gorge campground; by improving visitor orientation and interpretation; and by developing trailhead parking and trails that can be used for day hikes and as connectors to longer trails outside the boundary.

Park Management and Operations - Improve the efficiency of park operations by disposing of the former residence for superintendents (now used for museum collections storage); eliminating permanent housing for employees; renovating duplexes on Reserve Avenue for office space, storage, and temporary housing for employees; and removing the substandard, heavily vandalized comfort station on West Mountain.

Evaluate the park's thermal water system and review the rate structure for thermal water charges to ensure that water is available for high priority uses and that costs for operation of the system are covered.

Successful implementation of the plan, especially with regard to the rehabilitation of Bathhouse Row and the protection of the recharge zone outside the park, will depend in part on the cooperation, participation, and resources of private organizations and individuals, the city of Hot Springs, and Garland County.

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INTRODUCTION

PURPOSE OF AND NEED FOR THE PLAN

Hot Springs National Park has had a long and involved history, first as a federal reservation set aside in 1832 and later as a national park. Throughout this time the park has had a close and complex relationship with the local community. Over the years there has been a gradual but dramatic change in the park's economic and social context and in its use. Until recently, the management of the park focused on the protection of the thermal springs and the use of springwater for therapeutic bathing. But for various reasons traditional bathing activities have become substantially less popular, and all but one of the bathhouses on Bathhouse Row have been forced to close, with a subsequent deterioration of these historic structures. At the same time there has been a growing realization of the significance of Bathhouse Row and the park as a historical resource.

This General Management Plan / Development Concept Plan will guide the rehabilitation, development, use, and management of Hot Springs National Park for approximately the next 10 years. The plan establishes an overall management philosophy, and it describes strategies to address current issues and management concerns and to achieve the park's management objectives (see appendix A). The plan also sets priorities for the design, rehabilitation, and construction of park facilities and roads. On the basis of these priorities, the park's fiscal resources will be used first to meet the most critical resource management needs and to provide basic visitor services, and then to enhance resource management and to improve the quality of the visitor experience. Finally, this document serves as a development concept plan for specific areas, and the next step in planning will be the preparation of comprehensive design drawings to implement the plan.

Today, as in the past, the future of the park is inextricably tied to the future of the community of Hot Springs. The actions outlined in this plan will protect the park's resources and provide basic opportunities for visitors to experience and understand those resources. However, full development of the park's potential to provide a high-quality visitor experience through the revitalization of Bathhouse Row and the complete interpretation of the park's history will depend on the cooperation, commitment, and resources of the city of Hot Springs, particularly the agencies, organizations, and individuals in the Central Avenue area.

Interrelationships with Other Plans

This plan supersedes the 1978 General Management Plan, which was subtitled "Bathhouse Row and Vicinity" and focused on the Central Avenue section of the park and nearby Hot Springs Mountain. The 1978 plan included an ambitious, detailed development plan for revitalizing the Bathhouse Row area, but it provided only limited guidance for the management and use of the mountain lands area of the park.

The 1978 proposals for Bathhouse Row were not successfully implemented for various reasons, and additional authorities and programs are now available that did not exist at that time. Consequently, this plan recommends new approaches to address continuing problems with the preservation, management, and use of Bathhouse Row.

For the mountain lands area of the park, the 1978 plan emphasized the acquisition of private lands and the maintenance of natural conditions to protect the recharge area of the thermal springs aquifer. Most of this portion of the park has now been acquired. Approximately 300 acres that do not need to be owned or protected by the National Park Service have been identified, and a proposal to delete these lands from the authorized boundary by an act of Congress will be considered through the established departmental review process. A separate Land Protection Plan (NPS 1985b) has also been prepared to outline protection methods for the remaining private inholdings. Because the primary objective of the previous management plan has nearly been achieved, this plan has been prepared to define specific strategies and actions for the development, management, and use of the mountain lands.

Public Involvement

To develop this plan, the views of federal, state, and local governmental agencies, private organizations, and individuals were sought during informal meetings held throughout the planning process. In addition the draft General Management Plan / Development Concept Plan / Environmental Assessment was on formal public review during June and July 1985, and a public meeting was held on July 2, 1985, in Hot Springs. The National Park Service received over 50 written responses to the draft plan, and more than 300 people attended the public meeting. The plan has been revised to address local concerns and to incorporate recommended changes where appropriate.

Planning Issues and Management Concerns

This General Management Plan / Development Concept Plan has been developed to address the following issues and management concerns. Because of the park's long and close physical and economic relationship with the city of Hot Springs, the effects of the plan on the local community have been thoroughly considered. These issues and concerns are further elaborated in the "Planning Perspective" section of the plan.

Cultural Resource Management - Some of the vacant historic structures along Bathhouse Row have deteriorated because of a lack of normal maintenance associated with occupancy.

Effective management and interpretation of the park's cultural resources and their historical significance have been hindered because existing information about the park has not been compiled and synthesized.

Natural Resource Management - The lack of detailed information about the recharge zone for the springs hinders the effective long-term management and preservation of the park's primary natural resource.

Private lands in the mountain lands' portion of the park have been acquired by the National Park Service over the last few years to protect the springs recharge area. Priorities need to be established for the restoration and rehabilitation of these areas.

Visitor Use - Visitor use patterns at the park have changed drastically over the past few years, switching from traditional, therapeutic bathing to a variety of other activities. Management plans need to be revised to meet new visitor expectations and uses.

The lack of information about and orientation to the park results in false visitor expectations and a limited understanding of the park's resources and overall significance.

Some visitor facilities in the mountain lands portion of the park have been subject to vandalism and deterioration over time, and some do not meet present NPS standards.

The Gulpha Gorge campground, located along the banks of Gulpha Creek, is occasionally flooded, which could subject visitors to potential flood hazards.

Park Operations - The National Park Service is responsible for collecting, storing, cooling, and distributing thermal water for appropriate uses; however, water uses and the demand for thermal water have changed in recent years. Consequently, the present storage system may not have adequate capacity, and fees do not cover the cost of operating the thermal water system.

Existing park facilities must be evaluated to ensure that they are adequate for present needs, that they meet NPS standards, and that they can be efficiently operated and maintained.

Detailed action plans, based on the directions provided by a general management plan, are needed for the rehabilitation and development of park facilities in the mountain lands area.

PARK SIGNIFICANCE

Natural Significance

The hot springs are the primary natural resource of the park, but unlike thermal features found in other national parks, such as the geysers of Yellowstone, they have not been preserved in their unaltered state as natural surface phenomena. The springs have been managed to conserve the production of uncontaminated hot water for public use. The park's mountain lands have also been managed under this conservation philosophy to preserve the hydrologic system that feeds the springs. These lands have been extensively altered, and except for the shortleaf pine stand on Sugarloaf Mountain, their other natural values are of secondary significance.

Historical Significance

In the context of History and Prehistory in the National Park System and the National Historic Landmarks Program, the park represents the following themes and subthemes:

America at Work

- Science and Invention--the field of medicine

- Architecture--commercial-industrial structures in the Classical and Eclectic Revival styles

Society and Social Conscience

- Environmental Conservation--conservation of the natural environment before 1865

- Recreation--unorganized recreation (vacationing, tourism, and other leisure activities)

Collectively, these subthemes indicate the park's historical significance for conservation and use of the thermal springwater, for development of the Hot Springs spa, and as an example of the spa movement in the United States--a movement that has influenced our attitudes about health, leisure, recreation, and conservation.

Mineral spring spas emerged in America in the late 18th and early 19th centuries and were scattered throughout the eastern states (Bridenbaugh 1946). The mineral spas were the first recreation resorts in America, and they emphasized the curative powers of the waters, outdoor activities, and a romantic attitude about nature (Huth 1957). Although many who visited the resorts strongly believed in the waters as the source of their improved health, their recovery was also attributed to the change of pace, the relaxed atmosphere and pleasant surroundings, and exercise. These outdoor experiences contributed to the emergence of spa resorts across the country and to the development of seaside and mountain resorts without springs (Lawrence 1983).

After the Civil War, bathing in thermal waters became a more sophisticated, scientific undertaking as balneology, with a proliferation of associated medical research, theory, technology, and treatment methods. Although the popularity of small spas declined after the turn of the century, Hot Springs was among a group of national spas that continued to improve their facilities and attract a broader clientele (Fitch 1927). It reached its peak of fashionability in the 1920s and 1930s.

Today Hot Springs National Park is recognized as a significant historical resource in that it represents an important stage in the development of the American conservation movement, in addition to its other natural and cultural resource values. Hot Springs was one of the first resources deliberately set aside by Congress for public benefit. This idea later fostered the creation of national parks that preserve "pleasuring grounds" for the general benefit of society, and among the first were Yellowstone and Yosemite.

As an example of the spa movement in the United States, Hot Springs represents the history of the use of thermal waters and of efforts to develop a national spa that would rival the great European spas (Scully 1966). The Bathhouse Row area contains the major remaining physical evidence of spa development at Hot Springs. The group of eight bathhouses built between 1911 and 1923 is the last of a continuum of facilities built to use the thermal waters and is one of the few collections of historic bathhouses remaining in the United States. The landscaped grounds reflect the emphasis placed on spa development and the evolution of landscape design philosophy, from the turn-of-the-century focus on a spatially well-structured landscape through the more informal, naturalistic NPS philosophy of the 1930s. The significance of the Bathhouse Row area is underscored by its inclusion on the National Register of Historic Places as a historic district of national significance.



The Plan



PLANNING PERSPECTIVE

PARK RESOURCE VALUES

For this plan the park resources were considered in three conceptual planning units--the hot springs, Bathhouse Row, and the mountain lands area. Based on the management objectives, the following values were identified for each of these units. The plan seeks to enhance and perpetuate these values.

The Hot Springs - The hot springs are the most important natural resource of the park, and they are the reason for the establishment of a federal reservation. The flow of uncontaminated thermal water for public use will be ensured. Even though all of the discharge zone and much of the recharge zone are located within the park boundary, those portions of the recharge zone outside the park must also be protected. Based on studies of the springs by the U.S. Geological Survey, management efforts must seek to prevent activities that would (1) reduce the natural flow of water in the spring system, (2) introduce contaminants into the system, or (3) disturb the flow paths of the hot water in the discharge area.

Bathhouse Row - The Bathhouse Row area is the heart of Hot Springs National Park. It is here that the thermal springs emerge from the earth, and this is the site of the long history of human use of the springwater. The Bathhouse Row area also contains the park's administration building and present visitor center, as well as other operational facilities. Additional facilities that are functionally related to the Bathhouse Row area include the NPS ranger offices and other support facilities on Reserve Avenue (east of the Hot Springs Rehabilitation Center) and the Libbey Memorial Physical Medicine Center and Hot Springs Health Spa (a concessioner-operated, NPS-owned bathhouse also located on Reserve Avenue).



The Mountain Lands - The mountain lands are most significant as the primary recharge zone for the hot springs. They contain other cultural and natural resource values of secondary significance, such as novaculite quarries and an undisturbed stand of shortleaf pine. Better examples of the region's natural resources are available in nearby national forests and state parks.

Because of their proximity to Bathhouse Row and the community, the mountain lands have been used for various purposes over the years. The older park areas that were included in the original reservation--Hot Springs and North mountains, and parts of West and Sugarloaf mountains--have historically been managed to present

a scenic backdrop for Bathhouse Row and to provide opportunities for outdoor relaxation and exercise associated with the "cure." The scenic drives and overlooks, picnic areas, trails, the observation tower, Whittington Park, and the NPS maintenance area were developed to support such visitor use. The areas that were added later to the national park reflect a wide variety of uses, including quarries, logged areas, ponds, roads, a campground, a cemetery, residences, businesses, powerlines, radio towers, municipal waterworks, and a gravel pit. Some of these uses have been eliminated since properties have been acquired; others will continue. A number of these developments--the Ricks estate, the novaculite quarries, and park facilities constructed in the early 1900s and later by the Civilian Conservation Corps--may be valuable as cultural resources and will be inventoried and documented. If significant features are identified, they will be nominated to the National Register of Historic Places.

PARK/COMMUNITY INTERRELATIONSHIPS

The Central Avenue business district, which faces and adjoins Bathhouse Row, has traditionally been the commercial center of the city of Hot Springs, and it also contains historic structures. The fascinating architecture and pleasant, formally designed landscape of Bathhouse Row combine with the historic structures along Central Avenue to create the unique character of downtown Hot Springs. To complement the Bathhouse Row historic district, the Central Avenue area has also been designated as a historic district and listed on the National Register of Historic Places. It is hoped that this will lead to the rehabilitation of many of the structures that are vacant, partially occupied, or poorly maintained. Because of the downtown location of Bathhouse Row and Central Avenue, the vitality of this area is crucial to the economic revival of the core city.

The National Park Service will promote closer cooperation with the community and local support for park programs through regular participation in the efforts of the Hot Springs National Park Advisory Commission, which was recently established by Governor Bill Clinton of Arkansas. Also efforts will continue with the city of Hot Springs, the local business community, civic organizations, and other interested parties to plan and implement actions for the revitalization of downtown Hot Springs.

Because the park is located within and near an urban area, it provides important open space and recreation lands for the local population. Recreational opportunities will continue to be provided within the park, but they will be limited to activities compatible with the protection of natural and cultural resources.

PLAN OVERVIEW

This General Management Plan / Development Concept Plan for Hot Springs National Park is presented in the following six main sections:

management zoning, which provides a framework for specific planning decisions on use and development, and indicates the type of management that will be emphasized on lands within the park

cultural resource management, which focuses on Bathhouse Row

natural resource management, concentrating on the mountain lands and the springs' recharge area

visitor use and development

park management and operations

plan implementation, including a phasing schedule, cost estimates, and considerations related to compliance with various laws and regulations

MANAGEMENT ZONING

Management zoning is used to indicate where park visitor uses, management functions and operations, and development should be located. Zones are identified based on the authorizing legislation, NPS policies, the nature of the park's resources, the desired visitor experience, and established uses. Subzones provide more specific guidance on particular uses and management strategies. Hot Springs National Park has been divided into four major zones--natural, historic, park development, and special use. The management zones and subzones are described below and are shown on the Management Zoning map.

NATURAL ZONE

Lands classified in the natural zone are managed to conserve natural resources and processes while accommodating visitor uses and experiences that do not adversely affect the natural systems.

Protected Natural Area Subzone

This subzone includes lands that are unusually fragile or ecologically significant. The management objective is to perpetuate significant natural values, and human intrusion is either prohibited or minimized. The 150-acre stand of shortleaf pine on the north slope of Sugarloaf Mountain is the only area of the park in this subzone.

Acquisition/Restoration Subzone

This subzone includes lands that contain incompatible development or that are subject to such development. The management objective is to prevent or mitigate damage to the springs recharge zone or other natural resource values through various protection methods, such as memorandums of understanding, conservation easements, or acquisition of fee-simple title. Any private properties acquired by the National Park Service within this subzone will be restored to natural or nearly natural conditions. Lands included in this subzone are the gravel pit on the north slope of West Mountain near Whittington Avenue, the roadbed of Sour Rock Springs Road on Music Mountain, numerous developed and undeveloped properties in platted residential subdivisions and additions scattered throughout the park, and several developed commercial properties near US 70 and Gulpha Gorge Road (US Business Route 70) and along Arkansas 7 near its intersection with Gulpha Gorge Road. Actual revegetation and restoration of these areas will take place only after the properties have been acquired and are in the possession of the National Park Service. The amount of restoration work required will depend on the extent of disturbance to natural conditions, the sensitivity of the site's resource values, or the visibility of the site to park visitors.

Natural Environment Subzone

All of the undeveloped park lands not included in the other natural area subzones are included in this subzone, which is managed to conserve natural resources. Environmentally compatible visitor activities and minor recreational development such as trails are encouraged, although major new developments are not suitable.

HISTORIC ZONE

The historic zone is managed to preserve, protect, and interpret cultural resources and settings that are significant because of their association with historic persons, events, or periods. Not all cultural resources are placed in this zone; it is applied only to lands with especially significant or numerous cultural resources.

Preservation Subzone

The purpose of this subzone is to preserve cultural resources and their settings by actively maintaining existing conditions or by carefully preserving historical features. The significance of these resources is interpreted to visitors. The Arlington Lawn area and the designed landscape and building exteriors of the Bathhouse Row historic district are included in this subzone.

Preservation/Adaptive Use Subzone

The purpose of this subzone is the preservation of historically significant structures by allowing use and appropriate modifications for leasing, public use, or administrative functions. Such adaptive uses must be compatible with the perpetuation of the significant qualities and characteristics of structures and their settings. The interiors of the eight bathhouses and the NPS administration building are included in this subzone.

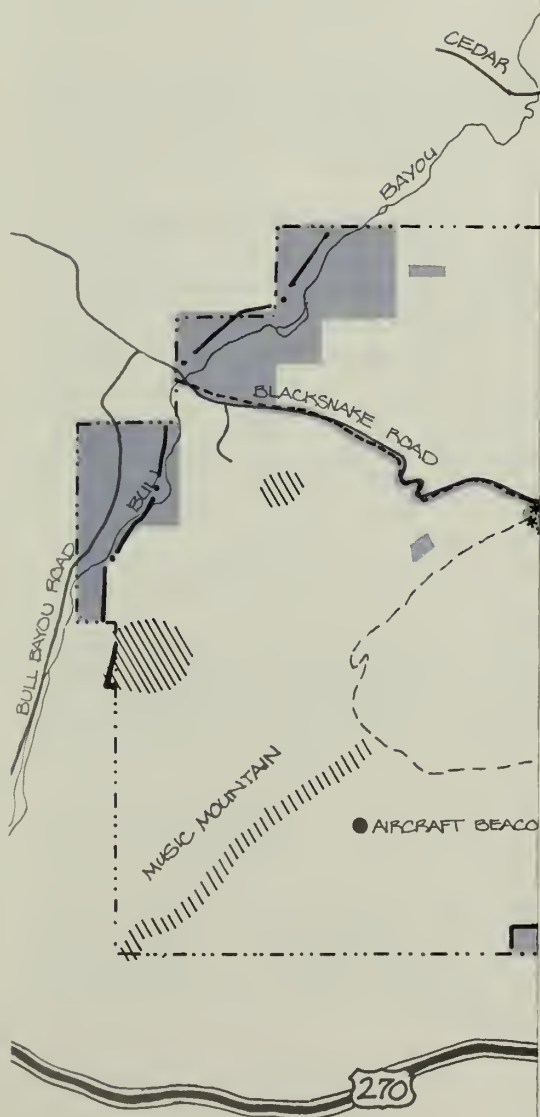
PARK DEVELOPMENT ZONE

The park development zone includes those areas developed and managed for visitor use and park management. Areas where development or intensive use has substantially changed the natural environment or the historical setting are part of this zone.




Administrative Development Subzone

Areas in this subzone support park management and operations. Park administrative offices, maintenance facilities, and employee residences are included, along with the Reserve Avenue facilities and the maintenance











NATURAL ZONE

-  Protected natural area
-  Acquisition/restoration
-  Natural environment











HISTORIC ZONE

-  Preservation
-  Preservation/adaptive use

PARK DEVELOPMENT ZONE

-  Administrative development
-  Visitor use/recreational development
-  Access/circulation
-  Landscape management

SPECIAL USE ZONE

-  Private use
-  Transportation/utilities
-  Public/institutional
-  Existing park boundary
-  Proposed park boundary
-  Park road
-  Existing park trail
-  Arch culvert
-  Scenic overlook
-  Picnic area

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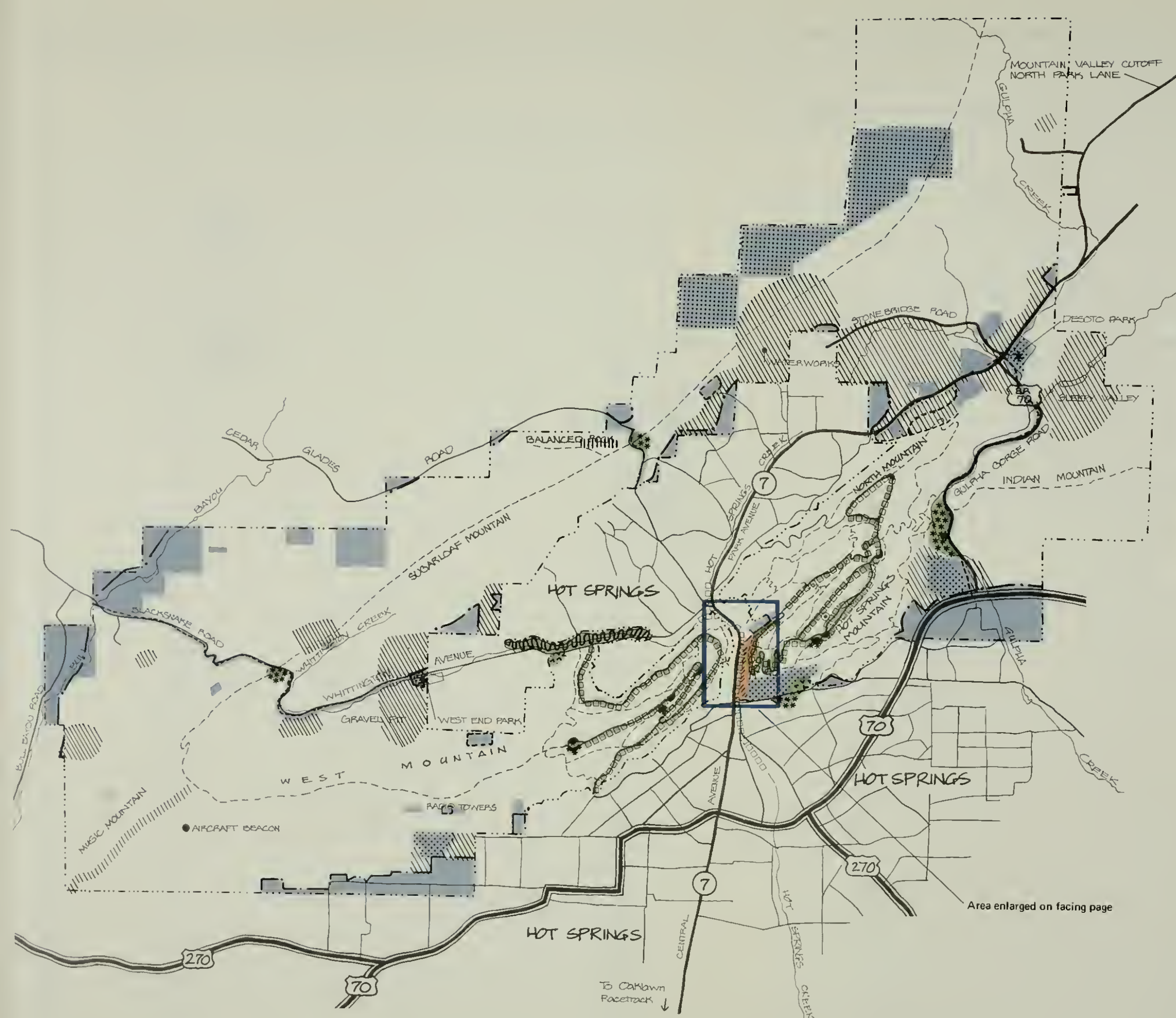


Management Zoning

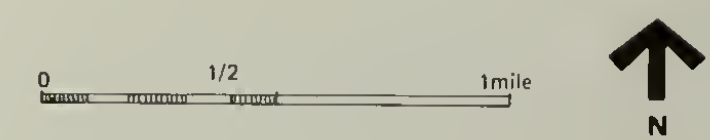
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- NATURAL ZONE**
- Protected natural area
 - Acquisition/restoration
 - Natural environment
- HISTORIC ZONE**
- Preservation
 - Preservation/adaptive use
- PARK DEVELOPMENT ZONE**
- Administrative development
 - Visitor use/recreational development
 - Access/circulation
 - Landscape management
- SPECIAL USE ZONE**
- Private use
 - Transportation/utilities
 - Public/institutional
- Existing park boundary
- Proposed park boundary
- Park road
- Existing park trail
- Arch culvert
- Scenic overlook
- Picnic area



Management Zoning

hot springs national park

complex on Whittington Avenue. Historic structures adaptively used for these functions are classified in the historic zone because the protection of their historical integrity is the primary management emphasis.

