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SPRINGFIELD ARMORY

NATIONAL HISTORIC SITE / MASSACHUSETTS



This planning publication has not yet been approved. Its purpose is to provide information for further consideration and discussion, and it may undergo considerable revision.


GENERAL MANAGEMENT PLAN
DEVELOPMENT CONCEPT PLAN
ENVIRONMENTAL ASSESSMENT

SPRINGFIELD ARMORY NATIONAL HISTORIC SITE
Massachusetts

Prepared with the assistance of Springfield Technical Community College
Springfield, Massachusetts

For further information, please contact

W. Douglas Lindsay, Jr., Superintendent
Springfield Armory National Historic Site
(413) 734-6477



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SUMMARY

The Springfield Armory was the center for the development and production of U.S. military small arms from shortly after its establishment in 1794 until its deactivation in 1968. It was designated by Congress as a national historic site in 1974. In 1978 the National Park Service acquired a portion of the former armory site; the remaining portion is administered by Springfield Technical Community College (STCC).

This document, a combined General Management Plan/Development Concept Plan/Environmental Assessment, discusses and evaluates the proposed action and two alternative strategies for use and development. The proposed action provides for a minimum level of development while preserving and maintaining the historic character of the armory as it existed in 1968. The alternatives include the continuation of existing conditions (no action) and the selective restoration and development of specific cultural resources. The proposed action, as well as the alternatives, will preserve and interpret the arms collection--the primary resource at the site.

The major impacts of the proposed action would be the preservation of the historic scene and structures on the portion owned by the National Park Service and the preservation of the character of the portion administered by Springfield Technical Community College. In addition, efforts would be made to relate the story and significance of the armory to other privately and publicly owned structures in the city of Springfield. The no-action alternative would provide for minimum involvement with nearby resources, thus limiting visitor understanding of the importance of the armory and its relationship to the city. The selective restoration and development alternative would result in the greatest effects. Expenditures would be made to interpret sites not owned by the National Park Service and to selectively restore elements of the scene to enhance the appearance of the armory. These selective restorations would be costly and would create a scene that never existed historically.

SUMMARY OF THE PROPOSED ACTION AND ALTERNATIVES

	Proposed Action: Minimum Development and Preservation	Alternative 1: Existing Conditions (No Action)	Alternative 2: Selective Restoration and Development
<u>Visitor Access</u>	No change	No change	Provide new access from Byers Street
<u>Parking</u>	No change	No change	Remove existing area except for handicap parking; construct new lot in northwest corner of the historic site
<u>Landscape</u>	Modify slopes to reduce erosion and to more closely resemble historic terraces; plant trees in historic configurations	No change	Restore historic terraces; reconstruct fountain and gardens
<u>Use and Treatment of Structures</u>			
Main arsenal	Preserve, with adaptive use of interior	Stabilize and maintain, with adaptive use of interior	Same as proposed action plus remove loading dock
Commanding officer's house	Preserve, with continued use for park administration; lease unused portions	Stabilize and maintain, with continued use for park administration	Same as proposed action
Garage	Preserve; use for storage and maintenance	Same as proposed action	Same as proposed action
Commanding officer's gardens	Interpret through brochure and wayside exhibit	Interpret	Restore, with maintenance by local community group
Master armorer's house	Continue adaptive use by owner (STCC), with NPS technical assistance for stabilization and maintenance	Same as proposed action	Move to original site and transfer to NPS ownership; restore, preserve, and interpret; lease unused portions
Gatehouse	Stabilize and maintain; make available for interpretation and administrative use, as needed	Stabilize and maintain	Preserve
Walks and paths	Maintain and improve	Stabilize and maintain	Same as proposed action
Fence	Stabilize and replace deteriorating sections	Same as proposed action	Same as proposed action except remove portion to construct new access
<u>Interpretation</u>	Provide self-guiding walking tours for Armory Square, Federal Square, Watershops, and Quadrangle; jointly implement with STCC an interpretive marker program (wayside exhibits) for Armory Square; provide exhibits inside armory building in phases, in accordance with visitor use demands	Provide self-guiding walking tour with brochure of Armory Square	Same as proposed action plus provide signs and wayside exhibits at all sites