Visitor Use/Recreational Development Subzone

This subzone includes developed areas that provide services or recreational opportunities to park visitors. The following areas are classified in this subzone: the Libbey Memorial Physical Medicine Center/Hot Springs Health Spa and surrounding grounds; the Hot Springs Mountain observation tower and adjacent parking lot, overlooks, and picnic area; the Gulpha Gorge campground (including picnic areas and shelters, the campfire circle, the amphitheater, and circulation roads); the West Mountain overlook, parking area, and trailhead; the proposed parking area and trailhead at the ridge summit along Blacksnake Road; and the proposed parking area and trailhead at the ridge summit along Mt. Ida Street near Sugarloaf Mountain.

Access/Circulation Subzone

This subzone includes all paved park roads that are maintained by the National Park Service and that provide visitor or management vehicle access to park resources or facilities.

Landscape Management Subzone

This subzone includes Whittington Park, which is intensively managed as a landscaped area to enhance the park's aesthetic quality and to promote public use and enjoyment. The management of Whittington Park as a landscaped area is a long-standing traditional use. The management of Arlington Lawn as a landscaped area is required by law, but it will be managed as part of the preservation subzone because of its relationship to the Bathhouse Row historic district.

SPECIAL USE ZONE

This zone includes areas within the authorized park boundary where land uses by other governmental agencies or private landowners are of primary importance. Within this zone NPS management emphasis is secondary to that of other interests.

Private Use Subzone

This subzone includes privately owned parcels whose uses are compatible with the protection of park resources. These uses include commercial/retail development, nursing homes, radio transmission towers, low-density residential development (outside the springs recharge zone),

a cemetery, and undeveloped parcels contiguous to residential tracts. To ensure that these lands will continue to be used for compatible purposes, the park will seek conservation easements or other means such as zoning and memorandums of understanding (see the Land Protection Plan for details). Also included in this subzone are nearly 300 acres of private land that are recommended by the National Park Service for deletion from the park boundary; congressional approval will be required to remove these areas from the park.

Transportation/Utilities Subzone

This subzone includes state and local lands used for roads, radio transmission towers, and municipal water facilities managed primarily or exclusively for nonpark purposes.

Public/Institutional Subzone

This subzone consists of lands owned by state and local governmental agencies that are outside the springs recharge zone and that are being used for purposes compatible with the park. Included are the Hot Springs municipal watershed lands in the northeastern section of the park, the city's DeSoto and West End parks, the Hot Springs Rehabilitation Center, and the facilities of the Hot Springs School District and Garland County Social Services, which are located at the southern end of Gulpha Gorge. Memorandums of understanding will be developed to ensure continued compatible uses of these lands. The latter three properties will revert to the United States if they are not used for the specific purposes identified in the deeds.

CULTURAL RESOURCE MANAGEMENT

All actions to preserve, restore, protect, interpret, and use significant cultural resources within Hot Springs National Park will be based on thorough research. These actions will comply with the requirements of the National Historic Preservation Act of 1966 as amended, the NPS "Management Policies," and the "Cultural Resources Management Guidelines" (NPS-28). Known cultural resources are discussed in the "Description of the Park" section.

Pursuant to the "Management Policies" and NPS-28, all management actions that may affect cultural resources will be reviewed in advance by NPS cultural resource specialists to ensure that all feasible planning or design measures are taken to avoid or minimize any possible impairment to these resources. If unavoidable adverse effects are identified, they will be mitigated in accordance with the referenced policies and guidelines. Any actions involving ground disturbance will be preceded by appropriate field surveys or other measures to avoid adverse effects on archeological resources.

CULTURAL RESOURCE DATA BASE

Due to the park's long history as a federally managed area, many of its historic resources are extremely well documented; however, relatively little synthesis and analysis of the data have occurred to date. Also, minimal work has been done to assess the extent and significance of archeological resources in the park. Several studies are needed to provide the information necessary to guide effective management, preservation, and interpretation of the park's resources and of Bathhouse Row in particular.

An interim report on the structures and surrounding grounds of Bathhouse Row has been completed to document the development of the existing structures and landscape features (NPS, Rhodes 1985c). Combined with recent studies of the structural capacities and existing conditions of the vacant bathhouses, this report provides information about how the structures can be adaptively used. This information will also be used to develop and evaluate possible modifications to the buildings or surrounding landscape. To make this information available on a timely basis, brief technical reports that summarize the data have been published (NPS 1985a), and the full research findings will be retained in the park for use in subsequent products.

A special history study of Bathhouse Row will also be completed to ensure that research results are available for general use in park management and interpretation. This study will incorporate the available data, fill in information gaps, and provide a social and cultural history of Bathhouse Row.

A landscape management plan for the Bathhouse Row area will be developed as soon as possible to document the evolution of landscape spaces and elements. Historic and existing plant and architectural materials will be identified, and historic landscape development objectives and concepts will be defined so that a comprehensive renovation and maintenance program can be developed.

An administrative history of Hot Springs National Park and the Hot Springs Reservation will also be prepared. This study will look at the development of the mineral spring spa in America, early development at Hot Springs, reservation origins and establishment, use of thermal water, improvement of the reservation, land use in the mountain areas, evolution of Bathhouse Row, establishment of the park, management emphases at various periods, and the interrelationships between the reservation/park and the city of Hot Springs. This information will be invaluable to the park interpretive program and will also help place other historical data in context. Because of Hot Springs' unique role as one of the earliest federal conservation reserves and as one of the original components of the national park system, this case study of Hot Springs will also be of benefit to the National Park Service as a whole.

In conjunction with the various history studies, a parkwide historical base map will be prepared to identify the location of all historic and prehistoric resources. Preparation of this map will include data from the 1975 archeological inventory, previous history research studies, and limited archeological investigations of formerly unsurveyed areas. Any significant resources that are identified will be nominated to the National Register of Historic Places.

BATHHOUSE ROW

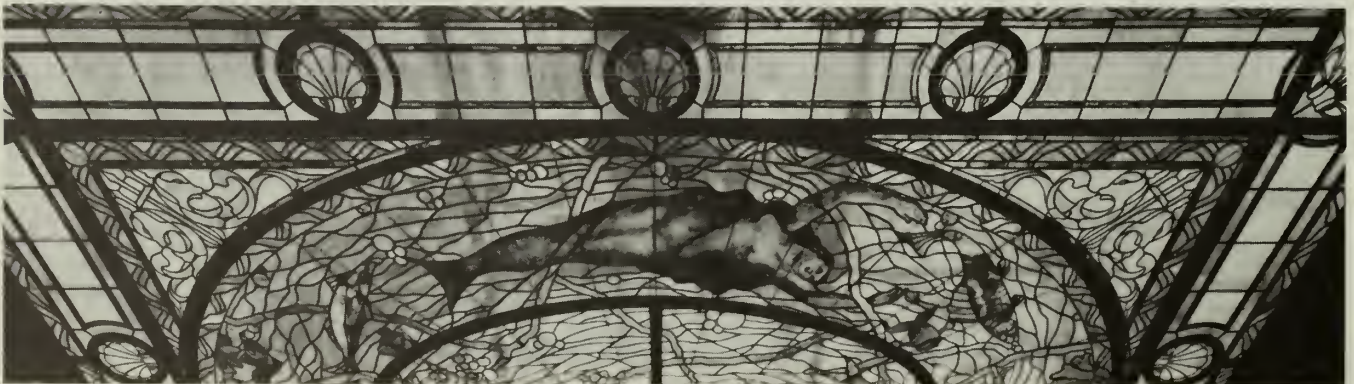
The historic scene of the Bathhouse Row historic district will be preserved through the renovation and maintenance of the formally designed landscape and the rehabilitation and maintenance of building exteriors. The Fordyce Bathhouse will be rehabilitated and adaptively used as the park's visitor center and primary interpretive facility. At least one bathhouse will be used for traditional bathing activities, and the other vacant bathhouses will be adaptively used or stabilized to prevent further deterioration. In addition to meeting cultural resource preservation needs, this strategy is designed to improve interpretation for park visitors and to contribute to the revitalization of downtown Hot Springs.

Historic Scene

The two visual components of the historic scene are the exteriors of the bathhouses and the landscape.

Bathhouse Exteriors. The exteriors of the bathhouses are an important component of the historic scene along Bathhouse Row. Regardless of





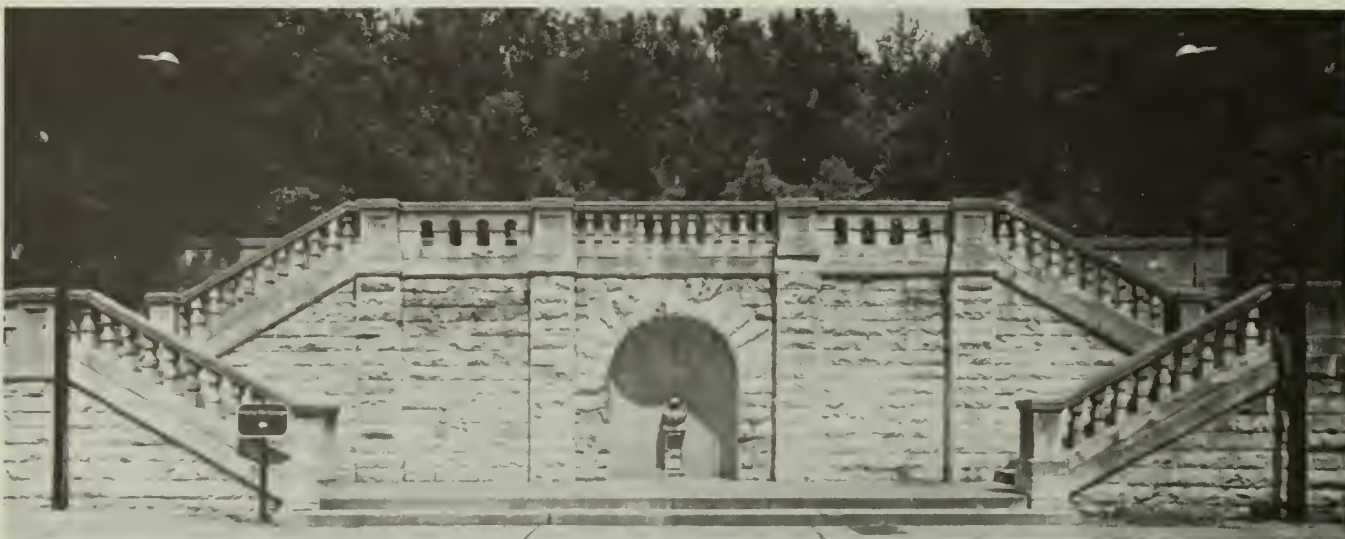
interior use--traditional bathing operations or adaptive uses--the building facades will be rehabilitated or maintained to preserve their existing appearance.

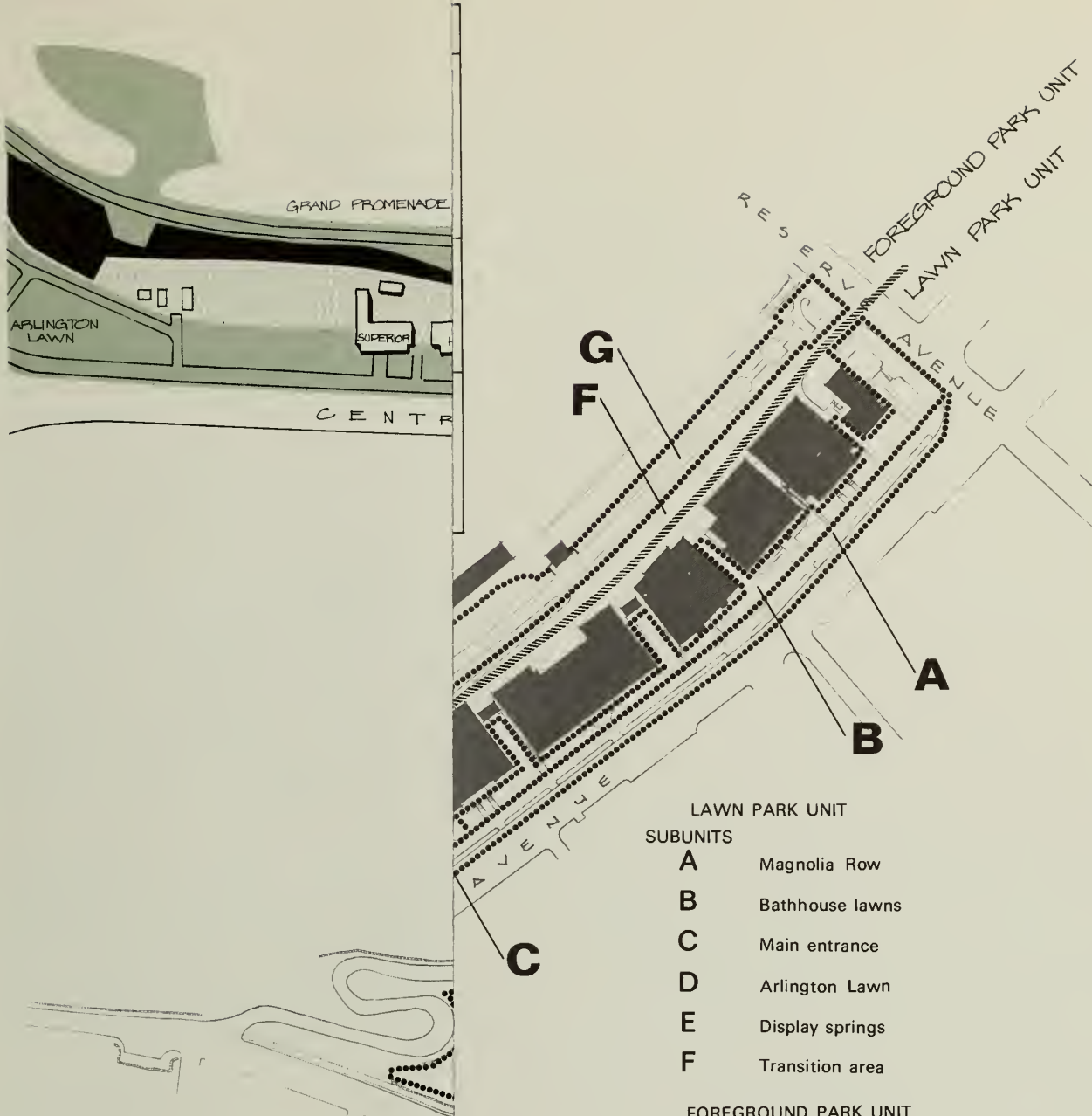
Landscape. The present Bathhouse Row landscape retains some features of the 1890s improvements and much of the ambience associated with the 1930s, but it also reflects a post-1930s NPS management policy of returning the park to its "natural state." The earlier landscape reflected a blending of the late Victorian and early 20th century landscape styles in America, combining elements from the Italian, Classic, French, Spanish Renaissance, and English landscape styles to form a highly structured, but picturesque, setting for the bathhouses. Later, some of the more formal features of the entrances were removed, and the Grand Promenade was constructed. Management actions will be initiated to enhance the visitor experience of the existing formal setting and to maintain the significant landscape features.

The landscape management plan will describe a detailed, comprehensive renovation and maintenance program for the Bathhouse Row landscape, based on an analysis of the existing landscape and available historical documents. Limited additional research will be undertaken to fill information gaps. The following actions are based on available information in "Technical Report #1: The Bathhouse Row Landscape" (NPS 1985a) and will be implemented as soon as possible.

The Bathhouse Row landscape has been divided into three management classifications, as depicted on the Landscape Units and Management Classes map. The most significant features are found in class I, which includes the lawn park (the Magnolia Row, bathhouse front lawn areas, and Arlington Lawn), the foreground park (along the Grand Promenade), and the three main entrances to the Grand Promenade. The lawn park and foreground park are significant units because they were designed to highlight specific spatial relationships that have been maintained over the years despite almost continuous construction activity in some areas. The entrances to the Grand Promenade are significant for their unique composition and style or for their architectural elements. The areas included in class II are less sensitive than those in class I, but they are visually important. They contain unique spatial characteristics and less imposing architectural elements, as in the case of the open lawn bays and woods adjacent to the Grand Promenade. Areas in class III are the least significant because they are generally hidden from view or lack unique elements.

Any possible modifications to the landscape as a result of adaptive uses of the bathhouses, construction activities, or other management actions will be designed and evaluated in accordance with these classifications. In class I no major, permanent alterations of the basic landscape elements will be allowed, but some modifications that do not attract attention can be made. In class II modifications can occur if the introduced elements remain subordinate to the characteristic landscape. In class III landscape space modifications can be dominant, but they should repeat the form, line, color, and texture of the space. The technical report on the





LAWN PARK UNIT

SUBUNITS

- A** Magnolia Row
- B** Bathhouse lawns
- C** Main entrance
- D** Arlington Lawn
- E** Display springs
- F** Transition area

FOREGROUND PARK UNIT

SUBUNITS

- G** Grand Promenade
- H** Open lawn bays
- I** Open woods

- Boundary between lawn and foreground parks
- Subunit boundary

0 100 200 300 Feet

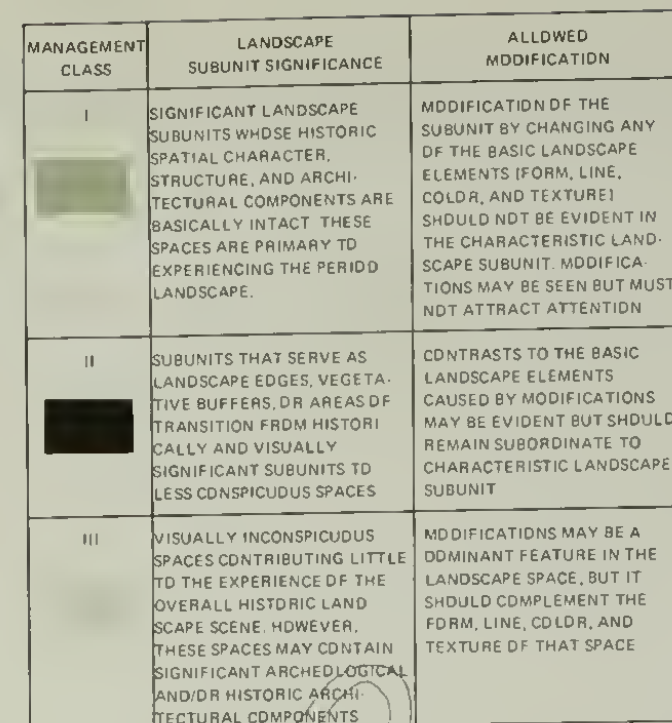


Landscape Units and Management Classes Bathhouse Row

hot springs national park

united states department of the interior / national park service

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Landscape Units and Management Classes

Bathhouse Row landscape presents a method to evaluate proposed modifications and provides further guidance on design measures that will minimize the effect of modifications on the historic landscape. The National Park Service will continue to maintain the entire landscaped area. Some additional renovation and maintenance tasks will need to be undertaken in certain areas.

Although the lawn park unit resembles its appearance in the 1930s, its historic and landscape integrity has been compromised somewhat because of a lack of specific landscape management directions and funding for maintenance. The holly trees and some foundation plants are overgrown and intrude upon the open lawns and building facades. The holly trees will be removed and foundation plants replaced with smaller plants that will be pruned regularly. Damaged or missing plants in hedges or along foundations will be replaced to recreate the original plant mass. Plants will either be replaced in kind or with plant materials with similar characteristics; determination of replacements will be based first on the maintenance of the historic setting and second on maintenance costs. The southern magnolias will require additional watering and fertilizing in the root zone because of their age and location near a heavily used urban street. A list of detailed maintenance treatments is included in a report entitled, "Magnolia Tree and Landscape Assessment for Bathhouse Row" (NPS, Einert 1984). These recommendations will provide management direction until the landscape management plan has been completed.

An in-depth assessment of the foreground park has determined the status of algae, liverworts, ferns, mosses, lichens, and vascular plants and has evaluated the effects of thermal water on these species. The "Vegetation Study and Renovation Planting Plan for the Grand Promenade in Hot Springs National Park" (NPS, Crawford 1982) includes detailed renovation and maintenance recommendations for the foreground park area. Until a landscape management plan has been completed, these recommendations will constitute the plan for this area.

Historic Structures

Traditional Bathing Operations. Legislation for Hot Springs requires that the thermal waters be available for public use, and a major objective of this plan is to provide an improved visitor experience at Bathhouse Row. For these reasons the traditional bathing experience continues to be "necessary and appropriate for public use and enjoyment" of the park.

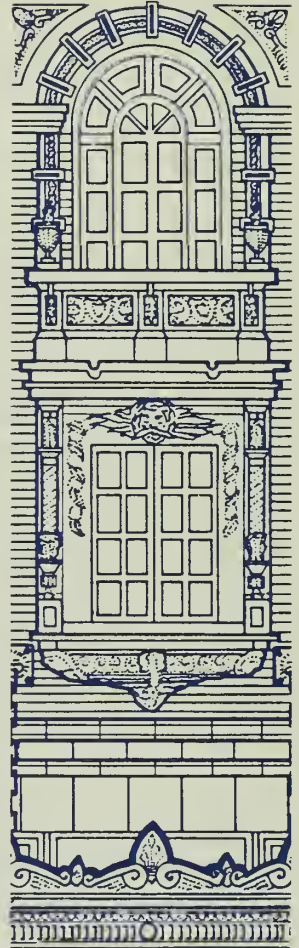
The current traditional, therapeutic bathing operation at the Buckstaff Bathhouse will be continued as a concession operation. Longer terms and other contract provisions will be negotiated in new concession contracts or renewals to encourage improved operations. If necessary to maintain one traditional operation on Bathhouse Row, the National Park Service may assume a larger role by providing necessary stabilization and repairs for the Buckstaff, or another bathhouse, and seeking a new concessioner to operate the facility.