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

	<u>Proposed Action</u>	<u>Alternative 1</u>	<u>Alternative 2</u>
<u>Impacts on Cultural Resources</u>	Maintenance and preservation of historic resources would protect the historic scene	Stabilization of resources would stop further deterioration	Preservation and selective restoration of resources would help re-create a historic setting, but one that did not exist historically
Resources Administered by the National Park Service			
Archeological resources	A survey would locate, identify, and evaluate archeological remains; some subsurface resources would be affected	Same as proposed action	Same as proposed action
Main arsenal	Preservation would ensure its historic integrity	Stabilization would prevent further deterioration	Same as the proposed action plus removal of the concrete loading dock would restore its pre-1940 appearance
Commanding officer's house	Exterior preservation would maintain the structure's appearance; interior adaptive use would result in the loss of some historic material	Stabilization would prevent further deterioration; interior adaptive use would result in the loss of some historic material	Same as proposed action
Gatehouse	Stabilization would prevent further deterioration	Same as proposed action	Preservation would ensure the structure's historic integrity
Fence	Maintaining the fence and gates and replacing missing sections would preserve the character of the armory	Same as proposed action	Same as proposed action except for removal of fence section for new entrance
Walks and paths	Maintaining and improving existing paths would perpetuate the historic setting	Same as proposed action	Improving the walks and paths would contribute to the historic setting
Landscape	Stabilized slopes would help restore the historic scene, as would planting trees and shrubs in historic configurations	The historic scene would not be restored	Reconstruction of fountains and gardens and moving the master armorer's house would help restore a more historic appearance, but it would not be historically accurate

	Proposed Action	Alternative 1	Alternative 2
Resources Administered by the College	The existing characteristics would be maintained	Same as proposed action	Same as proposed action except for relocation of master armorer's house
Master armorer's house	Adaptive use of the structure would result in the loss of some historic material	Same as proposed action	Relocation of the structure to NPS land would ensure its preservation; partial restoration of the exterior would contribute to the historic scene; relocation could result in some structural damage
Federal Square, Watershops, and Other Citywide Resources	Increased visitor awareness would encourage other resource preservation efforts	Lack of coordination with historical groups and property owners could result in the loss of integrity of some resources	Same as proposed action but increased coordination could further promote the preservation of historic resources throughout the city
<u>Impacts on Natural Resources</u>	Erosion from steep slopes would be reduced; removal of debris from the ravine would eliminate any health hazard	Erosion from steep slopes would continue	Erosion would be eliminated; turf would be removed for construction of new parking lot; short-term construction impacts (noise, dust, erosion) would occur
<u>Impacts on Visitor Experience</u>	Visitor experience would be improved because of preservation of the historic scene, elimination of safety hazards, and expanded interpretive programs; installing directional signs would make access easier	Existing visitor experience would continue	Overall the visitor experience would be improved with new access and parking, elimination of safety hazards, restoration of most of the historic scene, and improved interpretive and outreach programs
<u>Impacts on Socioeconomic Environment</u>	A slight increase in visitation would increase revenues to the local economy	No additional impact	Same as the proposed action except visitation would be higher
<u>Impacts on Management</u>	Landscape maintenance would be easier; minor staffing increases would be required; there would be leasing revenues and increased administrative costs; development would be minimal	Maintenance problems due to steep slopes and debris would continue; maintenance costs would be higher because of having to deal with increasing erosion problems; there would be no new development costs	Landscape maintenance would be easier, but costs would be higher; more staff would be necessary; there would be leasing revenues and administrative costs; moderate to high development and maintenance costs

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PURPOSE OF AND NEED FOR THE PLAN

The purpose of this General Management Plan / Development Concept Plan / Environmental Assessment is to present three alternative strategies for the future management, development, and visitor use of Springfield Armory National Historic Site. The proposed action, which is the alternative preferred by the National Park Service, would provide the minimum level of development and would preserve the armory as it appeared at the time of its deactivation in 1968. The alternatives include the continuation of existing conditions (alternative 1) and the selective restoration and development of specific cultural resources (alternative 2). All of the alternatives consider the park's management objectives and the concerns of Springfield Technical Community College, which administers a portion of the armory site. All alternatives comply with policies, regulations, executive orders, and laws affecting federal actions.

The alternative that is ultimately approved as the plan by the North Atlantic regional director will serve as both a manager's guide for meeting the objectives established for Springfield Armory and a public statement of NPS management intentions. The plan will establish long-range strategies that will be integrated into a framework for future programs, facilities, and management actions. Although this plan is expected to be valid for the next 10 to 15 years, aspects of it may be amended from time to time to address emerging needs or problems.

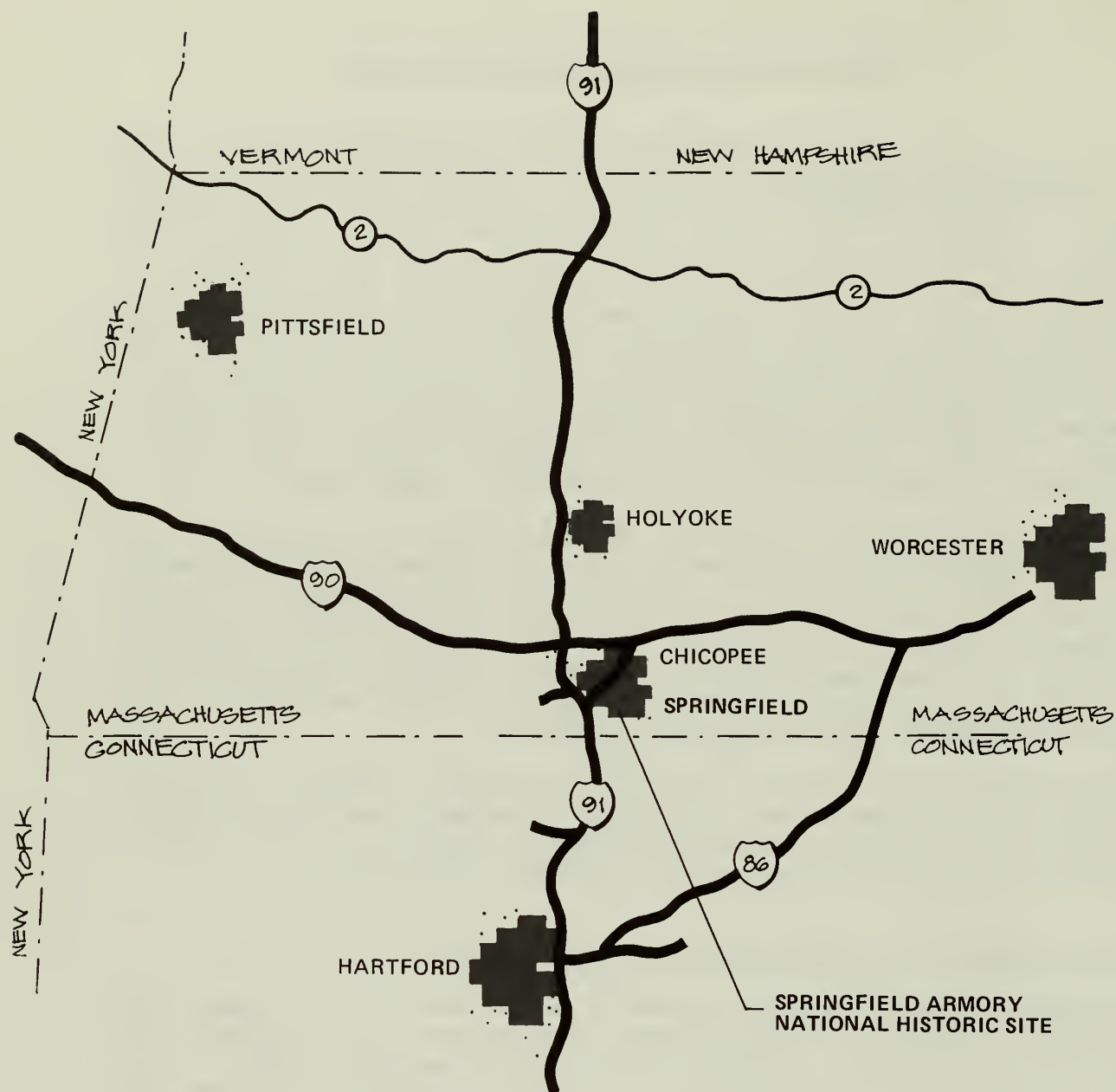
The National Park Service and the Springfield Technical Community College will continue to work together to manage the armory site, to execute the mandates of the site's authorizing legislation, and to meet the objectives of both the college and the National Park Service.

SIGNIFICANCE OF THE NATIONAL HISTORIC SITE

Springfield Armory National Historic Site, a 55-acre site located near downtown Springfield, Massachusetts, commemorates the important role this armory played in the nation's military and industrial history. From its inception in 1777 through its final days of operation in 1968, the armory was a center for small arms storage, research, development, and manufacture. It held an international reputation for its quality products and its industrial innovations.

The national historic site was established by Congress in 1974 to promote an understanding of government arms manufacturing and the historic significance of the armory itself (see appendix A). It is today the home of one of the largest arms collections in the world. Most experimental models produced at the armory, as well as thousands of pieces collected from around the world for research and development purposes, are contained in the collection. The collection is on indefinite loan from the Department of the Army.