Adaptive Use of Historic Structures. The Fordyce Bathhouse will be rehabilitated and adaptively used as the park's visitor center and primary interpretive facility (see the discussion of interpretation under "Visitor Use and Development"). Six of the vacant bathhouses at Hot Springs--Superior, Hale, Maurice, Quapaw, Ozark, and Lamar--will be offered for private adaptive use under leases, concession contracts, or other means.

The leasing of historic properties, and the right to retain the revenues from such leases within the park or region for use in historic preservation activities, were authorized by Congress in 1980 by amending the National Historic Preservation Act (sec. 111). The National Park Service has established procedures for such a program in "Leases and Exchanges of Historic Property" (36 CFR 18) and the "Historic Property Leasing Guideline" (NPS-38). If the proposed adaptive use will provide accommodations, facilities, or services to a substantial number of park visitors, then the building will probably be made available under a lease, and visitor use will be provided through a concession contract, as authorized by the Concessions Policy Act of 1965.

Successful implementation of the adaptive use program will allow the bathhouses to be preserved by the private sector. Adaptive use of the structures will also allow the National Park Service to direct available park staff and funding, supplemented by potential leasing revenues, to the administration of the program. Funds may also be used for the rehabilitation of a concessioner-operated bathhouse, the stabilization of any bathhouses not leased, or the renovation and maintenance of the historic landscape. The lessee(s) or concessioner(s) (hereafter referred to as lessees) will pay rent or a concession fee. They will have to rehabilitate the interior and exterior of the leased structure or structures, and they will be responsible for all maintenance, repair, housekeeping, and utility costs.

Federal tax incentives are currently available for the rehabilitation of historic structures on the National Register of Historic Places if the lease or concession contract term is 15 years or longer and if the rehabilitation work is certified by the secretary of the interior. NPS-38 recommends that lease terms be based on the amount of time required to amortize rehabilitation costs, but not more than 99 years. Concession contracts generally may not exceed 30 years and are limited to 20 years if thermal water is used for bathing purposes. Because of the amount of rehabilitation required for the bathhouses, the leases or contracts will almost certainly be granted for a term of 15 years or longer.



The National Park Service will initiate the adaptive use program by advertising the availability of the vacant bathhouse(s) and by soliciting adaptive use proposals from interested parties through the issuance of a request for proposals. The request for proposals will contain more detail on the selection process, the information required, and the criteria to be used in evaluating proposals. Proposals will only be accepted for one or more of the vacant bathhouses. To encourage new ideas and creative proposals, restrictions on proposals will be only those required by law or administrative regulation, such as 1) requirements that the adaptive use, associated building rehabilitation, and any necessary landscape modifications be compatible with the historic scene, comply with the "Secretary of the Interior's Standards for Historic Preservation Projects" (36 CFR 68), and be approved by the NPS regional director; and 2) requirements that the proposed use be adequately capitalized and financially viable and that the prospective lessees have sufficient experience to ensure successful building rehabilitation and business operation. Criteria for evaluating proposals may also be designed to favor adaptive uses that best meet park management objectives and that enhance visitor use of Bathhouse Row and Hot Springs National Park.

The available technical reports, which describe historical development, significant qualities and characteristics, structural capacities, and existing conditions of the vacant bathhouses, will be provided by the National Park Service to prospective lessees along with the request for proposals. Additional technical data and tours of the structures will also be available at the park to aid prospective lessees in developing proposals.

A generic historic structure preservation guide has been prepared for the bathhouses. This guide sets forth preservation maintenance standards necessary to maintain the bathhouses. More specific information on construction treatments (including drawings and specifications) and preservation maintenance will be prepared by the lessees for incorporation in the leases or contracts after the adaptive uses are known. For major construction, a historic structure report, combining the above information and prepared by the National Park Service and lessees, will be required; the preservation maintenance information will be assembled into a historic structure preservation guide for each building. Any costs borne by lessees in preparing this information will be taken into account in negotiations and may be amortized over the length of the lease.

Stabilization measures to prevent further deterioration of the historic structures through re-establishment of weather-resistant conditions and control of interior environments will be used only on an emergency or interim basis until adaptive uses can be arranged and will not affect the exterior appearance of the bathhouses. Permanent stabilization measures will be undertaken only after a bathhouse has been unsuccessfully offered for adaptive use in at least two formal offerings.

Stabilization of Vacant Structures. If any of the vacant bathhouses cannot be adaptively used by the private sector, the National Park Service will continue to be responsible for preservation until adaptive

uses can be arranged, and the recommended treatment will be stabilization. Additional preservation maintenance tasks have been outlined in the historic structure preservation guide. For stabilization the exterior of the buildings will be secured from moisture and animal intrusion, and the interior environmental conditions will be controlled to prevent fluctuations in temperature and humidity that would cause deterioration of the building fabric. The recent practices of the park staff have been reasonably effective in securing the exteriors, but the lack of internal environmental controls has allowed deterioration, such as spalling plaster and metal corrosion. If such deterioration is not checked, it could lead to serious structural problems.

Buildings will continue to be secured by repairing roofs, gutters, doors, windows, or other openings that allow moisture or outside air to enter a building. The installation of removable double glazing or other insulation will also help control internal temperature fluctuations. The internal building environment will be further controlled through the installation of ventilation, dehumidification, and heating equipment. The purpose of this treatment will be to prevent wide fluctuations in temperature and humidity and to achieve a stabilized internal environment, rather than a comfortable human environment. This may be accomplished with adequate ventilation most of the time and supplemented by dehumidification, and perhaps heating, during certain seasons. During design and implementation of the system, the least costly methods will be sought.

The current practice of using materials and techniques closely approximating the originals will be continued; modern materials and methods may be used if appropriate. All work will be conducted so that the exterior appearance of the building will be preserved and interior modifications can be removed.

The appearance of stabilized bathhouses will be thoroughly documented and recorded both before and after treatment, including any features uncovered during stabilization. Original building fabric or fixtures will only be removed in the course of treatment work for the purpose of study or protection.

MOUNTAIN LANDS

The prehistoric and historic novaculite quarries on Indian Mountain will be protected as archeological sites. The quarries will be interpreted as a self-guided visitor experience, and the trail from the Gulpha Gorge recreation area will be upgraded. Federal laws and regulations pertaining to the removal of artifacts will be enforced to prevent damage to site integrity. Additional measures to protect the quarries will be developed as necessary in the park's "Resource Management Plan."

The setting of the Ricks estate will be maintained in its existing condition. A conservation easement will be sought with the private owners of the main house and related structures to ensure that the exterior appearance of the buildings is maintained and that incompatible



development of the property is prevented. To ensure the safety of downstream development and uses, and to comply with federal regulations, the Ricks Pond dam will be lowered, and the pond will be reduced in size.

The Hot Springs Creek arch culvert, the early bridges and pavilion, and most of the 1930s structures built by the Civilian Conservation Corps and Works Progress Administration are still being actively used. They will continue to be maintained for their intended use, in compliance with referenced policies and guidelines.

The restroom atop West Mountain is no longer used or needed. Besides conflicting with park management objectives by requiring the location of a septic system in the springs recharge zone, the structure has also been heavily damaged by vandalism and is now closed to visitor use. Consequently, it will be removed after compliance procedures have been completed.

MUSEUM COLLECTIONS

The acquisition of additional objects, documents, and collections will be guided by a current "Scope of Collections Statement." Collections will be used in a beneficial but nonconsumptive manner, such as for research, exhibit, or study. They will be kept in secure, environmentally controlled storage or exhibit areas.

A new collections storage area with adequate environmental controls and security will be developed in the Fordyce Bathhouse, and collections will be moved from the present storage area at the former superintendent's residence. Small exhibit areas may also be located in the visitor center. The interpretive prospectus will outline needs for the type and amount of exhibit space and the nature of environmental controls. The park's "Collections Management Plan" will include a collections storage plan and will address other needs and practices regarding proper curatorship of the park's museum collections.

NATURAL RESOURCE MANAGEMENT

SPRINGS' RECHARGE AREA

To protect the springs' recharge area, previously developed lands will be restored, and further incompatible development within this area of the park will be prohibited. Protection will be provided for 163 parcels, totaling approximately 705 acres, including some lands outside the recharge zone but still within the park boundary. The following protection methods will be used (details are provided in the park's Land Protection Plan, dated April 1985):

memorandums of understanding	327 acres
conservation easements	169 acres
fee-simple title purchase	193 acres
fee-simple title donation	<u>16 acres</u>
Total	705 acres

To protect portions of the recharge area outside the park boundary, a continuing program will be initiated to monitor possible incompatible development. The National Park Service will work with Garland County to minimize impacts on the recharge area by encouraging the development of a zoning and building permit program similar to the city's and by providing assistance in the review of development proposals. In an 1878 act (16 USC 361) Congress provided that in the four sections of land originally reserved for public benefit, "all titles given or to be given . . . by the United States shall explicitly exclude the right to the purchaser of the land, his heirs or assigns, from ever boring thereon for hot water." The National Park Service will work with Garland County and the city of Hot Springs to ensure that these title restrictions are incorporated into deeds and that they are being enforced.

In addition to these protection measures, further geohydrologic research is needed to accurately define the hydrologic system of the hot springs and to delineate the extent of the system. Monitoring of the system is also needed to allow the evaluation of future conditions. The actual studies needed will probably require drilling of small bore test holes and additional sampling and analysis of thermal water. Specific research needs will be defined in the park's "Resource Management Plan."

VEGETATION AND WILDLIFE

In the mountain lands unit of the park a healthy vegetative cover will be retained, and vegetation will be restored where necessary to control erosion. These actions will keep this area as a scenic backdrop for Bathhouse Row and the city of Hot Springs, and they will ensure a

pleasant setting for recreational activities. Some areas that will be revegetated are discussed below and are shown on the Management Zoning map; other areas and treatments will be described in the "Resource Management Plan."

The Sleepy Valley subdivision, a part of the recharge zone for the hot springs, is being acquired by the National Park Service. As these tracts come into NPS ownership, structures are removed and the areas revegetated. When all properties have been acquired by the National Park Service, paving will be removed and the entire area will be revegetated. The commercial gravel operation near West Mountain is listed in the park's Land Protection Plan as a high priority for acquisition. Once this area has been acquired, it will be contoured and revegetated. The access road (Sour Rock Springs Road), which formerly served an airport beacon on the summit of Music Mountain, will be obliterated, contours will be restored, and the roadway will be revegetated to control erosion.

Four plant species are of special interest. These include the shortleaf pine (Pinus echinata) stand on Sugarloaf Mountain, a rare blue-green alga (Phormidium treleasei) that grows in the thermal water, a rare local species of chinquapin (Castanea ozarkensis), and a rare fern, the Graves spleenwort (Asplenium gravesei). Whenever possible, park management actions will seek to maintain habitat for these species. The park's "Resource Management Plan" calls for some research related to the protection of these species, and the next revision of that plan will outline additional management actions to ensure their protection.

FLOODPLAINS

The National Park Service will avoid to the extent feasible any further occupation or modification of floodplains, in accordance with Executive Order 11988 (Floodplain Management) and NPS guidelines. The park will cooperate with the city of Hot Springs to control flooding in the drainages of Hot Springs and Whittington creeks and to provide a warning system and evacuation plan. The Bathhouse Row area is within the floodplain and would be inundated by 5 to 6 feet of water during the 100-year flood. All rehabilitation along Bathhouse Row will incorporate flood-proofing measures to the extent practicable.

At the Gulpha Gorge campground, which is located in the 100-year floodplain, a flood-warning system will be developed, and an evacuation plan will be prepared. The Ricks Pond dam will also be lowered, and the pond will be reduced in size. Following these actions, any campsites remaining in the floodway (probably fewer than five) will be removed.

In restoring disturbed sites small retention basins may be constructed to provide additional flood protection. The National Park Service will explore with local and state agencies and the Corps of Engineers the feasibility and effectiveness of such structures, and if the basins are determined to be cost-effective, detailed plans will be prepared.

VISITOR USE AND DEVELOPMENT

The actions contained in this plan are designed to improve the quality of the visitor experience at Hot Springs in three ways: 1) by upgrading information and orientation services to ensure that visitors are aware of all opportunities available to them at the park; 2) by realigning the interpretive program to stress the historical significance of the park and particularly Bathhouse Row; and 3) by maintaining traditional uses of the hot springs and expanding appropriate recreational opportunities in the mountain lands.

ACCESS/PARKING

Roadway signs will be placed on all major approach routes to clearly direct visitors to the visitor center. Once in the vicinity, signs will direct visitors to available parking areas. Additional information on the park road system is contained in the "Park Management and Operations" section below.

Parking in the downtown area is adequate for present levels of visitor use, except on peak weekends, but better pedestrian access across Central Avenue is needed. An agreement will be sought with the General Services Administration to expand weekend visitor parking into the federal building parking lot on Reserve Avenue across from the administration building. Additional parking will be needed following the revitalization of the downtown area once the bathhouses and other structures outside the park have been rehabilitated. The National Park Service will work closely with the city of Hot Springs and private interests to improve pedestrian crossings and to solve future parking problems.

INFORMATION/ORIENTATION

Information kiosks and signs will be provided near the administration building and Arlington Lawn to orient visitors to the park and the Bathhouse Row area and to direct them to the Fordyce visitor center. These kiosks and signs will be designed to be compatible with the historical scene. Visitor orientation and park information will be provided through a combination of personal contact with park staff and new panel exhibits, maps, and photographs.

A new interpretive prospectus will be prepared to detail the media needed to tell visitors about the park and its resources, to describe the park's significance, and to encourage visitors to experience the different features of Hot Springs National Park. Visitors will be told that they can take a traditional bath at the Buckstaff Bathhouse on the row, at the Libbey Memorial Physical Medicine Center and Hot Springs Health Spa, or at one of the other local hotel bathhouses. The procedure and general experience will be explained, and a price list will be available.

Following orientation, visitors will be able to select resources and activities they wish to experience at Hot Springs and to take advantage of other interpretive services. Visitors should also be aware of the recreational and interpretive opportunities available in the mountain lands area, and they should know how to get to the Hot Springs Mountain observation tower and how much it costs.

INTERPRETATION

Interpretation at Hot Springs National Park will emphasize the following points:

- the significance of the thermal springs as the park's primary natural resource

- the historical significance of the area for the conservation and use of the thermal springwater, for the development of the Bathhouse Row area and the Hot Springs spa, and as an example of the spa movement that influenced American attitudes about health, leisure, recreation, and conservation

Past interpretive emphasis on the thermal springs as a natural phenomenon has contributed to visitor expectations of open springs and Yellowstone-like thermal features, and visitors are often disappointed to find that most springs are capped to prevent contamination of the water. Neither the formally designed landscape of Bathhouse Row, which is the opposite of a natural setting, nor the federal role in the management and development of the area as a spa resort is well understood by visitors.

Changing the emphasis of interpretation toward conservation and historic use of the thermal springwater and the development of associated facilities will more accurately portray the significance of the thermal springs to visitors. Including the American spa movement as part of the interpretive story will improve visitor understanding of the park's resources and significance. This will be done by explaining the historical social context for the federal role in the management of the park, along with the general development of the Hot Springs spa and the evolution of the bathhouses and landscape along Bathhouse Row. Visitors will be encouraged to experience the range of activities available in the park, from a traditional thermal water spa experience to typical outdoor recreational opportunities.

The visitor center in the Fordyce Bathhouse will be the primary location for interpreting park themes. Supplementary interpretive locations will include Bathhouse Row, specific landscape features along the row (such as display springs, the Stevens Balustrade, and the Grand Promenade), the Hot Springs Mountain observation tower, and the mountain lands. An interpretive prospectus will be prepared to determine the media to best convey interpretive themes.

Guided tours of Bathhouse Row may be provided by park staff, and supplementary wayside exhibits will be described in the new interpretive prospectus. The tours and exhibits will focus on the evolution of Bathhouse Row, what the row was like in its heyday, and some of the significant landscape and architectural features. Historical photographs may be used to help visitors visualize the scene. Interpretive media will be designed to be compatible with the historic scene (for example, audio stations are not appropriate). Interpretive planners will review the existing wayside exhibits along Bathhouse Row and the Grand Promenade to determine whether they will be retained, replaced, or removed. In addition to ensuring the preservation of the structures, adaptive uses of the vacant bathhouses will help restore the historical levels of activity along the row, and other activities and services for visitors may be provided.

The existing display springs and fountains will be maintained, and others will be reopened. This will help provide informal opportunities for visitors to experience the hot springs at no charge.

From Bathhouse Row, visitors may hike or drive to the Hot Springs Mountain observation tower. Wayside exhibits at the tower will orient visitors to the view and briefly explain the hot springs' recharge area. Text and graphics for these exhibits will be developed by the National Park Service, and their production will be funded either by the tower concessioner or the National Park Service. Visitors should know that the springs are fed by rainwater moving down from the surface and that a very large area is required to keep the springs supplied. Consequently, incompatible development should be kept out of the area to protect the recharge process. Visitors might also be encouraged to drive or hike to some of the park's other mountain areas.

USE OF THERMAL WATERS

Traditional bathing services associated with Hot Springs are still deemed a "necessary and appropriate" public use and will continue to be provided under concession contracts. The Buckstaff Bathhouse will remain open under concession contract to offer the traditional, therapeutic bathing regimen. The Libbey Memorial Physical Medicine Center/Hot Springs Health Spa provides specialized bathing services; it will be retained as a concession operation to maintain the range of traditional uses of the thermal waters.

The sale of thermal water to bathhouses outside the park is conducted and regulated under separate legislative authorities and will be continued. Sale of thermal water for use in concession-operated or adaptively used bathhouses within the park will also be conducted and regulated under these authorities. The National Park Service will encourage research on the therapeutic value of the thermal waters by qualified medical and scientific institutions and organizations and will support such research by accepting and maintaining relevant case histories, clinical information, or other research data in the park's museum collections.

RECREATION FACILITIES

The six parking turnouts along paved motor roads on West, Hot Springs, and North mountains will be managed as scenic overlooks. Management practices for overlooks will include prescribed burning, selective thinning, or other techniques to maintain vistas. Some wayside exhibits may be used to interpret special features that can be seen from the overlooks. These would serve only an incidental function in the overall interpretive program and would be proposed in the new interpretive prospectus, if appropriate. The picnic area atop Hot Springs Mountain will be rehabilitated by restoring picnic sites and constructing gravel pads and walkways.

On West Mountain the parking turnout 0.7 mile from the summit will be retained as a scenic overlook. The stone masonry comfort station is not needed and will be removed to stop an incompatible use and to reduce vandalism and maintenance costs.

The existing Gulpha Gorge campground is in the floodplain of Gulpha Creek. Some campsites and the picnic area at the lower end of the campground have occasionally been flooded. To improve visitor safety, campsites in the floodway will be removed, a warning system will be developed, and an evacuation plan will be prepared. A stepping-stone crossing of the stream will be provided to connect the campground with the trails to Hot Springs and North mountains. A group shelter will be constructed in the picnic area. The existing ranger residence will be converted to temporary housing for employees. The exhibit/campground registration building is in poor condition and will be repaired and used as an unstaffed wayside information shelter.

Recreational activities at Gulpha Gorge will be complemented by improving the existing trail to the prehistoric and historic novaculite quarries. The 0.3-mile trail will be realigned, and in places new sections will be constructed. An interpretive guidebooklet will be written to tell the story of novaculite quarrying and will offer some basic information about the native Americans who used the area.

Trails currently traverse all but a portion of the park's perimeter. A 3.5-mile section of trail from Blowout Mountain to Gulpha Gorge will be constructed to complete the system of perimeter trails.

Two trailhead parking areas will be provided for the Sunset trail, one along Mt. Ida Street on Sugarloaf Mountain and the other along Blacksnake Road. Short loop trails will be developed from the Blacksnake trailhead by using portions of the Sunset Trail. The loop trails to be constructed on the west slope of Music Mountain will be designed to accommodate a trail, constructed by volunteers, that would connect to the Garland County Community College and the Mid-America Park outside the park boundary. The connection between Bathhouse Row and the West Mountain trails will be upgraded and more clearly marked. A good trail map or trail guidebooklet will be produced to help visitors take advantage of hiking opportunities in the mountain lands area. Trailheads will be

signed, and in higher use areas such as Hot Springs Mountain, trail signs will be modified to include destinations as well as trail names.

Whittington Park, although not located near Bathhouse Row, was historically related to resort activities. People touring the mountain lands will continue to visit the park. A wayside exhibit will identify this area as part of the national park, and it will explain its role in the traditional spa resort. Historical photos may be available for use on the wayside exhibit. The fitness trail will be maintained.

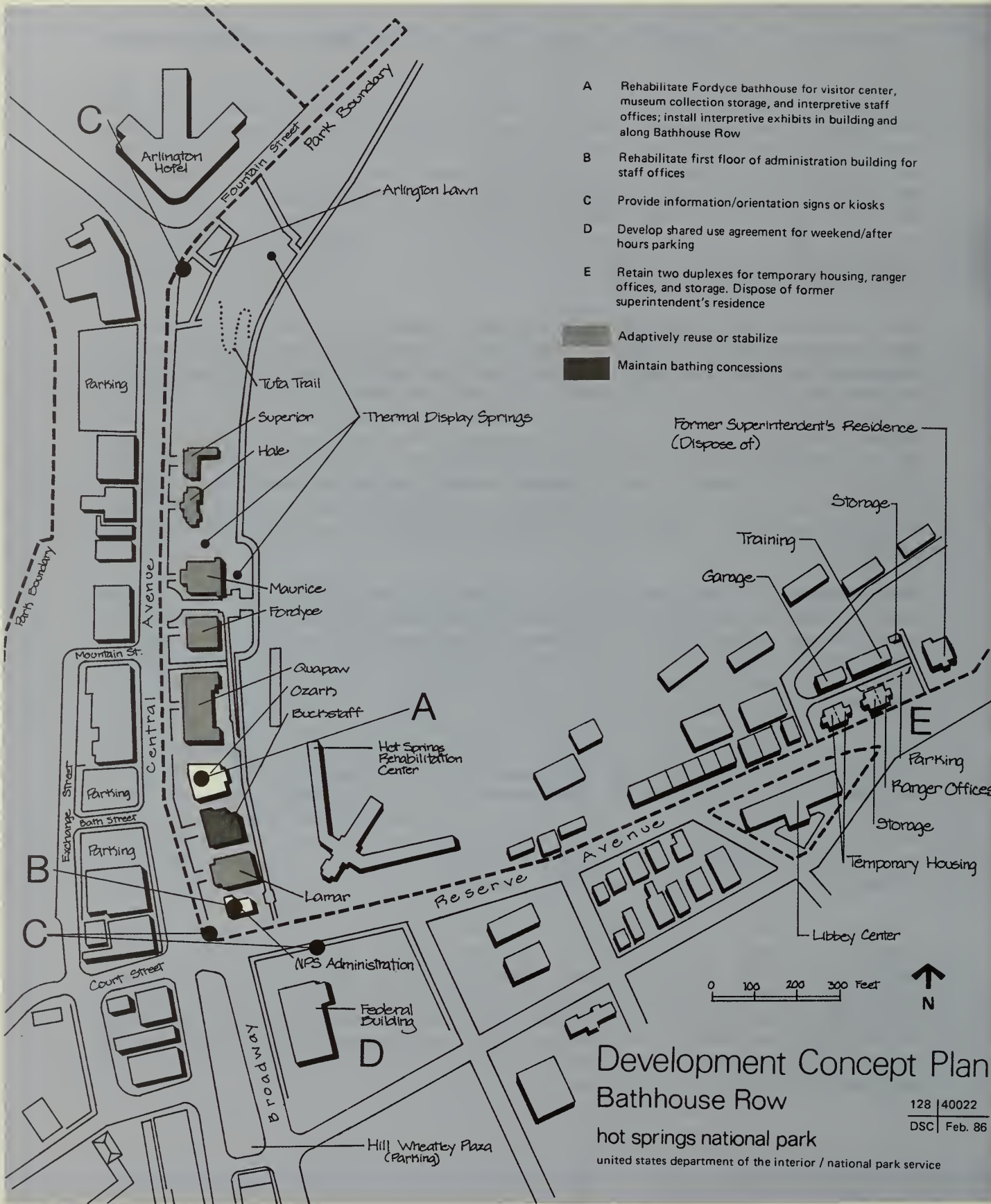
HANDICAPPED VISITOR ACCESS

Many elderly and disabled visitors have traditionally come to Hot Springs, and consequently many of the park facilities were designed to accommodate the handicapped, even before federal laws and regulations focused attention on this issue. All new or rehabilitated park facilities for visitor use or park administration (including the Fordyce visitor center) and all park interpretive programs (including all wayside exhibits in the Bathhouse Row area) will be accessible to the mobility impaired. All major interpretive media developments should be usable by visitors with sensory handicaps. In addition, the specific measures listed below will be completed to improve handicap access to existing facilities and programs.

Handicapped parking spaces will be designated in the existing visitor center parking lot behind the administration building, and a directional sign will be installed on the street. The threshold at the back door of the present visitor center will be modified so that wheelchairs can be used, and a self-opening door will be installed. A printed or photocopied text of the present audiovisual program will also be provided.

The boulevard cut in front of the Ozark Bathhouse will be designated as temporary parking space for handicapped visitors touring Bathhouse Row, and appropriate signing will be installed. A light-weight portable ramp will be constructed for use at the Fordyce Bathhouse pending the building's rehabilitation. A cold water drinking fountain will be provided on Bathhouse Row for handicapped visitors, and an ongoing project to provide handrails on steps will be completed.

Handicap stalls will be provided in comfort stations at the Gulpha Gorge campground and picnic area, at the Hot Springs Mountain picnic area, and along the Grand Promenade. Metal signs showing access symbols for handicapped visitors will be installed on all accessible comfort stations. Until rehabilitation of the Fordyce has been completed, signs indicating the location of handicap accessible comfort stations will be installed on the doors of the present visitor center restrooms, which are not designed for use by handicapped individuals.



Development Concept Plan
 Bathhouse Row
 hot springs national park
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MOUNTAIN LANDS

- F Remove West Mountain restroom
- G Obliterate North Mountain road
- H Provide orientation exhibits in the Hot Springs Mountain tower; rehabilitate picnic area
- I Develop warning system and evacuation plan for Gulpha Gorge campground, remove campsites in floodway, remodel ranger office/exhibit building as an unstaffed information shelter, construct stepping-stone stream crossing; retain present ranger residence for temporary housing
- J Upgrade Indian Mountain trail; provide self-guided interpretation
- K Eliminate ranger residences (2)
- L Complete park perimeter trail
- M Remove Sleepy Valley structures and road; revegetate and restore site
- N Provide trailhead parking on Sugarloaf Mountain
- O Upgrade trail connection to West Mountain
- P Provide wayside exhibit at Whittington Park
- Q Provide trailhead parking at Blacksnake summit and loop trails on Music Mountain; allow for construction by volunteers of connecting trail to Mid-America Park outside of boundary
- R Modify Ricks Pond dam; lower pond



- Existing park area
- Proposed park boundary
- Park road
- Park trail
- Arch culvert
- Scenic overlook
- Picnic area
- Proposed trail

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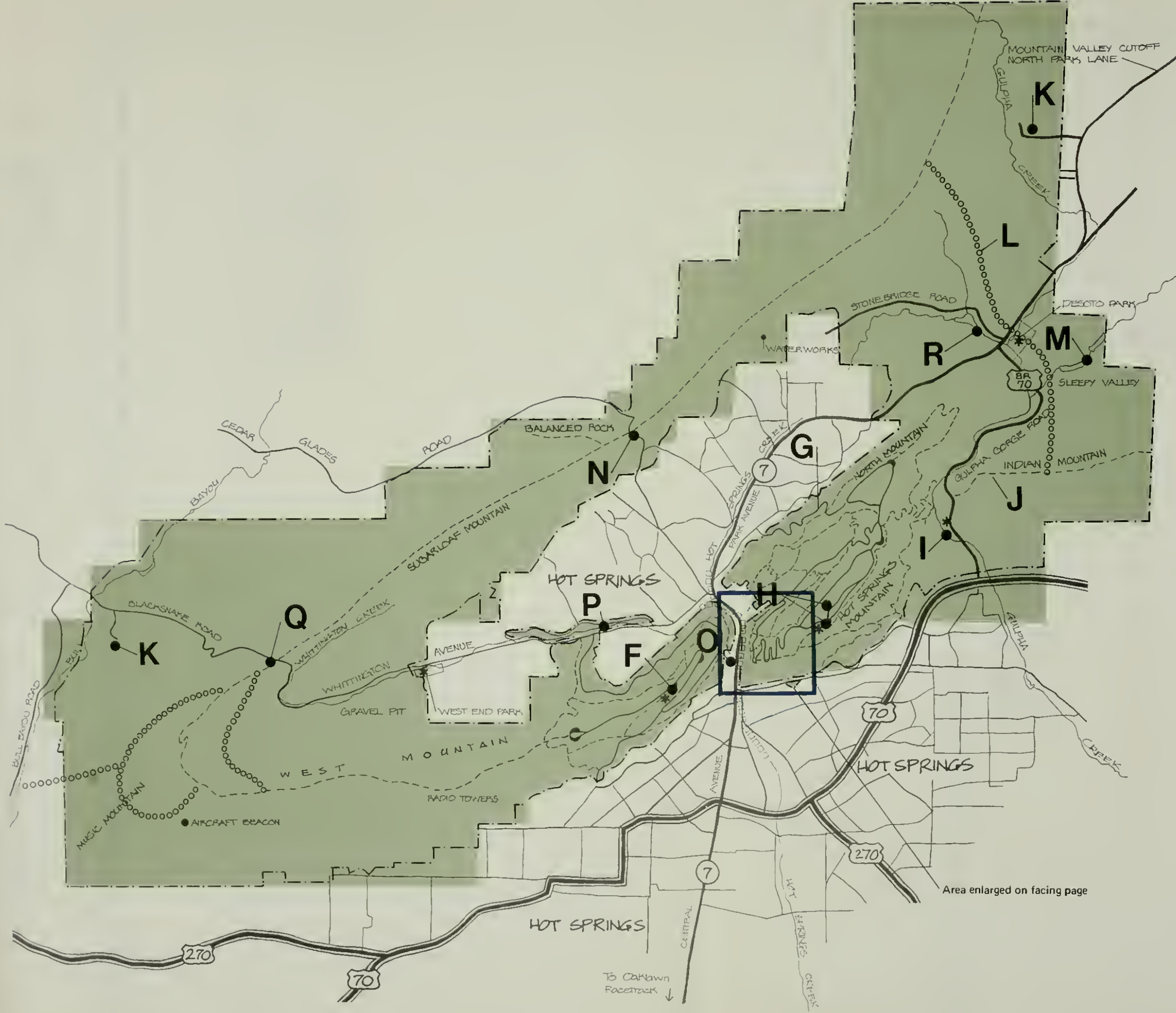


Development Concept Plan

hot springs national park

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0 1/2 1mile



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Development Concept Plan

hot springs national park

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PARK MANAGEMENT AND OPERATIONS

ADMINISTRATION

The implementation of the plan is not expected to require any substantial increases in permanent park staffing or annual operating costs. The operation of the rehabilitated Fordyce Bathhouse as an interpretive facility will require two additional, permanent interpretive employees. The interpretive emphasis on the history of thermal water use and spa development at Hot Springs, as well as the preservation of historic resources, will require staff expertise in historical research, curatorship of park collections, and cultural resource management.

The maintenance of the Fordyce Bathhouse, as well as improved maintenance of the Bathhouse Row landscape and other recreation facilities, will require additional staff time and maintenance funds. The rehabilitation of some facilities (such as park roads) and the elimination of other facilities will result in minor decreases in associated maintenance activities. If all of the vacant bathhouses are adaptively used by the private sector, park responsibilities for building maintenance will be proportionately reduced, and leasing revenues may be used to fund some other preservation maintenance activities. The net result will be a minor increase in maintenance duties due to additional visitor use of the rehabilitated bathhouses, and one additional maintenance employee will be required. However, if the adaptive use program is not successful, stabilization of the vacant bathhouses will require additional capital expenditures and increased operation and maintenance expenses, including staffing costs.

An adaptive use specialist will be added to the park staff as soon as possible to help administer the adaptive use program and to oversee the rehabilitation of the bathhouses. This need will be temporary, and salary costs should be paid from some combination of special project funding and the park operations budget.

FACILITIES

After the rehabilitation of the Fordyce Bathhouse has been completed, the present visitor center on the first floor of the NPS administration building will be rehabilitated for use as park office space. Offices for the maintenance and ranger staffs will remain in their current locations.

The former superintendent's residence, which will no longer be needed for collections storage, will be declared excess to park needs and conveyed to the General Services Administration for transfer to other public agencies or for sale to private parties as surplus federal property. Before conveyance, the property will be evaluated for National Register eligibility. If the property is determined to be eligible, preservation restrictions will be developed in consultation with the Arkansas state historic preservation officer and included in the deed prior to conveyance.

to the General Services Administration. If the property is subsequently returned to the National Park Service, additional management actions will be taken only after further consultation with the state historic preservation officer and the Advisory Council on Historic Preservation.

Permanent housing for park employees will be eliminated. All existing housing units were reviewed with regard to park operation needs, and none could be justified; comparable permanent housing is readily available in the immediate area. The two employee residences that were retained for law enforcement purposes near the Mountain Valley cutoff and along Blacksnake Road will be removed because there have been so few incidents requiring a response by NPS employees. The employee residence in the Gulpha Gorge campground will be converted to temporary housing for employees. Two employee housing units in a duplex on Reserve Avenue will also be converted to temporary housing. The training/conference room behind the ranger offices on Reserve Avenue will be retained, as will the existing equipment storage.

The park's thermal water system will be rehabilitated by replacing distribution lines, installing more efficient water pumps and an automated control system, and providing more efficient heat exchangers for the cooling system. Due to changes in use patterns and demand for thermal water, the storage capacity for future use may not be sufficient. Also adaptive uses of the bathhouses could result in additional demands. Another 1-million-gallon storage reservoir may be required, at an estimated cost of \$2.9 million. The need for additional storage capacity will be studied, and if needed, ways to provide it will be recommended.

Repairs to the Hot Springs Creek arch culvert, which were recommended by the Army Corps of Engineers in spring 1984, will be completed as soon as possible, and a regular inspection and maintenance program will be initiated. The Historic American Engineering Record will be consulted with regard to possible documentation and recording of the structure, preferably before repairs are undertaken.

ROADS

The road network within Hot Springs National Park includes a variety of routes, ranging from unmaintained truck trails to major highways. Traditionally park roads were primarily scenic mountain drives, and short driveways and trails provided access to park facilities. As more mountain lands were added to the park, numerous other trails, driveways, streets, and major roads were either acquired or surrounded by park lands. These routes serve various purposes, including limited access to private property or public facilities, minor rural collectors and urban arterials, and major urban thoroughfares and highways.

The road system evaluation (see appendix C) defines the park road system and will ensure that the roads are efficiently and properly maintained in a manner consistent with resource values. Only those routes necessary for visitor use or park management, for continued

access to private or public properties, or for community transportation needs that cannot be provided outside the park will continue to be maintained. Public transportation to park facilities, such as the observation tower, will be provided with shuttle buses or other vehicular systems on park roads when warranted by increased visitor use.

The high accident rate and the uncertainties regarding ownership and jurisdiction of Blacksnake Road deserve special mention. Title to Blacksnake Road probably rests with Garland County and the city of Hot Springs. Park use of the road is minimal, and the National Park Service lacks clear legal authority to enforce closures or to complete safety improvements. Consequently, the park will recognize local government ownership and jurisdiction of Blacksnake Road, cease all safety closure actions, and conduct only those law enforcement activities provided in agreements with the city and county.

FEES AND THERMAL WATER USE RATES

Priorities for use of thermal water within the park are established by legislation. Based on additional statutory authorities to regulate thermal water use, the following priorities will be used to allocate water:

1. concession-operated bathhouses within the park
2. adaptive uses in bathhouses within the park where users come in contact with thermal water
3. bathhouses outside the park where the water is used for bathing purposes
4. use of water for geothermal heating or other purposes within or outside the park

No rate changes will be made pending the completion of a study of the park's thermal water system, including storage needs, efficiency, economics, and other factors related to optimum utilization and conservation of the thermal waters. Any subsequent change in the rate structure will not increase the rates charged for thermal water used in traditional therapeutic bathing. Any proposed changes will be based on statutory priorities for the use of thermal water, and they may include higher rates for nontraditional, lower priority, or high-volume uses to ensure the availability of thermal water for higher priority uses and to help offset NPS costs to operate the system. Any proposed changes will be published and made available for public review before they are adopted.

An entrance fee will not be established for the park. Because the park is in an urban area and has a complex boundary intersected by numerous streets, it is not feasible to try to collect fees to help defray operating costs.

PLAN IMPLEMENTATION

PHASING

The first actions to be taken in implementing this plan will include the following:

- completing the interpretive prospectus, the Fordyce historic furnishings plan, the special history study of Bathhouse Row, the thermal water system study, and the landscape management plan for Bathhouse Row

- rehabilitating the Fordyce Bathhouse as the park's visitor center and primary interpretive facility, including the installation of interpretive media and historic furnishings

- completing the adaptive use program for five vacant bathhouses (Superior, Hale, Maurice, Quapaw, and Ozark) and initiating the adaptive use program for the Lamar Bathhouse

- installing orientation signs and kiosks at both ends of Bathhouse Row

- rehabilitating the Hot Springs Mountain picnic area and the park roads on Hot Springs, North, and West mountains; and obliterating the old North Mountain road

- modifying existing facilities and installing signs for handicapped visitor access

- altering the Ricks Pond dam and repairing the Hot Springs Creek arch culvert

The second phase will include the following actions:

- overseeing rehabilitation of the five vacant bathhouses for private adaptive use, or stabilizing them

- completing the adaptive use program for the Lamar Bathhouse

- rehabilitating the first floor of the NPS administration building as office space

- installing interpretive wayside exhibits along Bathhouse Row, at Whittington Park, and at the Hot Springs Mountain observation tower

- completing the park's administrative history, the historical base map, and research on the thermal springs

negotiating an agreement with Garland County for the protection of the springs recharge area and an agreement with the General Services Administration for shared use of the federal building parking lot

installing directional signs along approaches to the park

removing Gulpha Gorge campsites and developing a flood-warning system

converting the permanent employee residence at Gulpha Gorge to temporary housing and the exhibit/registration building to an unstaffed information shelter, and constructing a group picnic shelter

removing the West Mountain comfort station

removing employee housing in the mountain lands area and converting permanent housing for employees in the duplexes on Reserve Avenue to temporary housing and storage

constructing a thermal water storage reservoir, if needed

The third phase of plan implementation will include the following actions:

overseeing rehabilitation of the Lamar Bathhouse for private adaptive use, or stabilizing it

purchasing, stabilizing, and repairing the Buckstaff Bathhouse, if necessary, so that it can be reoffered as a traditional concession operation

upgrading the Indian Mountain quarry trail and developing a guidebooklet

completing the park perimeter trail

constructing trailhead parking on Sugarloaf Mountain, loop trails on Music Mountain, and a trailhead along Blacksnake Road

disposing of the former superintendent's residence

restoring disturbed sites and possibly constructing retention ponds

COSTS

Major research, planning, and development costs associated with the implementation of this plan are shown in table 1. The other actions listed above that are not included in the table will be completed by the regional office or park staff, using operations funding.

Table 1: Development Cost Estimates

<u>Phase 1</u>	<u>Cost</u>
Rehabilitation of Fordyce Bathhouse as visitor center/interpretive facility	\$5,445,800*
Development, construction, and installation of 2 orientation signs at each end of Bathhouse Row, plus kiosk, interpretive media, and historic furnishings (includes planning, production and installation of media for the Fordyce visitor center; acquisition, restoration, and installation of furnishings)	630,000*
Rehabilitation of Hot Springs Mountain picnic area (site restoration, gravel pads, and walkways)	7,300
Rehabilitation of roads on Hot Springs, North, and West mountains (including obliteration of old North Mountain road)	1,533,000
Modification of existing facilities and installation of signs for handicapped visitor access	57,000
Alteration of Ricks Pond dam	21,900
Documentation and limited repairs to Hot Springs Creek arch culvert (photographs, repointing, pressure grouting)	<u>73,000</u>
Construction Subtotal	\$7,768,000
Associated tasks and studies:	
Administration of bathhouse adaptive use program	\$ 100,000
Interpretive prospectus	20,000
Fordyce historic furnishings plan	15,000
Special history study of Bathhouse Row	25,000
Thermal water system study	40,000
Landscape management plan for Bathhouse Row	<u>20,000</u>
Studies Subtotal	\$ 220,000
Total -- Phase 1	\$7,988,000
 <u>Phase 2</u>	
Rehabilitation of administration building for office space	\$ 117,000
Planning, production, and installation of Bathhouse Row waysides, Whittington Park wayside, and possibly Hot Springs Mountain observation tower waysides	140,000*
Installation of directional signing (5 highway signs, 15 small directional signs)	11,700
Removal of campsites in floodway at Gulpha Gorge campground and installation of flood-warning system	24,800
Conversion of Gulpha Gorge employee residence to temporary housing and of campground registration/exhibit building to an unstaffed information station	21,900*
Construction of group picnic shelter at campground	29,200
Documentation and removal of West Mountain comfort station (photographs, demolition, site restoration)	17,500
Removal of 2 employee residences in mountain lands area (demolition and site restoration)	29,200
Conversion of 3 duplex units for temporary housing and storage	<u>\$ 38,400</u>
Construction Subtotal	\$ 429,700

<u>Phase 2 (cont.)</u>	<u>Cost</u>
Associated studies:	
Administrative history	45,000
Historical base map	25,000
Thermal springs research	<u>150,000</u>
Studies Subtotal	\$ 220,000
Total -- Phase 2	\$ 649,700
 <u>Phase 3</u>	
Upgrading of the Indian Mountain quarry trail (2 miles)	14,600*
Completion of park perimeter trail (3 miles new trail construction, 4 miles maintenance clearing)	73,000
Construction of trailheads at Music and Sugarloaf mountains (gravel parking for 10 cars at each site, wheelstop barriers, 3 signs per site)	14,600
Construction of Music Mountain loop trails (5 miles)	<u>73,000</u>
Total -- Phase 3	\$ 175,200
Construction Total (all phases)	\$8,372,900
Associated Studies Total (all phases)	<u>440,000</u>
Grand Total	\$8,812,900
 <u>Possible Additional Costs</u>	
Construction of thermal water storage reservoir (1 million gallons)	\$2,920,000**
Stabilization of vacant bathhouses (securing of exterior openings and interior moisture sources, and installation of mechanical equipment and electrical service for dehumidification, air circulation, and heating)	1,740,300
Purchase, stabilization, and repair of Buckstaff Bathhouse	<u>300,000***</u>
Total	\$4,960,300

Note: All estimates are gross costs, including project planning, project supervision, and administrative contingencies.

* Estimates may require revision upon completion of the interpretive prospectus and the Fordyce historic structure report.

** Estimate may require revision upon completion of thermal water system study.

*** Estimate may require revision based on value of concessioner's possessory interest and condition of building at time of purchase.

COMPLIANCE CONSIDERATIONS

National Environmental Policy Act (NEPA)

In compliance with NEPA, a draft General Management Plan / Development Concept Plan / Environmental Assessment, was prepared and released for public review in June 1985. Following public review the plan described in this document was adopted, and a "Finding of No Significant Impact" was published in July 1985.

Floodplains and Wetlands

Executive Orders 11988 (Floodplain Management) and 11990 (Protection of Wetlands) direct federal agencies to avoid development in floodplains and wetlands whenever there is a practicable alternative. Additionally, NPS floodplain guidelines further define requirements regarding the protection of human lives and property, as well as the protection of natural environments within floodplains and wetlands. No development sites at Hot Springs are within wetlands. New development will not occur within the 100-year floodplain, but rehabilitation of existing facilities and structures will occur at the two sites described below. Design of these facilities will incorporate methods for protecting human lives and minimizing flood damage as contained in the Federal Emergency Management Agency's "Flood Plain Management Criteria for Flood-Prone Areas" (44 CFR 60.3).

The Gulpha Gorge campground is located partially within the 100-year floodplain of Gulpha Creek. Several different alternatives for minimizing or avoiding flood damage to this area have been considered, including complete removal of the facilities, upstream flood retention coupled with a warning system and evacuation plan, conversion of the facility to a day area, and construction of a levee/retaining wall and removal of campsites in the floodway. A warning system and evacuation plan will be developed to protect visitors. The Ricks Pond dam will also be lowered, and the pond will be reduced in size. Up to five campsites within the 100-year floodplain may also be removed.