The physical layout of the armory took shape during the 1800s, when the idea of successive commanding officers was to build a "Grand National Armory." Their intent was to create a majestic federal complex that



0 5 10 15 MILES

regional setting

**SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE**

UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

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reflected an aura of national strength and solidarity. The national historic site complex, known as Armory Square, consists of several 19th century brick structures, a central green, and an iron fence that surrounds the entire site. The most imposing structure is the main arsenal, which was completed in 1850 and currently houses the arms collection. In addition to the structures in Armory Square, the original armory complex also included Federal Square, the Watershops, and test-firing sites located throughout the city and adjacent communities.

Springfield Armory has been designated a national historic landmark, and it is listed on the National Register of Historic Places.

ISSUES AND OPPORTUNITIES

There are four major issues affecting the planning for Springfield Armory National Historic Site.

Interpretation--A principal means of conveying the story of the armory is by relating the manufacture of particular arms to military events. Currently case after case of guns is arrayed for viewing by visitors, which was the method used when ownership of the armory was transferred to the National Park Service in 1978.

The issue is one of determining the following aspects of the interpretive program while maintaining reasonable costs:

- the scope, extent, and emphasis of the interpretive story

- the methods to be used

- the amount of space to be devoted to these methods

- whether interpretive media should be provided in the commanding officer's house and other portions of the site

Factors affecting these decisions are current and projected levels and types of visitor use. A corresponding issue is to determine the uses, and the requirements for facilitating such uses of the remainder of the arsenal building, based on the desired level and method of cultural resource protection, park management needs, and the potential for use by other entities.

Restoration of Historic Features--Several structures and landscape features that were present when the armory closed in 1968 have since been altered, destroyed, or allowed to deteriorate. The issue is to determine whether the interior of the gatehouse, the adjacent former gate, features of the commanding officer's garden, landscape plantings, and former grades and terraces should be restored in full, in part, or not at all. Also the desirability of re-creating the former historic scene, and to what extent, should be determined. Furthermore, ways to reduce grounds maintenance and to correct serious erosional problems should be explored.

Use of the Commanding Officer's House--A decision is needed on the future use of this building, including consideration for park administration, interpretation, leasing, or a combination of uses.

Visitor Access and Parking--Present visitor access from city streets and onsite parking are considered to be adequate. Once on the site, however, a series of sharp and sometimes confusing turns make the approach to the parking area troublesome. It must be decided whether to improve access through the college-owned portion of the site, or alternatively to develop a completely new access system through NPS property. A major change in access could result in the need to relocate or change the existing parking configuration.

MANAGEMENT OBJECTIVES

The following management objectives provide a framework for preserving park resources, integrating the park into its surrounding environment, and accommodating public use. They have been developed to reflect NPS management policies and the concerns of Springfield Technical Community College.

Cultural Resource Preservation

Preserve, restore, and protect the historic resources associated with arms manufacturing at Springfield Armory National Historic Site, in accordance with preservation laws, executive orders, and policies; inventory and evaluate all prehistoric and historic archeological resources within the boundaries of the historic site.

Cooperate with the commonwealth of Massachusetts in the protection, preservation, and use of the complex of historic buildings at Springfield Armory National Historic Site, including the green.

Maintain the terrain and vegetation in a general appearance and character that is compatible with the site's historic use.

Ensure that adaptive uses of the site's historic buildings are compatible with the primary purpose of the area and are consistent with the preservation of historic values and resources.

Ensure that the arms collection is secure and is adequately preserved and displayed.

Interpretation

Foster an understanding and appreciation of the nearly 200-year history of government armament manufacturing at Springfield through interpretation of the historic significance of the armory complex and the vast arms collection.

Explain the significance of Springfield Armory to industrial history in terms of the concepts of interchangeable parts, assembly line production, and quality control.

Use the armory's renowned weapons collection to show the evolution of military small arms.

Provide for the various levels of visitor interest, ranging from the casual tourist to the arms enthusiast and scholar.

Encourage the development of programs for schools, cultural and historical groups, senior citizens, and handicapped visitors.

Development

Ensure that all developments for park administration, visitor use, and college use are safe and consistent with other park objectives and NPS policies.

THE PROPOSED ACTION AND ALTERNATIVES

The proposed action and each alternative represent distinct strategies; however, the ideas or components from each alternative can be combined to create the desired action. Several actions are common to all of the alternatives, and these are described below. The proposed action and each alternative are then described in detail.