The Bathhouse Row area--including the eight bathhouses, NPS administration building, and much of downtown Hot Springs--is also located within the 100-year floodplain of Hot Springs Creek. Historic structures located within the historic district will be rehabilitated, as required by various legislative mandates. Options for conducting activities related to these historic structures outside the 100-year floodplain are nonexistent. A 100-year flood in this area would inundate basements and raise water levels 5 to 6 feet above ground level. All the present structures have been flooded in the past, and all rehabilitation along Bathhouse Row will incorporate flood-proofing methods to the extent practicable. The National Park Service will cooperate with the city of Hot Springs and other agencies to control flooding in the Hot Springs Creek drainage and to provide an effective warning and evacuation system.

Cultural Resources

In accordance with the programmatic memorandum of agreement between the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, the National Park Service has actively sought the participation of the Advisory Council and the Arkansas state historic preservation officer in preparing this plan. The concerns of both the Advisory Council and the state historic preservation officer focused on two major issues: 1) criteria to be used in guiding adaptive use of bathhouses by lessees to ensure that significant historic features are preserved and protected, and 2) management strategies for properties outside Bathhouse Row that may be eligible for listing on the National Register of Historic Places. In response to the first concern, the National Park Service has provided the Advisory Council and the state historic preservation officer with supplemental information that details the evaluation criteria and preservation standards to be used in reviewing proposals for adaptive use. Historic property lease(s) will also be submitted for review and comment prior to execution. In response to the second concern, the National Park Service will evaluate all properties outside Bathhouse Row that are more than 50 years old for their eligibility for the National Register of Historic Places. Management actions that affect those properties determined eligible for listing on the National Register will be subject to compliance with applicable NPS guidelines and, unless specified in this plan, will be taken only after consultation with the state historic preservation officer and the Advisory Council.

Threatened or Endangered Species

In accordance with the Endangered Species Act of 1973, the U.S. Fish and Wildlife Service was informally consulted about potential endangered or threatened species in the park. They advised that four endangered species could potentially occur in Garland County. The species are the red-cockaded woodpecker (Picoides borealis), the American alligator (Alligator mississippiensis), the Indiana bat (Myotis sodalis), and the bald eagle (Haliaeetus leucocephalus). There are no records of these species having been sighted in the park, and no designated critical habitat for these species exists in the area.

Due to the presence of intensive urban development and the lack of suitable bodies of water, there is no habitat for the American alligator or the bald eagle in the park. There are no known limestone caves in the park that would provide wintering habitat for the Indiana bat, and potential riparian feeding areas are generally subject to intensive human activity. There is one 150-acre shortleaf pine stand in the park where trees of sufficient size could grow to provide potential nesting habitat for the red-cockaded woodpecker, but the understory is dense and the area is isolated from other stands. In any case, the actions outlined in this plan will not affect potential riparian feeding habitat for the bat or nesting habitat for the woodpecker. The National Park Service concludes, therefore, that implementation of this plan will have no effect on federally protected species or critical habitat.

Prime Agricultural Lands

The state soil scientist of the U.S. Soil Conservation Service was consulted and advised that a total of 9 acres of soil units classified as prime farmland occur in Hot Springs National Park in scattered locations along stream terraces. Continued commitment of these soil units to park uses will have no effect on regional agricultural production.



Description of the Park



REGIONAL SETTING

Hot Springs National Park is in west central Arkansas at the southeastern edge of the Ouachita Mountains, approximately 50 miles west and south of Little Rock. The climate of the area is mild. Winter and summer are relatively short, while fall and spring are long and pleasant. Vegetation in the region is within a transition zone of pine/oak forests, between the upland hardwood forests characteristic of the Ozark Plateau to the north and west, and the southern shortleaf pine associations of the Gulf Coastal Plain to the south.

The park is intermingled with the city of Hot Springs, which has a population of about 35,000 and is the fifth largest city in Arkansas; Garland County's population is about 70,000. Both the city and the county have an unusually high population of senior citizens, about double the national average. This indicates the continued popularity of the region as a retirement area due to the mild climate, relatively low cost of living, and abundant recreational opportunities.

The Hot Springs region has historically relied on tourism as its major industry, and Garland County continues to rank as one of the three most popular destination counties for tourists in Arkansas. The region has diversified its economic base in recent years to include light industry and timber harvesting, but tourism remains a major industry. Today the region's outdoor recreational attractions have become more significant than the hot springs themselves, and the focus of interest has shifted from a health spa to a family resort center.

Major outdoor recreational attractions are numerous throughout the Ozark Plateau region. The Ouachita National Forest includes 1.5 million acres of mountains, ridges, small lakes, and streams that appeal to outdoor-oriented families, campers, picnickers, hikers, fishermen, hunters, and others. Four large water impoundments--Lake Ouachita, Lake Hamilton, Lake Catherine, and DeGray Lake--offer extensive recreational opportunities at facilities managed by the U.S. Army Corps of Engineers and at three state parks. Activities include boating, fishing, swimming, camping, hiking, horseback riding, and picnicking.

Community expansion has reflected the popularity of nearby lakes, and over the past two decades development trends have been to the south, southeast, and southwest away from Hot Springs. Other than the lakes and the park, the major visitor attractions in the immediate Hot Springs area are the Mid-America Museum, a wax museum, Magic Springs amusement park, and Oaklawn Race Track. In addition, the Hot Springs area boasts six golf courses, and a convention center is actively promoted by the city and local business interests. The fact that Hot Springs is within 350 miles of regional urban centers such as Little Rock, New Orleans, Dallas/Ft. Worth, Oklahoma City, Tulsa, Wichita, Kansas City, St. Louis, and Memphis contributes to its status as a regional recreation center.

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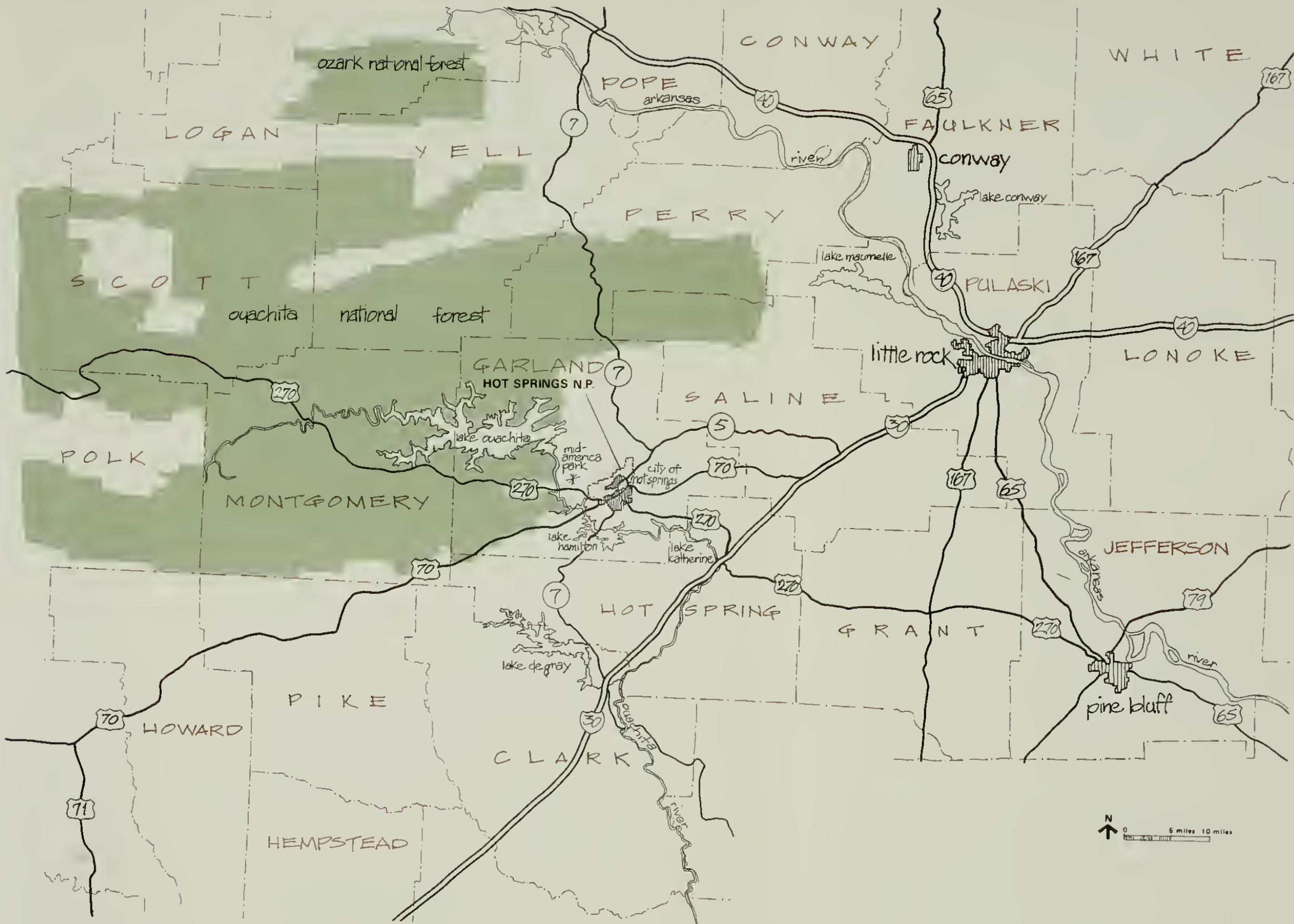
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Location

hot springs national park
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NATURAL RESOURCES

The Ozark Plateau, of which the Ouachita Mountains are a southern extension, forms the only major topographic relief for a vast area of the midwestern and south-central United States. The topography was formed in late Paleozoic times by tremendous geological forces that acted to uplift, fold, fault, fracture, and harden inland seabed sediments. Subsequent erosion has led to the formation of the present ridge and valley landscape. The narrow steep ridges of the Zigzag Mountains, the subrange that dominates the park, are capped with novaculite rock outcrops. These outcrops are unique to the Ouachita Mountains, and the finely grained structure of the novaculite is known for its superior quality as a natural whetstone.

The presence of the hot springs is a result of the unique geology of the area in combination with the present topography. The water is geothermally heated at an unusually shallow depth of several thousand feet. The water then rises through faults in the Hot Springs sandstone formation^o to emerge from the thermal springs. Through radiocarbon dating, this process has been determined to take over 4,000 years. In relation to the springs' function, park lands are viewed as two interrelated units--the discharge zone and the recharge zone.

The discharge zone is a narrow strip about $\frac{1}{4}$ mile long at the foot of Hot Springs Mountain where the thermal water emerges from fractures in the underlying sandstone formation. This area has been the focus of man's use and intensive development over the years and is now the site of Bathhouse Row and downtown Hot Springs. The springs themselves are largely concealed from visitors today except for three display springs along the row. The rest of the springs were capped long ago to prevent contamination, and the springwater is diverted into the park's extensive thermal water distribution system.

The recharge zone includes the highly permeable Bigfork chert formation and the Arkansas novaculite formation. The largest outcrops of these formations generally occur on the mountain sideslopes and narrow ridges above 700 feet in elevation. When plotted on a map, they form long ellipses around the valleys drained by Hot Springs and Gulpha creeks in the park, and they extend well beyond the park boundary to the north and east into the upper basin of the South Fork Saline River (see Natural Resources map). Scientific studies indicate that perhaps 50 to 75 percent of the recharge zone is within the present park boundary and encompasses much of the mountain lands area of the park. However, it appears possible that the hydrologic system could be disrupted by wells within any portion of the system.

The effects on the hot springs as a result of urban development within the Hot Springs Creek valley have not been fully quantified because data about past flows from the springs is lacking. About 80 percent of the remaining land in the basins of Hot Springs and Gulpha creeks is hilly and unsuitable for construction, limiting some of the potential for

development that would affect the recharge zone. NPS land acquisitions have reversed or prevented most incompatible development within the park boundary. Outside the park boundary to the northeast, the more gentle topography of the upper basins of Gulpha Creek and the South Fork Saline River poses fewer natural restrictions to development. This area has had minimal development so far because of its relative isolation and the general growth trend to the south.

The most common topographic features of the park are rocky mountain slopes and creek valleys. These areas support mixed stands of oak and hickory interspersed with shortleaf pine on the more exposed slopes and ridgetops. The forest understory contains flowering shrubs, a wide variety of wildflowers, a rare local chinquapin species (Castanea ozarkensis), and occasionally the rare Graves spleenwort (Asplenium gravesei).

Although most of the park supports dense forest cover, it is unlikely that there is any virgin timber in the park, with the possible exception of a 150-acre stand of shortleaf pine (Pinus echinata) on the north slope of Sugarloaf Mountain. Reputedly this is the state's finest stand of shortleaf pine, and it is registered with the Arkansas Natural Heritage Program. Even though the original 911 acres of the reservation have been under federal control since 1832, prohibitions on timber cutting were not implemented until the area came under the jurisdiction of the National Park Service in 1916. Nearly all of the lands acquired since 1972 have either been farmed, mined for gravel, logged for pulpwood, or cleared for homesites; some areas are in need of restoration or revegetation.

Wildlife within the park is typical of the region, consisting mostly of rodents, bats, and other small mammals. Because of the region's mild climate, bird species are varied and plentiful. Aquatic resources are limited to portions of several small creeks and are void of significant game fish. No endangered or threatened animal species are known to live in the park.

Several formally landscaped areas, with a mixture of native and exotic species, are located along Central, Whittington, and Reserve avenues and also along Stonebridge Road. Some areas appear to be relatively natural, but most, such as Whittington Park, the Libbey Center grounds, and the NPS facilities along Reserve Avenue, are comprised of lawns planted with native and exotic trees and some shrubbery. The most conspicuous landscape planting in the park is the stately succession of southern magnolia trees lining the east side of Central Avenue along the front of Bathhouse Row.

The long history of ground disturbance related to the construction of bathhouses and other facilities, combined with the extensive use of exotic plant materials in formal landscape developments along Bathhouse Row, has produced diverse vegetative communities bearing little resemblance to the native vegetation. A rare blue-green alga (Phormidium treleasei) grows in the hot water display springs and fountains along the row; the only other known location of this species in North America is in springs at Banff, Alberta, Canada.



Thermal water discharge zone



Thermal water recharge zone



Rivers and streams



Areas of 100-year flood (graphic symbol does not define limits of flooding but shows areas affected by a 100-year flood; for a more detailed representation of zones refer to original flood insurance rate maps)



Existing park boundary

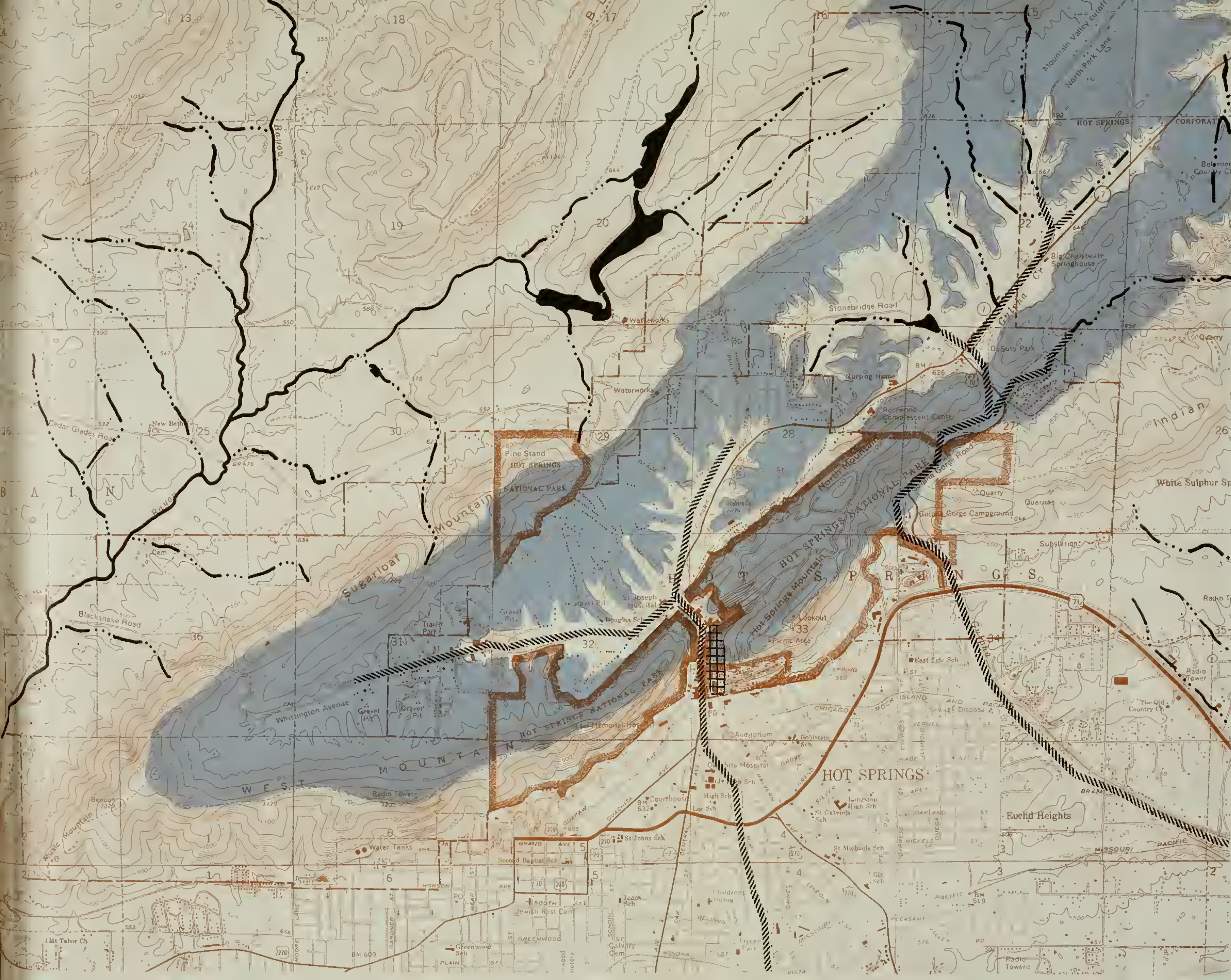


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Natural Resources

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- Thermal water discharge zone
- Thermal water recharge zone
- Rivers and streams
- Areas of 100-year flood (graphic symbol does not define limits of flooding but shows areas affected by a 100-year flood; for a more detailed representation of zones refer to original flood insurance rate maps)
- Existing park boundary



Natural Resources
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HISTORY OF THE HOT SPRINGS AND THEIR USE

Various native American groups inhabited the region for thousands of years before Europeans arrived, as indicated by archeological resources. Most of the tribes that used the area just before Europeans arrived were migrants or temporary residents and included the Tunicas, the Quapaws, and several groups of Cherokee. All were gradually pushed westward after the arrival of Europeans.

The only known archeological sites within the park are the prehistoric novaculite quarries in the mountain lands area. The quarries are small, with the largest measuring 150 feet across and 25 feet deep. Indians extracted stone to make arrowheads, spearheads, and other tools and implements. Many of these quarries were worked later by European settlers who used novaculite as whetstones; several quarries have been operated commercially. Other types of archeological sites have been reported in areas near the park, and there is a high potential for site occurrence along major streams, atop ridges, and in the vicinity of the novaculite outcrops. Prehistoric artifacts were found near the hot springs before the extensive construction in the area was begun.

SPA DEVELOPMENT AND ADMINISTRATION

Traditionally, the Spanish explorer Hernando de Soto was the first European to set foot in the area, but the historical evidence is meager. Spain and France alternately claimed the territory until 1803 when Napoleon sold it to the United States as part of the Louisiana Purchase. The earliest recorded settlements in what is now the park area were apparently made around 1800. Explorers William Dunbar and George Hunter visited the area in 1804 at the request of President Jefferson. They discovered an open log cabin and a few huts made of split boards that had been built by settlers using the hot springs. Other visitors and settlers soon followed.

By the 1830s, Congress had heard reports of the springs' alleged therapeutic powers and their popularity. Apparently fearing abuse of the springs and seeking some form of control over them, Congress reserved the springs and four sections of surrounding land (a total of 2,529 acres) to the United States in an act of April 20, 1832. However, no specific policies were outlined, nor was an administering agency appointed, so numerous squatter settlements and private claims were made on the lands. The U.S. Supreme Court finally settled the matter in favor of the federal government in 1877.

During the early years of the reservation, crude and relatively simple facilities sprang up wherever springs were located. (Some 47 hot springs gushed from the foot of Hot Springs Mountain and flowed into the waters of Hot Springs Creek.) By 1856 there were seven bathhouses and a resident physician. Some of these structures were built along what is now Bathhouse Row; others were built in the surrounding area. All made

use of the thermal waters that arose on the reservation, and an odd collection of piping, flumes, and tanks was gradually developed to collect, cool, and transport the springwaters to the bathhouses.

In 1877 Congress started to take an active interest in the administration of the reservation. In that year Congress authorized the president to appoint a commission to survey the reservation, recommend boundaries for a permanent reserve, and lay out the remaining land that was suitable for development as a town. Based on the commission's report, Congress set aside 911 acres of the original reservation as a permanent reservation. Another 700 acres were awarded to existing businesses and residents, 348 were set aside for streets and alleys, and 570 were platted for town lots to be sold at public auction, with the proceeds to go for improvements to the reservation.

The reservation was placed under the jurisdiction of a superintendent appointed by the secretary of the interior, and an active interest was taken in overseeing the use of thermal waters and the construction and operation of the bathhouses. In 1882 Congress authorized the construction of a U.S. Army and Navy hospital. Two years later Hot Springs Creek was covered over by a rock masonry arch. The arch is 3,600 feet long, and 20 feet by 20 feet at its largest. Fill was placed along and over the arch, and larger, more sumptuous bathhouses in the Victorian style were constructed along Bathhouse Row between 1890 and 1900. Noted landscape architect Frederick Law Olmsted was consulted with regard to landscape improvements.

Congress had first addressed therapeutic bathing in 1872 by authorizing the granting of leases for existing bathhouses and directing that free baths be provided for "the invalid poor." As improvements to the reservation were made and bathing became regarded as balneotherapy (hot water bathing for medicinal purposes), the federal government assumed greater regulatory control of bathhouse facilities and operations. A medical director was appointed to see that bathhouses complied with the sanitary and health codes in effect. In 1891 Congress granted the secretary of the interior broad powers to regulate the use of thermal water and the services provided by bathhouses as well as to oversee bathhouse leases and facilities.

Shortly after the turn of the century, the Victorian bathhouses on Bathhouse Row began to take on an unsightly appearance. Many had outlived their usefulness, and authorities began to view them as unsanitary fire traps. In 1909 it was decided to require bathhouse lessees to erect new and modern structures as their leases expired. Under this policy between 1911 and 1923 all bathhouses except the Hale were eventually razed, and those that exist today were built in their places. The Hale Bathhouse underwent extensive remodeling during this period, but retained much of its original fabric.

When the National Park Service was created in 1916, the reservation was placed under its jurisdiction, and in 1921 it was redesignated Hot Springs National Park. New comfort stations were constructed on either side of

the Quapaw Bathhouse in the mid 1920s. A new "government free bathhouse" (now the Libbey Memorial Physical Medicine Center) was constructed off the row and opened in 1922; it offered free baths. In 1936 a combined administration/visitor center building was built to replace the old administration building located at the south end of Bathhouse Row.

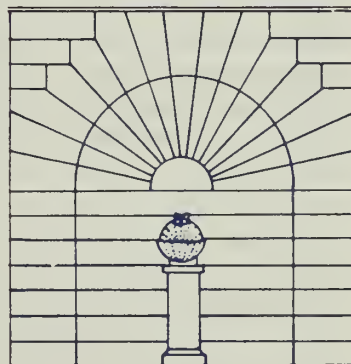
Hot Springs experienced its heyday of fashionability as the preeminent American spa in the late 1920s, 1930s, and early 1940s. The peak of 1,052,000 baths given at Hot Springs, with 649,270 baths given on Bathhouse Row, was reached in 1946, but this figure was largely due to the lifting of wartime travel restrictions and use by World War II veterans who had experienced the thermal water earlier during rest and rehabilitation programs.

With the availability of nonprescription drugs for ailments previously treated with hot water baths, however, Hot Springs began to decline in popularity. The decline claimed its first casualty in 1962 with the closure of the most luxurious bathhouse, the Fordyce. The number of baths given on Bathhouse Row dropped to 205,000 in 1965. By 1984 only two of the eight bathhouses on Bathhouse Row were in operation, with only 44,130 baths being given; and the total number of baths given at Hot Springs had declined to 167,910. In 1985 only one bathhouse remained in operation on Bathhouse Row.

The entire area around Bathhouse Row has also suffered an economic decline over the past two decades. The Central Avenue area has been subject to the same conditions that have affected old central business districts throughout the country--the growth of suburbs, the construction of suburban shopping centers and malls that attract major retail outlets away from downtown areas, and the lack of convenient free parking in the downtown area.

BATHHOUSE ROW

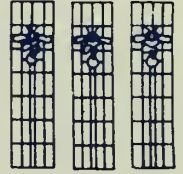
The most significant historic resource of the park is the 6-acre Bathhouse Row historic district, which was entered on the National Register of Historic Places on November 13, 1974. Bathhouse Row consists of eight bathhouses, the NPS administration building, several unobtrusive support facilities, and an extensive formally landscaped setting of lawns, trees, shrubs, fountains, springs, and walks.



Structures



The bathhouses and the administration building dominate the row and reflect a variety of architectural styles, including Spanish Revival, Spanish Renaissance Revival, Italian Renaissance Revival, and Classical Revival. The architecture has an exotic international flavor, reflecting both the eclectic architectural interests of the period and the desire of administrators and local groups to create the premier American spa in the European tradition. Several structures possess exceptional architectural detailing, such as stained glass windows and skylights, stone and wood carvings, decorative tile and woodwork.



The Buckstaff is the only bathhouse still in operation on Bathhouse Row. The remaining seven bathhouses--Superior, Hale, Maurice, Fordyce, Quapaw, Ozark, and Lamar--are now vacant and are being maintained by the National Park Service. For a number of reasons, these structures have not been well maintained, and they are slowly deteriorating. A detailed description of six of the vacant bathhouses (all except the Lamar) can be found in seven technical reports prepared for the Bathhouse Row adaptive use program (NPS 1985a).

Landscape

The setting for the bathhouses is a finished and formal style landscape that has evolved since the late 1800s. Once the federal government began to improve the reservation, the grounds were given considerable attention. During the mid-1890s Capt. Robert R. Stevens of the Army Corps of Engineers developed the first landscape plan for the reservation. Frederick L. Olmsted was consulted by Stevens during the 1890s, and another noted landscape architect, Jens Jensen, was brought to the park in the 1920s. Although the grounds have changed continually, two spatial units defined by Stevens have been consistently used. The first, a lawn park, initially included the lawns in front of the eight bathhouses, but when the Arlington Hotel was relocated to its present site after a fire destroyed the original hotel, the Arlington Lawn area was added. The second unit, the upper front, adjoins the lawn park on the lower portion of Hot Springs Mountain just behind the bathhouses. The upper front (or foreground park) unit provides a transitional space to the wooded mountain slopes that serve as a background to Bathhouse Row. This terraced area extended from Reserve Avenue to Fountain Street and was further described by Stevens as the south, foreground, tufa, and wooded parks.

Today, the lawn park continues to provide the main public area of Bathhouse Row. The level grass lawns are bordered by holly hedges and accented by foundation shrubbery and specimen trees. Arlington Lawn consists of about 4 acres of maintained lawn and shrubs with gravelled paths, benches, and a display spring. The most prominent landscape

feature along Bathhouse Row is the Magnolia Promenade, now known as Magnolia Row. This 14-foot-wide concrete sidewalk is bordered on the west side by stately southern magnolia trees and extends the entire length of Bathhouse Row from Reserve Avenue to Fountain Street.

For the second unit of the formal landscape, the term foreground park has now been adopted to include the entire terraced upper front, traversed by the Grand Promenade. Today, the foreground park encompasses the south, foreground, tufa, and wooded parks. The foreground continues to open from the lawn park by means of vistas and street level entrances. This space was developed by Stevens in the 1890s as an open terrace with drives and walks. Each of the four park areas was designed as a transition to the more wooded slopes above. Various stairways led to walks and drives that traversed the hillside terrace and connected to trails through the mountain woodlands. This space has gradually evolved into a formal pedestrian walkway known as the Grand Promenade, but the connections to mountain trails remain.

These landscape units are linked by three main entrances to the Grand Promenade, which include very distinctive architectural composition and styles. The entrance between the Fordyce and Maurice bathhouses was historically the main entrance to the original reservation. The entrance drive is flanked with sidewalks, and it provides access to the foreground park and Hot Springs Mountain. At the uphill end of the drive is a white stone terrace, the Stevens Balustrade. In the back center of the terrace is a hot water fountain where visitors can drink the springwater from cups that they bring. Stairways on each side of the fountain lead to a central landing that is enclosed by balusters and panelled parapets. The Reserve Avenue entrance was constructed much later, but the detailing is similarly ornate and includes a hot water fountain, wrought iron railing, a low curvilinear stone wall, and hedges. The Fountain Street entrance lacks the architectural elements of the other entrances but has the distinctive character of a wooded park.

Other than the entrances, the major architectural components of the landscape along Bathhouse Row are the hot water fountains and display springs. A number of fountains were commissioned, constructed, removed, or relocated as the landscape evolved or the fountains deteriorated. Five fountains and three display springs are located along the row today. They continue to serve as sources of hot water for drinking, and as focal points in the landscape, with their steaming vapors and flowing streams.

THERMAL WATER DISTRIBUTION SYSTEM

An extensive system has been built over the years to collect, store, cool, and distribute water from the hot springs. It consists of a series of covered concrete basins around the spring orifices and a network of pipes from the basins to a main collection line that is suspended from the wall of the Hot Springs Creek arch. The water empties into a large storage reservoir located beneath the NPS administration building. Hot water

(139° F) in the reservoir is then either pumped to hot water storage reservoirs beneath the slope of Hot Springs Mountain above the Grand Promenade or to cooling facilities on Arlington Lawn. Cooled water (90° to 100° F) is then pumped to another storage reservoir also beneath the slope of the mountain.

The cooling facilities include two systems: a water-to-air heat exchanger on a cooling tower that uses a motor-driven fan to force outside air through a radiator containing the hot water, and a water-to-water heat exchanger that circulates cool city water around pipes containing the thermal water. Both the hot and cool waters are distributed by gravity from the upper reservoirs to distribution lines that run in front of the bathhouses along Bathhouse Row. Bathhouses outside the park provide their own piping from manholes located at either end of the row. The hot and cool waters are mixed by the bathhouses for baths of about 100° F.

OTHER CULTURAL RESOURCES

The only known historic resources of the park, in addition to Bathhouse Row, are the park museum collections of documents and artifacts and the subsurface archeological data beneath Bathhouse Row and the adjacent mountainside. Other resources of potential historical significance are the arch culvert; the Ricks estate; the reservoirs, walls, bridges, pagoda shelter, and road grades built between 1900 and 1920; and several 1930s structures built by the Civilian Conservation Corps (CCC) and the Works Progress Administration (WPA). Prehistoric archeological resources were discussed at the beginning of this chapter.

The park's museum collection includes some 3,500 objects. Most of the items are from the bathhouses, and the Fordyce is best represented; furniture, bath furnishings, pamphlets and advertisements, blueprints, drawings, and plans are among the items. Some prehistoric Caddo Indian artifacts are included as well as natural history collections. In addition to the park collections, a wealth of historic material on the park and Bathhouse Row is located in the Library of Congress, in the National Archives, and in collections maintained by the state of Arkansas, the University of Arkansas, and the Garland County Historical Society.

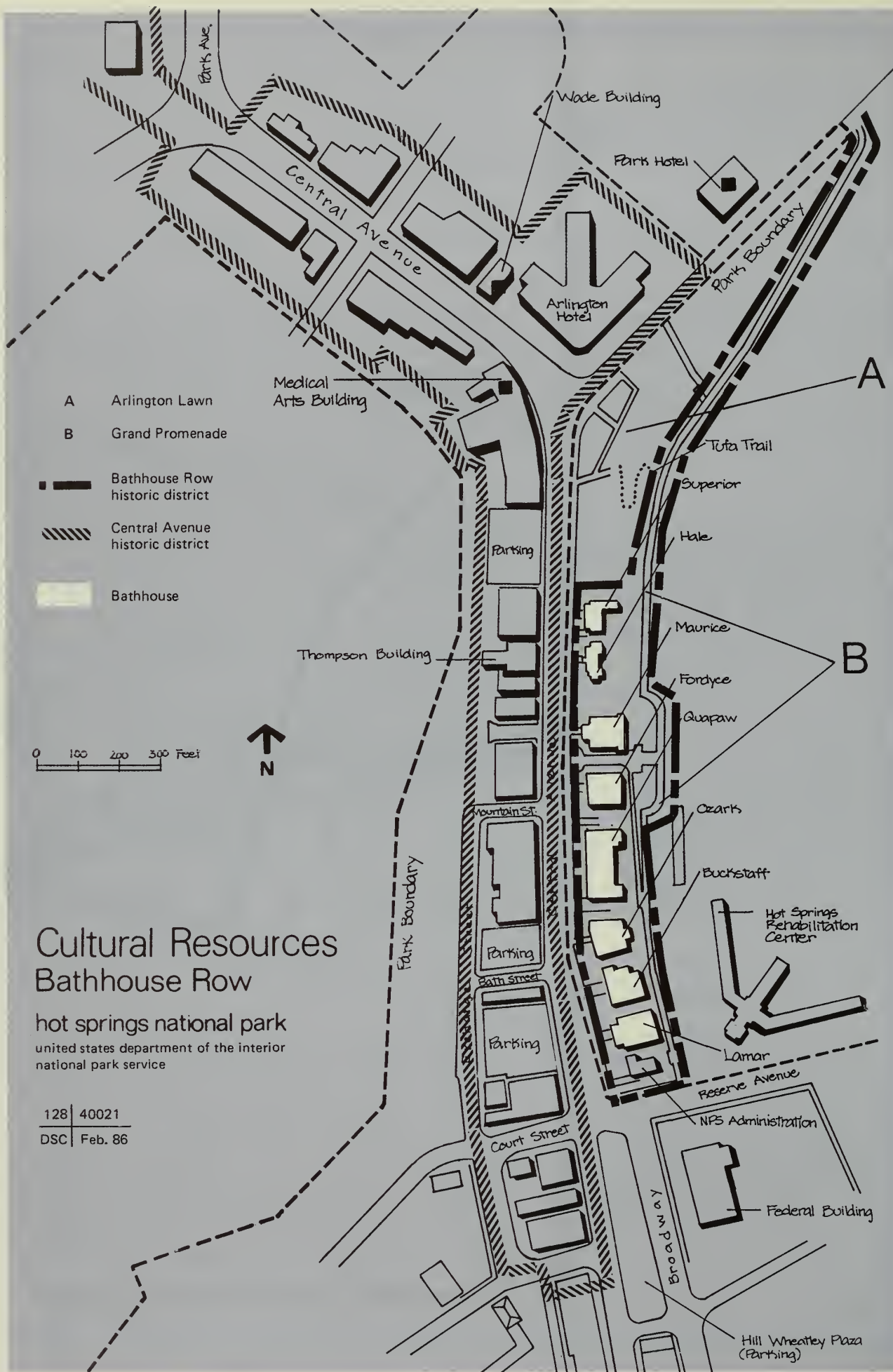
Although disturbed by successive bathhouse construction, pipeline excavations, and landscape planting, the Bathhouse Row area and adjacent mountainside are rich in historical archeological data. These subsurface resources include the original depressions excavated in the tufa to provide pools for bathers in the early 1800s. At least one subterranean cave dug into the tufa as an early "sauna" remains behind or under the Hale Bathhouse. The foundations of a number of early bathhouses and associated artifacts are also beneath Bathhouse Row. These subsurface resources were covered with many feet of fill material following construction of the arch culvert in the 1880s. In addition, the remnants of numerous reservoirs, piping, valves, and pumps used to collect, store, and distribute hot water are found in the area.

- 1 Heat Exchanger
- 2 Superior Bathhouse
- 3 Hale Bathhouse
- 4 Maurice Bathhouse
- 5 Present Display Springs
- 6 Historic Entrance
- 7 Fordyce Bathhouse
- 8 Quapaw Bathhouse
- 9 Ozark Bathhouse
- 10 Buckstaff Bathhouse
- 11 Lamar Bathhouse
- 12 Administration Building



Thermal Water System Bathhouse Row

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Cultural Resources Bathhouse Row

hot springs national park

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national park service

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- C Whittington Park
- D Bathhouse Row
- E Indian quarries
- F Ricks estate
- National Register property
- 1832 original reservation boundary
- 1880 "permanent" reservation boundary
- Existing park area
- Proposed park boundary
- ~ Park road
- - - Existing park trail
- Arch culvert
- Scenic overlook
- * Picnic area

0 1/2 1 mile

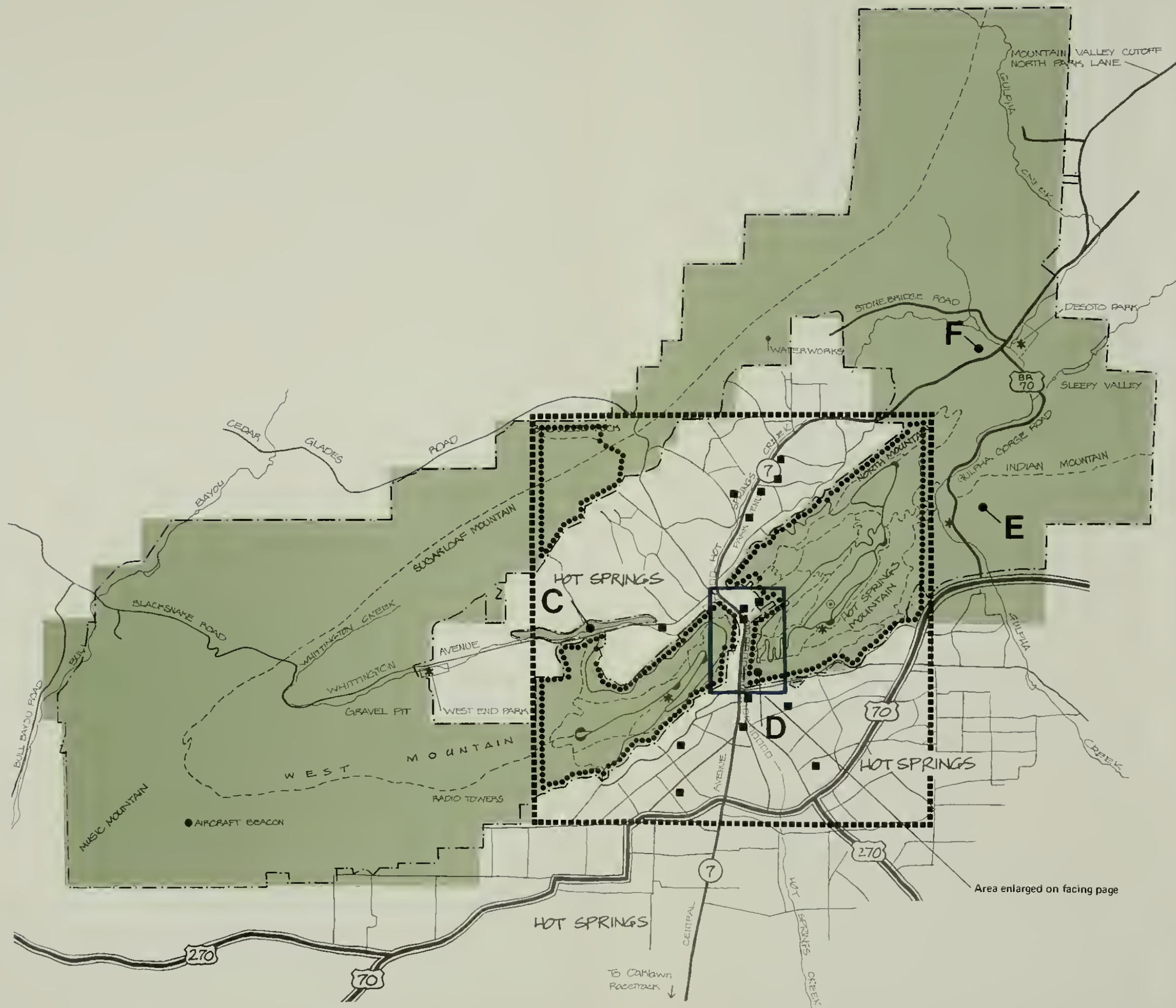


Cultural Resources

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Area enlarged on facing page

Cultural Resources

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The Ricks estate was originally the home of Col. Samuel W. Fordyce, the prominent businessman who built and operated the Fordyce Bathhouse. The estate includes the main house and related structures, which remain in private ownership, and a parcel of NPS land that is adjacent to Stonebridge Road and that contains a pond and several structures. The stone bridge, for which the road is named, is located on the upstream end of the pond; a wood frame boathouse stands along the shore; and the ruins of a stone generator building with a steel waterwheel are just below the stone dam that creates the pond.

Many of the park roads and trails were built in the early 20th century for carriage roads, exercise, and access to the observation tower on Hot Springs Mountain. An extensive system of stone retaining walls, roadside gutters, landscaping elements, and similar features were built to complement the roads and trails.

The CCC and WPA structures include the NPS administration building on Bathhouse Row; the NPS maintenance building near Whittington Park; trail shelters on Hot Springs, North, and West mountains; and the stone bridges and channel walls in Whittington Park.

o

FACILITIES AND OPERATIONS

VISITOR USE

Today over 40,000 baths are given on Bathhouse Row; an additional 50,000 treatments are given each year at the Libbey Memorial Physical Medicine Center and Hot Springs Health Spa. Although use of the hot springs for bathing has decreased drastically since the heyday of Bathhouse Row, many people come to the park regularly to fill jugs or bottles with the thermal water; some come from hundreds of miles.

Hot Springs, North, and West mountains feature 7.5 miles of scenic drives with overlooks and picnic areas, plus 18 miles of trails. Occasional signs along Hot Springs Mountain trails identify plants and other natural features. A 216-foot observation tower is also located atop Hot Springs Mountain. Operated by a concessioner, the tower offers a sweeping view of surrounding mountains and lakes. There is a small gift shop at the base of the tower.

The park's only campground is along the banks of Gulpha Creek in Gulpha Gorge. The area includes 47 campsites, an amphitheater, and a campfire circle. A trail from the campground leads to Indian Mountain, the site of several prehistoric novaculite quarries and more recent whetstone quarries.

The remainder of the mountain lands area of the park has few recreation facilities. A footpath, part of the longer Sunset Trail, extends from the summit of West Mountain along the ridgelines of Music Mountain and Sugarloaf Mountain. A short spur trail also leads to Balanced Rock on the north side of Sugarloaf Mountain, where a panoramic view is available. Hikers occasionally use a fire road in the Mountain Valley area, and visitors picnic along the banks of Ricks Pond next to Stonebridge Road. Whittington Park has a fitness trail, and its lawn area is used for picnicking and games by nearby residents.

PARK ADMINISTRATION

Park headquarters are located in the NPS administration building. The building houses the park library and the offices of the superintendent, and the administration and interpretation divisions.

The maintenance offices are located in a complex on Whittington Avenue, which includes garages, shops, warehouse space, an equipment yard, and utility areas. Ranger offices occupy a converted residence in half of a duplex on Reserve Avenue. This complex includes a training/conference room in a converted garage and storage for fire-fighting and other equipment in another garage.

Three duplex units in the Reserve Avenue complex, which were built to provide quarters for noncommissioned officers at the former army-navy

hospital, are used to house park staff. Three other staff housing units are found in the park--at the Gulpha Gorge campground, in the northeastern corner of the park near the Mountain Valley cutoff, and near the western boundary along Blacksnake Road.

WATER SYSTEM AND FEES

In addition to maintaining the usual park facilities, the National Park Service also maintains the arch culvert that covers Hot Springs Creek beneath Bathhouse Row. Portions of the thermal water collection lines and a city sanitary sewer have been placed in the arch.

The operation and maintenance of the extensive thermal water collection and distribution system is another responsibility of the park. The collection and distribution system has been rehabilitated over the last 10 years. The heat exchangers which cool the thermal waters have recently been replaced.