ACTIONS COMMON TO ALL ALTERNATIVES

Actions common to the proposed action and alternatives relate to the cooperative agreement, cultural resource management, interpretation, handicap access, security, utilities, and staffing.

Cooperative Agreement

The prerequisite for the completion and approval of the plan is the acceptance of proposed amendments to the cooperative agreement among the commonwealth of Massachusetts (Springfield Technical Community College), the Massachusetts Historical Commission, and the National Park Service. The proposed elements of the agreement address the following issues:

- access and parking

- maintenance by the college of historic structures, especially those facing the green, with NPS technical assistance

- concurrence by the state historic preservation officer to manage the site according to the NPS "Cultural Resources Management Guidelines" (NPS-28)

- maintenance of the historic fence by the college and the National Park Service

Cultural Resource Management

The main arsenal will continue to be used for storing and exhibiting the arms collection. The arms collection itself will be preserved, maintained, and interpreted, as outlined in the approved "Collections Management Plan" (1977) and the "Interpretive Prospectus" (1980). A small orientation area will be partitioned off from the rest of the museum. It will be used for an audiovisual orientation presentation and for special lectures and demonstrations.

The administrative offices of the park will continue on the first floor of the commanding officer's house. The amount of space required will remain approximately the same.

The garage adjacent to the commanding officer's house will also continue in its current use as a maintenance and storage area.

An archeological inventory and evaluation consistent with the requirements of Executive Order 11593 will be conducted. Until this is completed, no ground-disturbing activities will be undertaken before evaluation by an archeologist.

The historic data section of a historic resource study was completed in 1978, along with a base map. Additional data needed to comply with the "Cultural Resources Management Guidelines" (NPS-28) will be programmed.

Interpretation

Interpretation at Springfield Armory National Historic Site will emphasize the armory's importance in government arms manufacturing, its role in industrial history, and its contribution to the development of the city of Springfield. The focus of interpretation will be on the arms collection. Interpretation will be consistent with the approved "Interpretive Prospectus," which will be implemented in phases to meet demand. The interpretive program will be developed to address the interests of three audiences: casual visitors, school groups, and arms enthusiasts.

Handicap Access

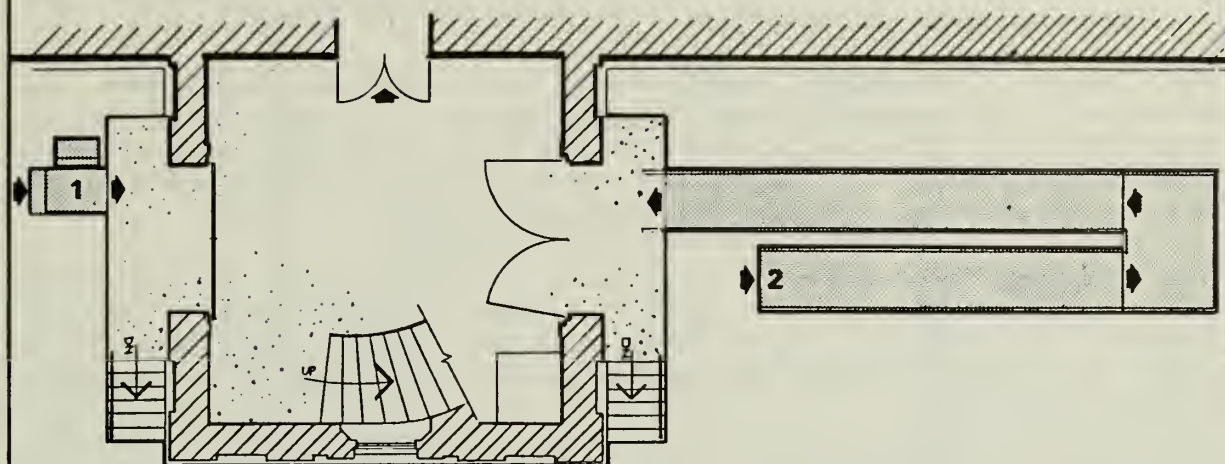
The commanding officer's house and the main arsenal require modifications for access by handicapped visitors. These are the only buildings proposed for interpretive or leased uses. (The master armorer's house would be modified only under alternative 2.) The major problems for handicapped visitors are access to the first floors from ground level and access to the restrooms. These problems and possible solutions are described below.

Main Arsenal. Current handicap access is by means of a wood ramp on the north side of the tower. The ramp is functional, but heavy in scale, and the rails do not meet handicap design requirements for height, diameter, spacing, and length at the top and bottom of the ramp. Several options are available for providing access at the tower entrance.