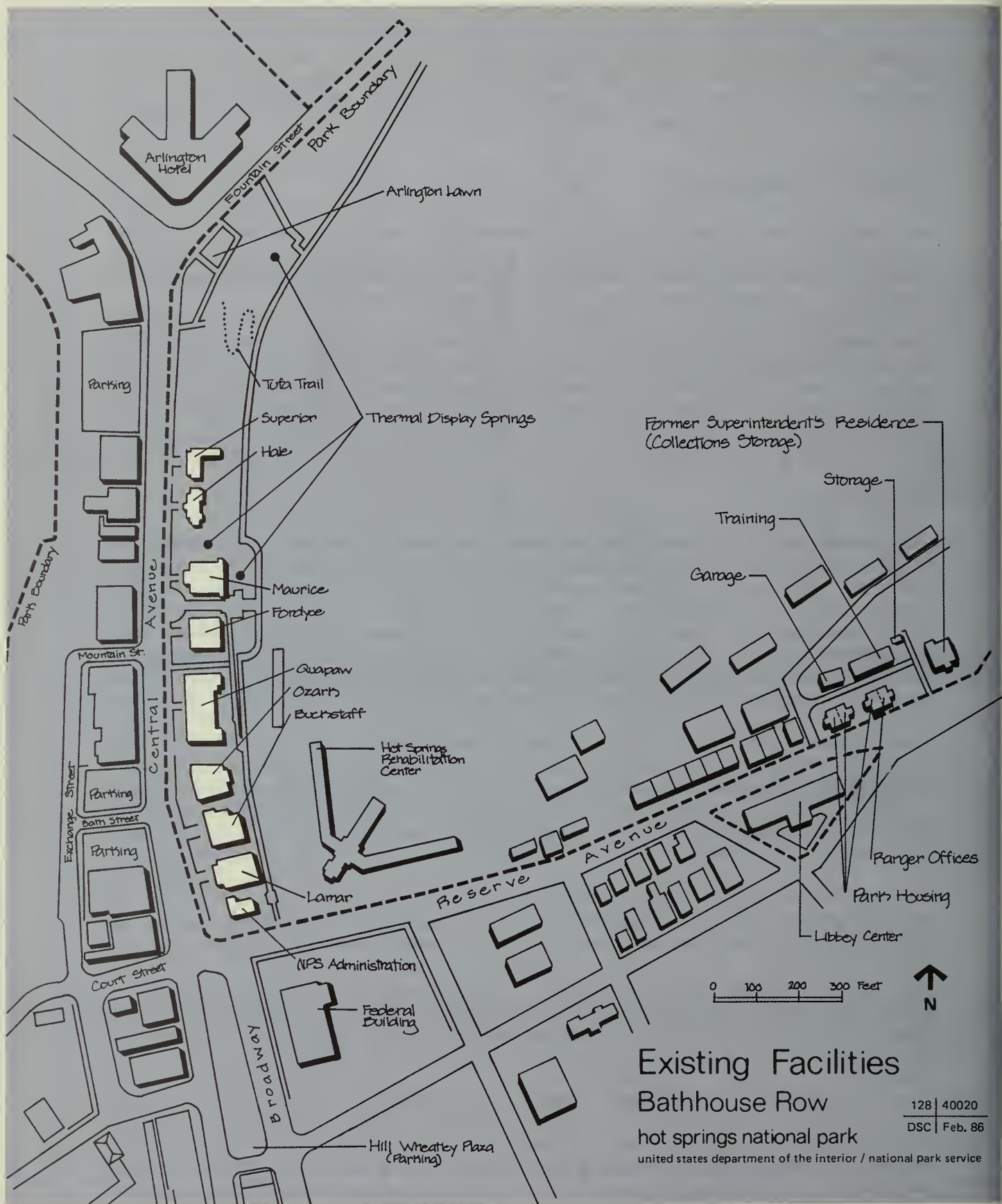
ROADS

The park has approximately 18 miles of roads, 11 miles of which are paved with asphalt or concrete and 7 miles are gravel or dirt. The park maintains 8.5 miles of paved roads and 5 miles of unpaved roads. Gulpha Gorge Road (US Business Route 70) is maintained by the state of Arkansas under a special use permit. Approximately 3 miles of short dirt or gravel roads are either unused, unmaintained, or maintained by private property owners. Park roads are described in detail in appendix C and are depicted on the Road Classification map.

Blacksnake Road (Whittington Avenue within the city of Hot Springs) traverses the park for 2.1 miles. It is maintained by Garland County, but ownership and jurisdiction are unclear. The road was developed gradually as an access route to various parcels of private property. Eventually it became a public thoroughfare, and Garland County assumed maintenance responsibility without formal dedication or acquisition of title.

In the 1970s most of the private land adjacent to the road was acquired by the park, and NPS staff began patrolling and investigating accidents. Because of concerns about safety and the high accident rate (an average of 10 per year), the park assumed primary law enforcement responsibility and installed gates to close the road during hazardous weather conditions. Garland County has continued to maintain it. Use of the road is predominantly local, with minimal park use for patrols and insignificant visitor use.

Most accidents on Blacksnake Road have resulted from the extreme grades and severe switchbacks on the western slope of the mountain. Reconstruction of the road to eliminate these problems and meet NPS standards would cost in excess of \$2 million and would require extensive excavation in an area of unstable soils within the springs' recharge area.



Existing Facilities

Bathhouse Row

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- A Maintenance area
- B Bathhouse Row
- C Libbey Center
- D Gulpha Gorge campground
- E Reserve Avenue facilities
ranger offices
park housing
former superintendent's residence
- F Hot Springs Mountain tower
- G Ranger residences

- Existing park area
- Proposed park boundary
- Park road
- Park trail
- Arch culvert
- Scenic overlook
- Picnic area

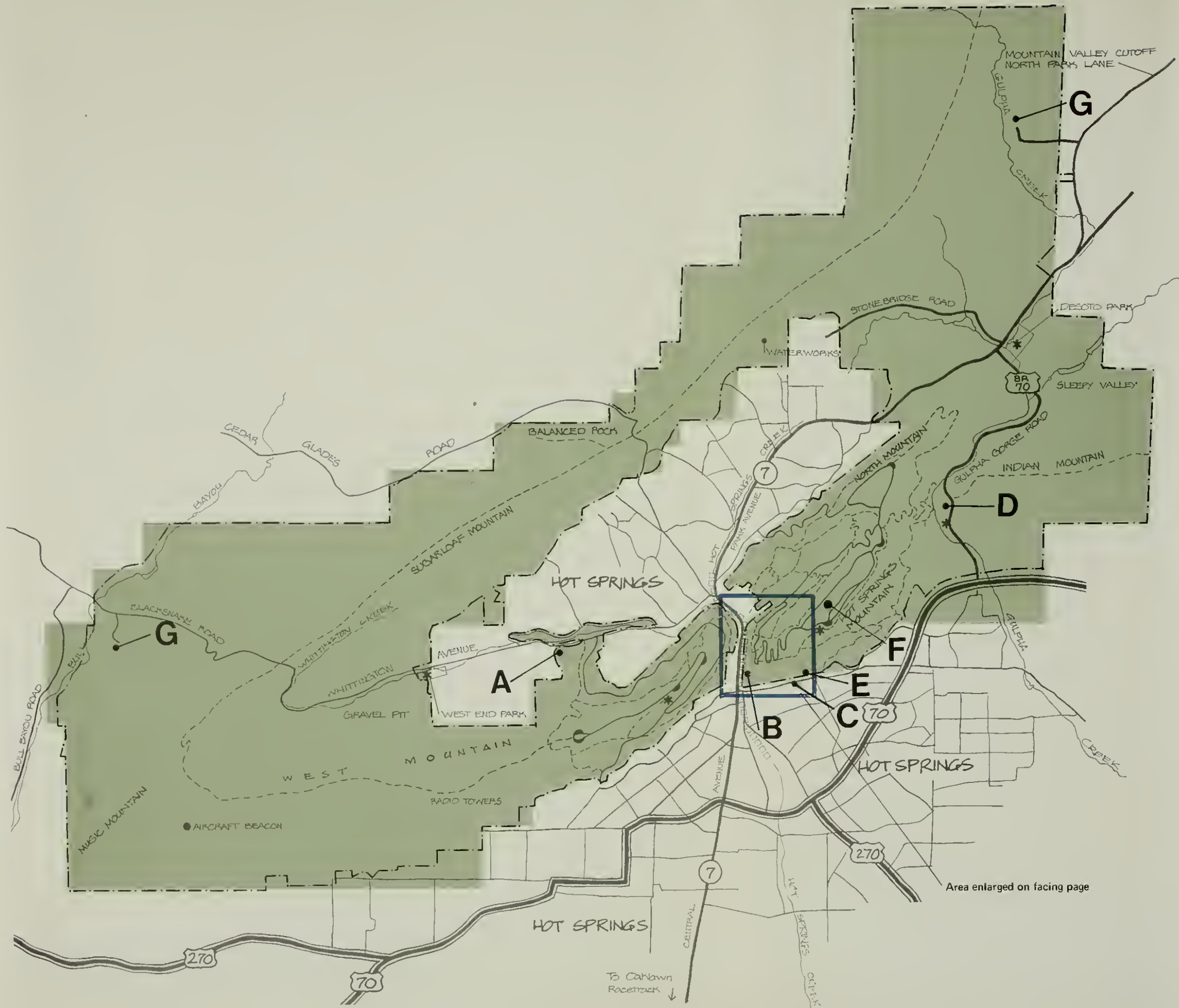
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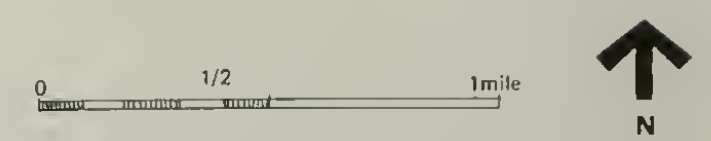
Existing Facilities

hot springs national park

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Existing Facilities

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Because of the lack of clear NPS title to the road, the prohibitive cost for limited park use, and the major environmental damage which would result, reconstruction is not considered a viable option.

LANDOWNERSHIP

The present park boundary encompasses 5,834 acres, but not all of these lands are federally owned. Some of the lands are privately owned, and some are owned by state and local governments (see table 2). A study in 1984 recommended the deletion of 338 acres from the park by changing the boundary. Because the boundary can only be changed by an act of Congress, a legislative proposal will be considered through the established departmental review process. The existing and proposed boundaries are shown on the Existing Facilities map. Property lines are not depicted on maps in this document because of the large number and small size of the parcels, but their general location can be seen on the Management Zoning map. Detailed landownership maps are included in the park's Land Protection Plan and are available at park headquarters.

Table 2: Landownership

Federal (National Park Service)	4,792 acres
State and Local	371 acres
Roads	91 acres
Other	280 acres
Private	<u>671</u> acres
Total	5,834 acres
Recommended for Deletion (state and local governments, private)	338 acres

The Land Protection Plan identifies a protection strategy for nonfederal lands within the authorized park boundary. This strategy uses a combination of memorandums of understanding, conservation easements, and acquisition of fee-simple title.



Appendixes / References /
Planning Team



APPENDIX A: MANAGEMENT OBJECTIVES

CULTURAL RESOURCES

Preserve the integrity of the historic structures, designed landscape, and other cultural resources of the Bathhouse Row historic district.

Identify significant cultural resources and ensure their protection.

NATURAL RESOURCES

Ensure the preservation of the thermal springs, and protect the entire hydrologic system and the purity of the thermal water.

Maintain healthy ecological systems.

VISITOR EXPERIENCE

Promote public understanding and appreciation of the park's thermal features, geological and hydrological resources, and ecological communities.

Foster public awareness of man's use of the thermal springwater and the development of the Hot Springs spa.

Orient visitors to park resources and inform them about opportunities for use, including compatible, resource-oriented opportunities in the mountain lands area of the park.

Ensure that facilities are attractive and well-maintained and that a scenic setting is provided for Bathhouse Row and downtown Hot Springs.

Provide a full-range of traditional bathing services, as well as opportunities to experience the thermal waters in a less formal way.

Encourage the continued evolution of the spa resort tradition at Hot Springs; update facilities and provide more modern bathing services.

PARK OPERATIONS

Ensure that facilities for visitor use and administration are compatible with natural and cultural resource values and that park roads and other transportation systems provide safe, efficient public access in a manner consistent with the protection of resource values.

Cooperate with other governmental agencies, private organizations, and citizens to ensure the following:

Land use and development in the park and its vicinity do not adversely affect the park's natural and cultural resources.

Facilities and programs within the park and outside it are fully coordinated to efficiently serve the needs of regional and local visitors for information and orientation services, traditional therapeutic bathing services, outdoor recreation, and interpretive services.

Traffic flow, pedestrian access, and parking problems are minimized.

In cooperation with the city of Hot Springs and the private sector, provide for appropriate adaptive uses of bathhouses, support the rehabilitation and revitalization of the downtown area, and develop a flood-control strategy along Central Avenue.

APPENDIX B: LEGISLATION AND REGULATIONS

LEGISLATION

- Excerpt from act of April 20, 1832, to authorize the Governor of the Territory of Arkansas to lease salt springs in said Territory, reserving the hot springs in the Territory of Arkansas for the future disposal of the United States-----
- Act of June 11, 1870, relating to the Hot Springs Reservation in Arkansas-----
- Act of March 3, 1877, relating to the Hot Springs Reservation in Arkansas-----
- Act of December 16, 1878, authorizing the appointment of the Hot Springs Commission; directing the lease of Arlington Hotel grounds; granting water rights to hotels and bath houses at Hot Springs, Ark., etc-----
- Act of April 12, 1904, amending act of December 16, 1878, so as to authorize the granting of additional water rights to hotels and bath houses at Hot Springs, Ark-----
- Act of June 16, 1880, for the establishment of land titles in Hot Springs-----
- Act of February 10, 1900, amending section four of act of June 16, 1880, so as to grant certain lands to city of Hot Springs, Ark., as a city park-----
- Excerpt from the War Department appropriation act of June 30, 1882, establishing an Army and Navy hospital at Hot Springs, Ark-----
- Act of July 8, 1882, authorizing the sale of certain lots in the city of Hot Springs, Ark., to the Woman's Christian National Library Association-----
- Joint Resolution of March 3, 1887, authorizing the use of hot water off the Government reservation at Hot Springs, Ark-----
- Joint Resolution of March 26, 1888, authorizing the utilization of the hot water running to waste on the permanent reservation at Hot Springs, Ark-----
- Act of October 19, 1888, granting right of way for construction of a railroad through Hot Springs Reservation-----
- Act of March 3, 1891, regulating the granting of leases at Hot Springs, Ark-----
- Act of June 22, 1892, including lot 53, in block 89, at Hot Springs, Ark., in the public reservation at that place-----
- Act of July 14, 1892, granting lot 1, in block 72, of Hot Springs Reservation to school district of Hot Springs for school purposes-----
- Act of December 21, 1893, granting rights of way for construction of a railroad and other improvements over and on West Mountain of Hot Springs Reservation-----
- Act of June 21, 1894, granting the use of certain lands in Hot Springs Reservation to the Barry Hospital-----
- Act of August 7, 1894, authorizing the granting of leases for sites on Hot Springs Reservation for cold water reservoirs-----
- Act of August 9, 1894, authorizing the sale of lot 8, in block 93, at Hot Springs, Ark., by school directors thereof and use of proceeds for school purposes-----
- Act of March 19, 1898, relating to leases on Hot Springs Reservation-----
- Act of May 9, 1898, authorizing the Supreme Lodge of the Knights of Pythias to erect and maintain a sanitarium and bath house on the Government reservation at Hot Springs, Ark-----
- Act of Legislature of Arkansas, approved February 21, 1903, ceding jurisdiction to the United States over a part of the Hot Springs Mountain Reservation-----
- Act of April 20, 1904, conferring jurisdiction upon United States commissioners over offenses committed in a portion of the permanent Hot Springs Mountain Reservation-----
- Act of March 2, 1907, amending act of April 20, 1904, so as to confer jurisdiction upon any duly appointed United States commissioner of the eastern district of Arkansas to hear and act upon complaints made of violations of said act-----
- Act of March 3, 1911, amending act of March 2, 1907, so as to refer to United States commissioners duly appointed by the district court for the eastern district of Arkansas instead of to the circuit court of that district-----
- Act of May 23, 1906, changing the line of the reservation at Hot Springs, Ark., and of Reserve Avenue-----
- Act of April 30, 1908, conferring title in fee and authorizing the disposition of certain lots situate on Hot Springs Reservation to the school district of Hot Springs, Ark-----
- Act of March 12, 1910, granting the Hot Springs Street Railway Co. right to maintain and operate its railway along the southern border of that portion of Hot Springs Reservation known as Whittington Lake Reserve Park-----
- Act of June 25, 1910, granting land to Hot Springs, Ark., for street purposes-----
- Act of February 15, 1911, authorizing Hot Springs Masonic Lodge, No. 62, to occupy and construct buildings for use of the organization on lots 1 and 2, in block 114, in Hot Springs, Ark-----

Act of March 2, 1911, limiting privileges of Government free bath house on the public reservation at Hot Springs, Ark., to persons who are without and unable to obtain means to pay for baths.....

Act of June 3, 1912, authorizing Leo N. Levi Memorial Hospital Association to occupy and construct buildings for use of corporation on lots 3 and 4, block 114, in Hot Springs, Ark.....

Act of August 21, 1912, authorizing the city of Hot Springs, Ark., to occupy and construct buildings for use of fire department of said city on lot 3, block 115, in the city of Hot Springs, Ark.....

Excerpt from Sundry Civil Act of August 24, 1912, authorizing the lease of certain premises occupied by buildings of the Arlington Hotel Co. for not to exceed 20 years.....

Act of July 8, 1916, authorizing the furnishing of hot water from hot springs on Hot Springs Reservation for drinking and bathing purposes free of cost to Leo N. Levi Memorial Hospital Association.....

Excerpt from Sundry Civil Act of June 5, 1920, authorizing assessment and collection of reasonable charges from physicians prescribing hot waters from the Hot Springs Reservation.....

Act of March 2, 1931, regulating the prescribing and use of the waters from the Hot Springs National Park.....

Act of Legislature of Arkansas, approved February 2, 1921, ceding to the United States exclusive jurisdiction over block 82 of the Hot Springs Reservation.....

Act of September 18, 1922, accepting cession by Arkansas of exclusive jurisdiction over a tract of land within Hot Springs National Park....

Excerpt from Sundry Civil Act of March 4, 1921, changing the name of Hot Springs Reservation to "Hot Springs National Park".....

Act of May 8, 1922, granting certain lands in Hot Springs, Ark., to the Leo N. Levi Memorial Hospital Association.....

Excerpt from Interior Department appropriation act of May 24, 1922, providing that all revenues of Hot Springs National Park shall be covered into the Treasury to credit of miscellaneous receipts.....

Excerpt from Interior Department appropriation act of June 5, 1924, authorizing the acceptance of a tract of land for use in connection with the Hot Springs National Park.....

Act of Legislature of Arkansas, approved March 27, 1925, ceding to the United States exclusive jurisdiction over a tract of land known as the Automobile Tourist Camp within Hot Springs National Park.....

Act of March 3, 1927, accepting cession by Arkansas of exclusive jurisdiction over a tract of land within Hot Springs National Park.....

Act of May 29, 1928, authorizing the conveyance of lot 3, in block 115, in the city of Hot Springs, Ark., to the city of Hot Springs, Ark.....

Act of June 18, 1930, providing for the reconstruction of the Army and Navy Hospital at Hot Springs, Ark.....

Act of June 25, 1930, authorizing the conveyance of certain land in Hot Springs National Park to the P. F. Connelly Paving Co.....

Act of February 14, 1931, authorizing the acceptance of a tract of land adjoining the Hot Springs National Park.....

Act of February 14, 1931, providing for retention by United States of site within Hot Springs National Park formerly occupied by the Arlington Hotel and Bathhouse, for park and landscape purposes.....

Act of March 2, 1931, authorizing the Leo N. Levi Memorial Hospital Association to mortgage its property in Hot Springs National Park....

Jurisdiction, State cession over all lands now or hereafter included in park.....State Act of March 25, 1933

Boundary extension.....Act of June 15, 1936

Oaths, increasing penalty for making false oaths for purpose of bathing at free bathhouse.....Act of June 26, 1936

Jurisdiction, State cession of 1933 accepted.....Act of June 2, 1937

Boundary extension, lands granted to city of Hot Springs.....

.....Act of June 24, 1938

Boundary extension, amending Act of June 15, 1936, authorizing extension.....Act of August 10, 1939

Park to be in Western United States Judicial District of Arkansas.....

.....Act of June 24, 1946

Conveyance to City of Hot Springs of an easement for water-main pipe line purposes authorized.....Act of April 28, 1950

Conveyance of land to Hot Springs School District and to Garland County, Arkansas, authorized.....Act of August 24, 1954

Exchange of lands at Hot Springs National Park authorized.....

.....Act of August 18, 1958

Secretary of the Army directed to convey the Army and Navy General Hospital, Hot Springs National Park, to the State of Arkansas.....

.....Act of September 21, 1959

An Act to authorize the disposition by the city of Hot Springs, Arkansas, of certain property heretofore conveyed to the city by the United States, and for other purposes. (82 Stat. 862).....Act of September 21, 1968.

Source: National Park Service, U.S. Department of the Interior. *Laws Relating to the National Park Service*. 5 vols. Washington, D.C.: U.S. GPO, 1933-80.

FEDERAL REGULATIONS

PART 7—SPECIAL REGULATIONS, AREAS OF THE NATIONAL PARK SYSTEM

§ 7.18 Hot Springs National Park.

(a) *Commercial Vehicles.* Permits shall be required for the operation of commercial passenger-carrying vehicles, including taxicabs, carrying passengers for hire over park roads for sightseeing purposes. The fees for such permits shall be as follows:

(1) Fleet operator; equipment that includes any combination of commercial passenger-carrying vehicles, including taxicabs. Calendar-year permit—\$25.

(2) Bus operator; equipment limited to a single bus-type vehicle with passenger-carrying seat capacity in excess of eight persons. Calendar-year permit—\$20.

(3) Taxicab operator; equipment limited to a single vehicle with a capacity of not over eight passenger-carrying seats. Calendar-year permit—\$12.

(4) The fees for permits issued for commercial passenger-carrying vehicle operations starting on or after July 1 of each calendar year will be one-half of the respective rates mentioned in paragraphs (a)(1), (2), and (3) of this section.

(b) *Use of water.* The taking or carrying away of water, hot or cold, from any of the springs, fountains, or other sources of supply in Hot Springs National Park for the purpose of sale, or for any use other than personal drinking, is prohibited.

[24 FR 11042, Dec. 30, 1959, as amended at 32 FR 15710, Nov. 15, 1967; 48 FR 30294, June 30, 1983]

PART 21—HOT SPRINGS NATIONAL PARK; BATHHOUSE REGULATIONS

Sec.

- 21.1 Definitions.
- 21.2 Penalties.
- 21.3 Use of thermal water.
- 21.4 Registration of physicians.
- 21.5 Therapeutic bathing requirements.
- 21.6 Use of therapeutic pools.
- 21.7 Health examinations.
- 21.8 Employee certification.
- 21.9 Solicitation by employees.
- 21.10 Losses.
- 21.11 Redemption of bath tickets.
- 21.12 Loss of bath tickets.

AUTHORITY: Sec. 3, Act of August 25, 1916, 39 Stat. 535, as amended (16 U.S.C. 3); sec. 3, Act of March 3, 1891, 26 Stat. 842, as amended (16 U.S.C. 363).

SOURCE: 44 FR 2577, Jan. 12, 1979, unless otherwise noted.

§ 21.1 Definitions.

When used in the regulations in this part:

(a) The term "Superintendent" means the Superintendent of Hot Springs National Park, Arkansas.

(b) The term "physician" means doctor of medicine or osteopathy who is licensed to practice by a State or territory of the United States.

(c) The term "registered physician" means a physician registered at the office of the Superintendent as authorized to prescribe the waters of Hot Springs National Park.

(d) The term "employee" means any person licensed or certified by a State or territory of the United States in his or her specialty, or who is certified by the Superintendent to perform or render special services in a bathhouse.

(e) The term "bathhouse" means any facility which is operated by an individual, trustee, partnership, corporation, or business entity and which receives thermal water from Hot Springs National Park.

§ 21.2 Penalties.

Any person convicted of violating any provision of the regulations contained in this part, or as the same may be amended or supplemented, shall be punished by a fine not exceeding \$100 and shall be adjudged to pay all costs of the proceedings.

§ 21.3 Use of thermal water.

(a) The use of the thermal waters of Hot Springs National Park, for purposes other than those authorized by the Superintendent, is prohibited.

(b) The heating, reheating, or otherwise increasing the temperature of the thermal waters of Hot Springs National Park is prohibited.

(c) The introduction of any substance, chemical, or other material or solution into the thermal waters of Hot Springs National Park, except as may be prescribed by a physician for a bather or as may be directed by the Superintendent, is prohibited.

§ 21.4 Registration of physicians.

Physicians desiring to prescribe the thermal waters of Hot Springs National Park must first be registered at the office of the Superintendent. Any physician may make application for registration to the Superintendent. To maintain registered status, reapplication is required triannually.

§ 21.5 Therapeutic bathing requirements.

Baths shall be administered to persons having a prescription from a registered physician with prescription instructions therein. Baths shall be administered to person who do not have prescriptions from registered physicians only if the bath is administered in accordance with the bath directions prescribed by the Superintendent, the violation of which is not subject to the penalty provisions of § 21.2.

§ 21.6 Use of therapeutic pools.

Persons undergoing medical treatment may use the therapeutic pools only upon presenting a prescription describing the treatment from a registered physician. Persons with acute or infectious diseases or discharges of the body, or who lack complete control of their bodily functions, are prohibited from using the therapeutic pools.

§ 21.7 Health examinations.

No employee who comes in direct personal contact with bathers or pool users will be permitted to enter duty without first undergoing a health examination, or remain in such employment without undergoing periodic health examinations, as required by the Superintendent, and being found free from any infectious or communicable disease.

CROSS REFERENCE: For a list of communicable diseases included in the regulations of the United States Public Health Service, see 21 CFR 1240.54.

§ 21.8 Employee certification.

(a) Employees engaged as physical therapists must be licensed or certified by a State or territory of the United States to practice

(b) Employees engaged as physical therapy aids or physical therapy technicians will be certified by the Superintendent upon completion of an examination.

(c) Employees engaged as masseurs or masseuses must be licensed or certified by a State or territory of the United States, or be certified by the Superintendent upon the completion of an examination.

(d) Employees engaged as bath attendants will be certified by the Superintendent upon completion of an apprenticeship and an examination.

§ 21.9 Solicitation by employees.

Soliciting by employees for any purpose, including soliciting for gratuities, commonly called "tips," is prohibited in all bathhouses.

§ 21.10 Losses.

A bathhouse receiving deposits of jewelry, money, or other valuables from patrons shall provide means for the safekeeping thereof, satisfactory to the Superintendent. It is understood, however, that the Government assumes no responsibility for such valuables kept on the premises. All losses must be reported promptly to the Superintendent by the bathhouse manager.

§ 21.11 Redemption of bath tickets.

Unused tickets may be redeemed by the purchaser within one year from the date of purchase, according to the redemption scale approved by the Superintendent.

§ 21.12 Lost bath tickets.

A patron who loses his ticket may continue to receive service, without additional charge, for the number of units remaining in the ticket. Records of lost tickets, and of service given thereunder, shall be maintained as required by the Superintendent. Lost tickets shall have no redemption value.

APPENDIX C: ROAD SYSTEM EVALUATION

INVENTORY

Hot Springs National Park has approximately 18 miles of roads: 11 miles are paved with asphalt or concrete, and 7 miles are gravel or dirt. The park maintains 8.5 miles of paved roads and 5 miles of unpaved roads. Gulpha Gorge Road (US Business Route 70) is maintained by the state of Arkansas under a special use permit, as required by the terms of the deed. Approximately 3 miles of short dirt or gravel roads are either unused, unmaintained, or maintained by private property owners. Park roads are depicted on the Road Classification map and are described in detail in table C-1. Blacksnake Road has been included in this evaluation because of the uncertainty concerning ownership and jurisdiction, but its mileage has not been included in the totals above.

CLASSIFICATION

Park roads are classified according to function and will be improved to meet certain requirements (see table C-2, Recommended Classification and Design Criteria). The design criteria are derived from the 1984 NPS "Park Road Standards"; the six classifications used in the table are defined as follows:

Class I--Principal Park Road: A road that is a main access route, circulatory tour, or thoroughfare for park visitors.

Class II--Connector Park Road: A road that provides access within a park to areas of scenic, scientific, recreational, or cultural interest, such as overlooks and campgrounds.

Class III--Special Purpose Park Road: A road that provides circulation within public use areas, such as campgrounds, picnic areas, visitor center complexes, or concessioner areas. These roads generally serve low-speed traffic and are often designed for one-way circulation.

Class IV--Primitive Park Road: A road that is used exclusively for four-wheel-drive, high-clearance vehicles. Such a road usually provides access to campgrounds or undeveloped areas of scientific or cultural interest. These roads generally serve low-speed traffic and are intended for recreation driving and sight-seeing. There are no primitive park roads at Hot Springs.

Class V--Administrative Access Road: A public road intended for nonpublic access to administrative developments or structures such as park offices, employee quarters, or utility areas.

Class VI--Restricted Road: A road, including a patrol road, truck trail, or other similar road, that is normally closed to the public.

Table C-1: Road System Inventory

Road Segment			Intended Visitor Use			Use: 1983 ADT (peak mo. ADT)	Vehicle Restrictions
Route No.	Name: From/To	Length (mi.)	Purpose/Function	Visitor Experience	Visitor Use Areas Served		
US BR 70	Gulpha Gorge Rd.--US BR 70 Grand Ave.-- US 70 / Park Ave.-- AK 7	1.44	Primary: state urban arterial used to by- pass downtown Hot Springs Secondary: park north-south thorough- fare	Stream/ forest/ canyon	Picnic areas/camp- ground	6,000	None
1	Blacksnake Rd.-- Whittington Avenue: park bdry. at West End Park/park bdry. at Bull Bayou	2.1	Primary: city/county urban/rural collector used to bypass down- town Hot Springs Secondary: park east- west thoroughfare	Mountain/ forest/urban, open scenic vista at summit look- ing W to NW	Access to Sunset Trail	730	Often closed due to weather (snow, ice, or rain)
500	Hot Springs Mtn. Rd.: park bdry. at Fountain St./ end of loop	2.34	One-way scenic loop road/access to obser- vation tower, picnic area, overlooks, and trails	Mountain/ forest; views to Grand Promenade and Bath- house Row, enclosed road corridor, canopy, and open scenic vistas	Hot Springs Mtn. observation tower, picnic area, park- ing areas, over- looks, and trails	340 (780)	No trailers or recreation vehicles over 30'; escorted buses only
100	Hot Springs Mtn. connector: Hot Springs Mtn. Rd./ North Mtn. Loop Rd.	0.17	Connects scenic loop roads--Hot Springs Mtn. Rd. and North Mtn. Loop Rd.	Mountain/ forest, some canopy vistas	Scenic overlook	340 (780)	No trailers or recreation vehicles over 30'; escorted buses only
10	North Mtn. Loop Rd.: park bdry. at Fountain St./ end of loop	1.5	One-way scenic loop road	Mountain/ forest; canopy, and open scenic vistas	Scenic overlook and trails	340 (780)	No trailers or recreation vehicles over 30'; escorted buses only
101	West Mtn. Rd.: park bdry. at Whittington Ave./park bdry. at Prospect Ave.	2.2	Connects West Mtn. Summit Rd. to city streets and Whittington Park/access to overlook	Mountain/ forest, most- ly enclosed road corridor with some canopy vistas	West Mtn. summit and scenic loop road, overlook, and trails	1,200 (1,560)	None
11	West Mtn. Summit Rd.: West Mtn. Rd./end of loop	1.3	Access to scenic loop, overlooks, picnic area, parking areas, and trailhead	Mountain/ forest; en- closed road corridor, some canopy vistas, open overlook vistas look- ing NE to SW	Picnic area, scenic overlooks, trailhead and parking for Sunset Trail	1,200 (1,560)	None
501	Tower Rd.: Hot Springs Mtn. Rd. near overlook/Hot Springs Mtn. Rd. near connector	0.28	One-way access to parking area and tower	Observation tower/ forest	Observation tower, craft/souvenir sales	340 (780)	No trailers or recreation vehicles over 30'; escorted buses only
200	Gulpha Gorge Campground Rd.: Gulpha Gorge Rd.- BR 70 / end of loop	0.46	Circulation within recreation area	Stream/forest	Campground, picnic area, amphitheater, campfire circle, visitor contact sta- tion, trail access, ranger residence	150	None
420	Reserve Ave. facilities loop driveway: Reserve Ave./end of loop	0.15	One-way access to administrative area	Urban residential	Administrative area, open to public	20	Passenger cars and small trucks only

Design/Resource Considerations

<u>Significant Resources</u>	<u>Terrain</u>	<u>Shoulder Width</u>	<u>Traveled Surface Width</u>	<u>Road Surface</u>	<u>Grade/Roughness</u>	<u>Hazards</u>	<u>Posted Speed Limit(s)</u>
	Rolling	2.5'	20'+	Paved (asphalt)	Good/good	Sharp curves, limited sight distance, portions subject to flooding	30 (regulatory), 20 & 25 (warning on curves)
	Mountain/rolling	0-2'	18'	Paved (asphalt)	Extreme/fair	High accident rate, extreme grades and curves, switchbacks, inadequate shoulders	30 (westbound), 35 (eastbound)
CCC rock masonry retaining walls, culverts, rubble waterways, steps, trails, and trail bridges	Mountain	2'±	16' concrete 14'9" asphalt (one-way)	Paved (1.45 mi. of concrete; 1 mi. of asphalt)	Extreme/good	Extreme grades and curves, switchbacks, limited sight distance	25
CCC rock masonry retaining walls and rubble waterways	Mountain	2'-5'	18' (one-way)	Paved (asphalt)	Good/good	None	25
CCC rock masonry retaining walls and rubble waterways	Mountain	2'-5'	14'9" (0.6 mi. one-way loop) 22' (0.9 mi. one-way and two-way sections)	Paved (asphalt)	Steep/good	Extreme curve, steep grade, switchbacks, limited sight distance	25
CCC rock masonry retaining walls and rubble waterways	Mountain	2'-5'	20'+ (wider in some sections)	Paved (asphalt)	Moderate/good	None	35
CCC rock masonry retaining walls and rubble waterways	Mountain	2'-5'	20'+ (wider in some sections)	Paved (asphalt)	Moderate to steep/good	None	35
CCC rock masonry retaining walls	Mountain	2'±	16'	Paved (asphalt)	Moderate/good	None	None
Gulpha Creek	Flat	--	16'-20'	Paved (asphalt)	Flat/good	100-yr. floodplain, portions subject to flooding	None
	Rolling	--	10'-12'	Paved (concrete)/unpaved (gravel)	Moderate/poor	None	None

Road Segment			Intended Visitor Use			Use: 1983 ADT (peak mo. ADT)	Vehicle Restrictions
Route No.	Name: From/To	Length (mi.)	Purpose/Function	Visitor Experience	Visitor Use Areas Served		
403	Driveway to Goslee tract: Blacksnake Rd./private residence and ranger residence	0.26	Access to private residence and ranger residence	Forest	To private property and ranger residence	5	None
421	Driveway to Weldon tract: Mtn. Valley fire rd.--Bradshaw Rd./ranger residence	0.11	Access to ranger residence	Forest/ meadow	To ranger residence	5	None
409	Quarry Road: Sleepy Valley Rd./novaculite quarries	0.71	Access to private utility easement/patrol access to quarries/fire road	Forest	To private utility easement/patrol access to cultural resource	5	Gated
407	West Mtn. Tower access--Rector Trust Estates Rd.: park bdry. at Grand Ave./private towers	1.15	Access to private communication towers, West Mtn. summit, and Sunset Trail	Mountain/ forest	To private towers/access to Sunset Trail	5	High clearance vehicles only/ gated
401	Driveway to Thomas tract: Blacksnake Rd./end	0.15	Access to private property/fire road	Forest	To private property	5	Gated
406	Sour Rock Springs Rd.: park bdry./aircraft beacon and Music Mtn. summit	1.27	Access to former aircraft beacon and communication tower site at summit	Mountain/ forest, open scenic vistas looking SE to NW	To Music Mtn. summit and Sunset Trail	5	Four-wheel-drive, high-clearance vehicles only/ gated
402	Hilltop Drive--Sunset Trail: Blacksnake Rd./private tower	0.23	Access to private tower/section of Sunset Trail	Mountain/ forest	To private tower/access to section of Sunset Trail	5	Gated
422	Slate Mine Rd.--Sunset Trail: Blacksnake Rd./private residence and tower	0.45	Access to private residence and tower/section of Sunset Trail	Mountain/ forest	To private residence and tower/access to section of Sunset Trail	5	Gated
412	Crabtree Cemetery Rd.: Blacksnake Rd./park bdry.	0.78	Access to private property and cemetery/patrol and fire road	Forest/ stream/ meadow	To private property and cemetery	5	Gated
423	Sugarloaf Mtn. fire rd.: Cliff St./end	0.39	Fire road	Mountain/ forest	Section of Sunset Trail	5	Gated
410	Mtn. Valley fire rd.--Bradshaw Rd.: Mtn. Valley cutoff--North Park Lane/Stonebridge Rd.	1.75	Patrol/fire road	Forest/ meadow	Potential trail and trail access	5	Gated
408	North Mtn. access rd.: Ramble St./North Mtn. Loop Rd.	0.57	Former access to North Mtn. Loop Road/closed	Mountain/ forest	Potential trail and trail access	0	Gated

Design/Resource Considerations

Significant Resources	Terrain	Shoulder Width	Traveled Surface Width	Road Surface	Grade/Roughness	Hazards	Posted Speed Limit(s)
Potential historic archeological resources	Rolling	--	12'	Unpaved (gravel)	Good/good	None	None
	Flat	--	12'	Unpaved (gravel)	Good/good	None	None
	Mountain/rolling	--	12'	Unpaved (dirt and gravel)	Steep/fair	None	None
	Mountain	--	12'	Unpaved (dirt)	Extreme/poor	Extreme grades and curves, switchbacks	None
	Flat	--	12'	Unpaved (dirt and gravel)	Good/good	None	None
	Mountain	--	12'	Unpaved (dirt)	Extreme/very poor	Extreme grades, very poor road surface due to severe erosion	None
	Mountain	--	12'	Unpaved (gravel)	Moderate/good	None	None
	Mountain	--	14'	Paved (asphalt)	Steep/good	None	None
	Rolling/flat	--	12'	Unpaved (dirt and gravel)	Moderate/poor	Rough surface, stream crossing	None
	Mountain	--	10'	Unpaved (dirt)	Steep/poor	None	None
	Rolling	--	12'	Unpaved (dirt and gravel)	Moderate/poor	Rough surface, stream crossings	None
	Mountain	2±	18'	Paved (deteriorated asphalt)	Moderate/very poor	Switchbacks, deteriorated pavement, shoulder erosion	None

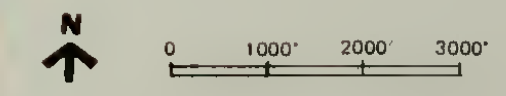
MANAGEMENT AND DESIGN CONSIDERATIONS

Because of the unique conditions at Hot Springs National Park, the minimum design criteria in table C-2 should be used only as a guide for rehabilitating park roads. The short road segments, steep terrain, and unstable soils in the park will generally preclude major improvements in road alignments, grades, or passing sight distances because major resource damage will result. The roads on Hot Springs, North, and West mountains may have historic values that would usually dictate the use of existing alignments, grades, width, etc. The need to retain rock masonry retaining walls and waterways in these areas may also require variance from the minimum design criteria. For these reasons table C-2 does not include design criteria for maximum grades or passing sight distance; passing should not be allowed on any park roads. Wherever possible, solutions not requiring construction should be used when dealing with road safety problems in the park (e.g., lower speed limits, warning signs, and vegetation clearing to improve sight distance).

Several roads within the park were not included in either table C-1 or C-2 because of their short length and incidental nonpark use, usually for access to private property. These roads will either be included in the property conveyance or be vacated by local governments when the private property is acquired. They will be obliterated when all the residences they serve have been removed.



- PARK ROADS UNDER NPS JURISDICTION**
- Class I: Principal road (maintained by state or local government)
 - Class II: Connector road
 - Class III: Special purpose road
 - N/A Class IV: Primitive road
 - Class V: Administrative access road
 - Class VI: Restricted road
 - Road closed or obliterated
 - Unpaved road
 - Paved road



Road Classification
hot springs national park
united states department of the interior / national park service

Table C-2: Road Classification and Design Criteria

Functional Classification		Design Volume (ADT)	Design Speed (Posted Speed)			Design Vehicle Restrictions	Traveled Surface Width	Shoulder Width
Route No.	Length (mi.)		Flat Terrain	Rolling Terrain	Mountainous Terrain			
Class I - Principal Park Road								
US BR 70	1.44	4,000-8,000		General: 40(30), canyon curves: 30-35 (20-25)		None	22'	3'
1	2.1	400-1,000		35(30)	General: 25(15), use existing alignment on switchbacks: 20(15)	No trucks, buses, trailers, or recreation vehicles over 30'	20'	3'
Class II - Connector Road								
500	2.34	400-1,000			Use existing alignment (20)	No trailers or recreation vehicles over 30'; escorted buses only	One-way: use existing width or 10'	2'-3'
100	0.17	400-1,000			Use existing alignment (20)	No trailers or recreation vehicles over 30'; escorted buses only	One-way: use existing width or 10'	2'-3'
10	1.5	400-1,000			Use existing alignment (20)	No trailers or recreation vehicles over 30'; escorted buses only	One-way loop: use existing width or 10'. Two-way section: existing width or 20'	2'-3'
101	2.2	1,000-4,000			Use existing alignment (35)	None	Existing width or 22'	2'-3'
11	1.3	1,000-4,000			Use existing alignment (30)	None	Existing width or 22'. One-way loop: 10'	2'-3'

*Stopping sight distances correspond to the design speed. The number on the left relates to the highest design speed; the number on the right to the lowest design speed.

<u>Stopping Sight Distance*</u>	<u>Surface Type</u>	<u>Sight Distance at Intersection</u>	<u>Comments</u>
275'/200'	Paved	400'	Maintained by state of Arkansas under special use permit. Design criteria dictated by resource considerations (narrow gorge and stream).
250'/125'	Paved	350'/250'	Recognize ownership and jurisdiction of Garland County and city of Hot Springs. Cease NPS closure and law enforcement actions except those provided for in agreements. Design criteria dictated by resource considerations (steep slopes and unstable soils).
150' (level and downhill sections only)	Paved	200'	Repair (where damaged) and retain CCC rock work. Surface and shoulder widths may be modified per design criteria, but should be maintained if modification would affect CCC rock work. Recommend warning signs for trail crossings and paved parking/turnouts.
150'	Paved	200'	Same as above.
150'	Paved	200'	Same as above. No modifications should be made to accommodate large tour buses.
225'	Paved	400'	Same as above.
225'	Paved	350'	Same as above.

Functional Classification		Design Volume (ADT)	Design Speed (Posted Speed)			Design Vehicle Restrictions	Traveled Surface Width	Shoulder Width
Route No.	Length (mi.)		Flat	Rolling	Mountainous			
			Terrain	Terrain	Terrain			
Class III - Special Purpose Park Road								
501	0.28	400-1,000			Use existing alignment (20)	No trailers or recreation vehicles over 30'; escorted buses only	One-way: use existing width or 10'	2'-3'
200	0.46	400	20(15)			None	18' one-way: 10'	1'
Class V - Administrative Access Road								
420	0.15	400		15(15)		Passenger cars and small trucks only	One-way: 10'	1'
403	0.26	400						
421	0.11	400						
Class VI - Restricted Road (any class V road may be administratively reclassified as class VI)								
These criteria apply to all roads listed below		400	15-30	15-30	15-30	Gated and locked	Road width based on terrain, road hazards, road condition, and park needs	NA
409	0.71							
407	1.15					High-clearance vehicles only		
401	0.15							
406	1.27							
402	0.23							
422	0.45							
412	0.78							
423	0.39							
410	1.75							
408	0.57							

<u>Stopping Sight Distance*</u>	<u>Surface Type</u>	<u>Sight Distance at Intersection</u>	<u>Comments</u>
150'	Paved	200'	Repair (where damaged) and retain CCC rock work. Surface and shoulder widths may be modified per design criteria, but should be maintained if modification would affect CCC rock work. Recommend paved parking.
125'	Paved	200'	
NA	Paved	150'	Paved parking for visitors, employees, and administrative vehicles is also needed. Obliterate when residences are removed. Obliterate when residence is removed.
NA	Dirt or gravel	150'	 Recommend treatment to control soil erosion. Obliterate and revegetate to control soil erosion. Reclassify short section to class III when trailhead is developed. Remove pavement and maintain as truck trail when residence is removed. Short section will serve as class V road to route 502 until employee residence is removed. Recommend gate be moved to park boundary at that time. Remove pavement, restore contours, and maintain as a foot trail.

APPENDIX D: CONSULTATION/COORDINATION

During preparation of this document NPS representatives discussed the management of Hot Springs National Park with representatives of federal, state, and local governmental agencies and with citizens, business owners, and community leaders of Hot Springs. A general public meeting was held on this document to provide an opportunity for additional input. Also, this document was sent to interested individuals, organizations, and the following public agencies:

Federal Agencies

- Advisory Council on Historic Preservation
- Army Corps of Engineers
- Department of Agriculture
 - Forest Service
 - Soil Conservation Service
- Department of Health and Human Services
 - Public Health Service
- Department of the Interior
 - Fish and Wildlife Service
 - Geological Survey
- Department of Transportation
 - Federal Highway Administration
- Environmental Protection Agency
- Federal Emergency Management Agency
- General Services Administration
- Postal Service

State Agencies

- Archeological Survey
- Arkansas Historic Preservation Program
- Arkansas Natural Heritage Program
- Department of Highways and Transportation
- Department of Parks and Tourism
- Department of Planning
- Department of Pollution Control and Ecology
- Forestry Commission
- Game and Fish Commission

Local Agencies

- Garland County
- City of Hot Springs, Arkansas
- West Central Arkansas Planning and Development District

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