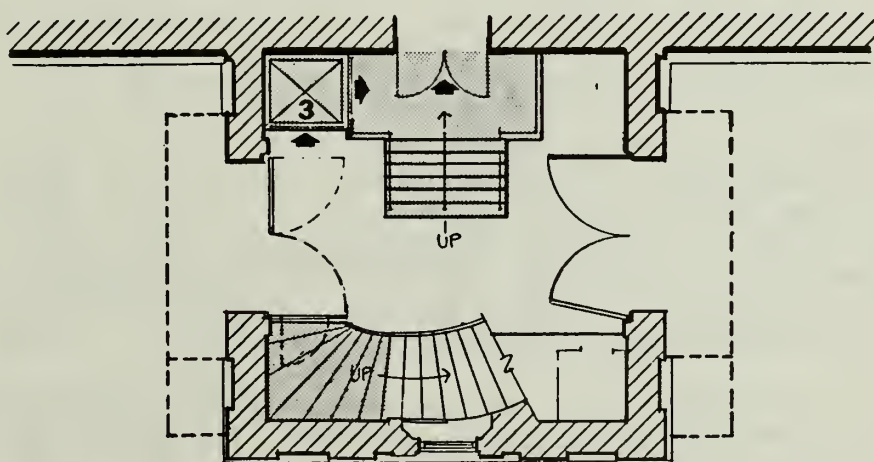
Option 1--Replace the existing ramp with a new ramp complying with standards for rails.

Option 2 (preferred action)--Replace the existing ramp with a wheelchair lift. Either side of the tower is feasible, with the loading dock on the south being slightly more compatible with the industrial character of a lift. The lift would be visible as visitors drove up to the arsenal. Protection for the lift mechanism would have to be provided (see the drawing for option 2).

Option 3--Remove the 1945 loading dock, restore or reconstruct the first floor tower interior and doors, and install a lift within the tower (see the drawing for option 3). This would provide a



Handicapped Visitor Access, Main Arsenal
Options 1 and 2, Tower Entrance



Handicapped Visitor Access, Main Arsenal
Option 3, Tower Entrance

well-protected location for the lift and would restore one of the grander features of the arsenal entrance. However, this construction would conflict with the management goal to maintain the existing historical continuum.

For interior circulation, door widths are adequate throughout the structure, but thresholds may require bevels. Vertical circulation to other floors is by means of stairs or the freight elevator, both of which require modifications for safety and handicap access. Replacement of the existing elevator and reuse of the shaft is anticipated.

The existing restrooms are not accessible according to the American National Standards Institute (ANSI). Extensive modifications will be required (for example, larger stalls, new fixtures, and grab bars) if the existing restroom locations are retained. New restrooms will be designed to meet standards.

Commanding Officer's House. The major problem is access to the first floor from the ground level, a distance that varies from approximately 48 to 70 inches. An access ramp would have to be from 53 to 75 feet long, and because of its size, it would intrude on the historic scene. A wheelchair lift would be a feasible option and would be less obtrusive than a ramp.

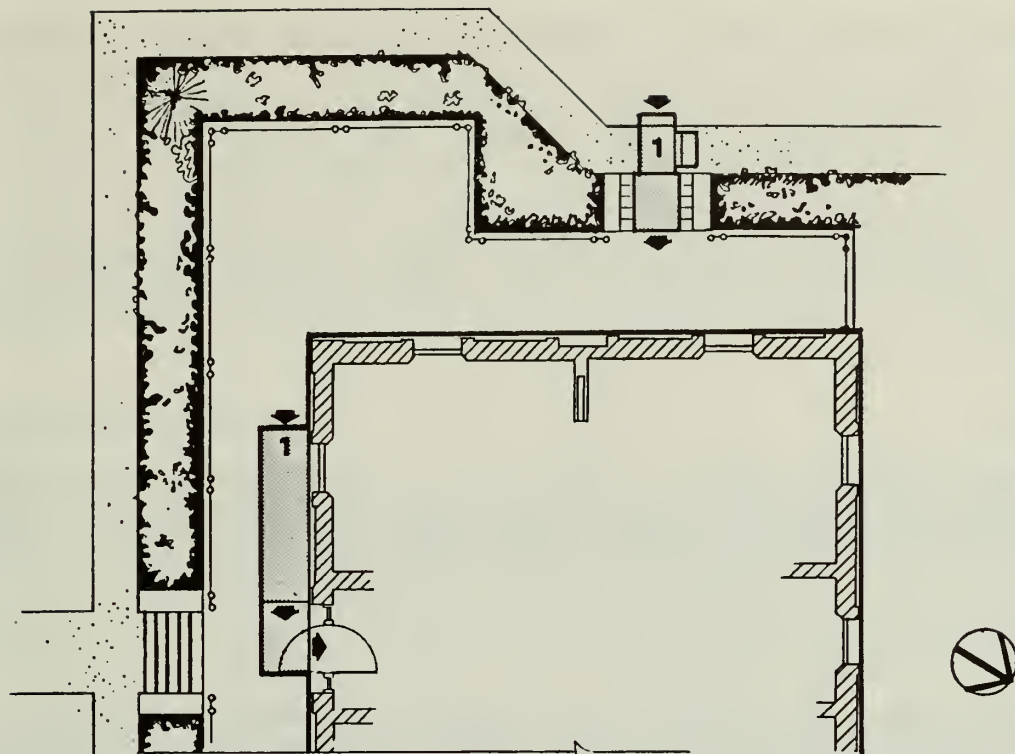
Two locations are considered for access to the first floor level:

Option 1--A vertical access would be provided to the main house porch at the west steps, and the porch would be used to get to the front entrance (see the drawing for this option). A ramp would be required on the porch to get over the two risers up to house floor level. This option would allow handicap access at the main entrance to the structure. Alternatively a ramp could be constructed around the west side of the house, starting at the road circle in front of the house where handicap parking would be located.

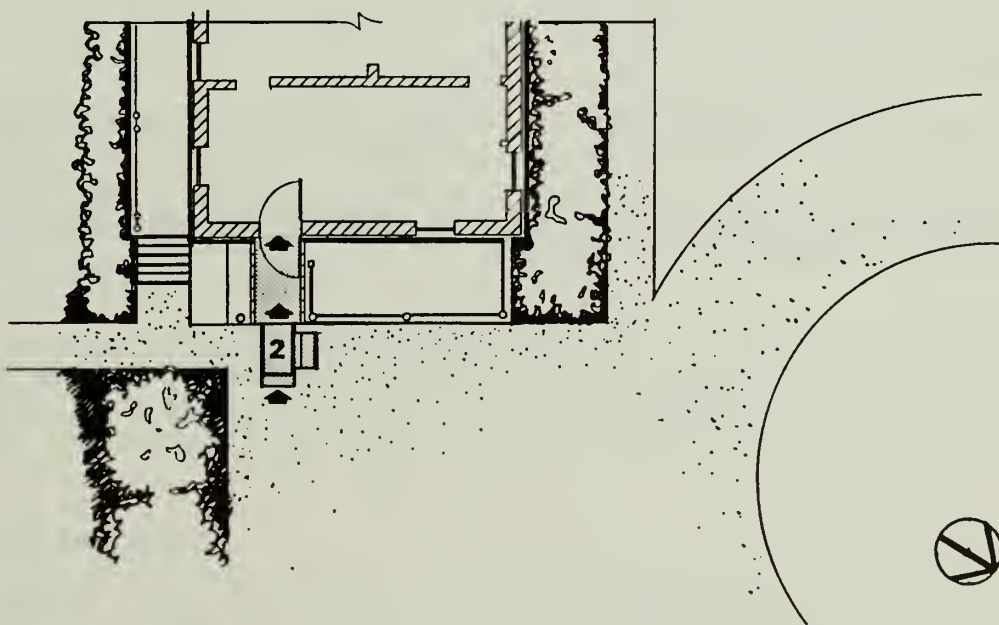
Option 2 (preferred action)--Access onto the east wing porch would be provided, with circulation through the wing to get to the main house (see the drawing for this option). Either a vertical lift could be installed at the stairs (preferred), or a ramp could circle the east wing and parallel the parking circle behind the house, where handicap parking would be located. The ramp would cover the existing deteriorated stone steps.

For interior circulation door widths are adequate throughout the first floor, but thresholds will have to be beveled. Access to the basement or upper floors by handicapped individuals would require installation of some form of lift, resulting in significant alterations to the building fabric. If space within the building is leased, consideration of any interior lifts should wait until the needs of specific tenants can be analyzed.

Restrooms are of a conventional residential type, but generally small, narrow, and below handicap standards. Room 116 offers the best opportunity to provide an accessible restroom in the house. A combination of rooms 116 and 117 would allow for the construction of an



Handicapped Visitor Access, Commanding Officer's House
Option 1, Southwest Porch Entrance



Handicapped Visitor Access, Commanding Officer's House
Option 2, Wing Entrance

acceptable unisex restroom. Construction would involve removal of historic fabric, probably dating from construction. This restroom solution would complement the second primary access option (access at the wing), and it would provide another restroom for handicapped visitors at Springfield Armory besides those provided at the arsenal.

The implementation of these access proposals will probably be financed through cyclic maintenance programs or the NPS park rehabilitation and improvement program; therefore, the costs are not included in this document.

Security

To ensure proper security at the armory, the National Park Service will continue to coordinate protective measures with the Federal Bureau of Investigation and the Springfield Police Department.

Utilities

In 1978 when the National Park Service assumed ownership and management responsibility for the federal portion of the armory, all utilities were shared among the Armory Square structures. Recently the Park Service has installed independent heating and electrical service for the main arsenal and the commanding officer's house. The NPS structures will continue to be serviced by the site's central water system, which is supplied by three water sources, to provide backup water supply for fire protection. Sewage will continue to be disposed of through the existing system, which is part of the city's sewage disposal system.

Staffing

NPS staffing requirements will be the same under the proposed action and the alternatives. A total of 11 permanent employees (including the superintendent, chief of visitor services, curator, and chief of maintenance) and five full-time equivalents (that is, less than full-time staff) will be needed.

PROPOSED ACTION: MINIMUM DEVELOPMENT AND PRESERVATION

The overall approach of the proposed action is to maintain Springfield Armory as it was in 1968, when it was deactivated as a military installation. Conditions existing in 1968 will be restored and maintained, and any needed replacement of structural elements for maintenance purposes will duplicate these conditions. Buildings or building elements will not be modified if they conflict with this approach. Likewise building elements that were changed before 1968 will not be returned to a previous condition. Cost estimates for the proposed action are shown in table 1.

Management Zoning

Under the proposed action, the portion of the national historic site managed by the National Park Service will be placed within a historic zone. This classification emphasizes the restoration, preservation, protection, and interpretation of cultural resources, and it considers existing development, park management objectives, and legislative mandates. Four subzones will be used to further define management emphasis and will limit options for future park management and use.

Adaptive Use Subzone. This subzone will include the main arsenal, the commanding officer's house and adjacent garage, and the gatehouse on the corner of State and Byers streets. Exterior building treatment in this subzone will be limited to preservation maintenance, as defined in the NPS "Cultural Resources Management Guidelines" (NPS-28). Except for the main staircase in the main arsenal, the structures may be modified on the inside only for adaptive use; this should not affect the exterior appearance.

Landscape Modification Subzone. This subzone will include those portions of the historic armory landscape to be restored to the general appearance of their 1968 condition. This action will require the regrading of portions of the site as well as the planting of trees to re-create the historic appearance of the armory. After restoration this subzone will be preserved in its restored condition.

Landscape Management Subzone. All remaining portions of the armory landscape will be included in this subzone, and they will be preserved and maintained in their present condition.

Historic Access and Circulation Subzone. This subzone will include all roads, parking lots, and walkways. The locations of these roads and paths will remain the same, and they will be maintained to preserve the existing appearance. Surfacing materials may be replaced as necessary.

Resource Management

The National Park Service will preserve the cultural resources of the park. Preservation is defined as the application of measures to sustain the existing terrain and vegetative cover of a site and the existing form, integrity, and material of an object or structure (NPS-28). (This does

not include the reconstruction or restoration of lost features or the removal of additions.)

Present NPS uses of buildings will continue, with the main focus being on the arms collection in the main arsenal. The commanding officer's house will retain its administrative and maintenance headquarters functions, and currently unused space will be leased to nonprofit groups or community organizations. The adjacent garage will continue to be used as a maintenance shop and an equipment storage area. The commanding officer's gardens will be maintained in their present condition. The gatehouse will be stabilized and will remain vacant, although it may be used periodically for on-site interpretation. The NPS portion of the historic fence and gates will be stabilized, and missing sections will be replaced.

The National Park Service will provide technical preservation and restoration assistance to Springfield Technical Community College on request. The master armorer's house, which is owned by the college, will be treated like other college structures and will continue to be adaptively used.

The existing landscape will be modified to more closely resemble its condition in 1968. In 1969 the landscape was altered during the construction of ballfields. Fill was added and steeper slopes facing Byers and Pearl streets were created, resulting in maintenance and erosion problems. Also several trees were removed during the regrading effort. Landscape treatment will consist of rolling back the crest of the slopes to minimize erosion and to more closely resemble the historic contours. Drainage improvements will be made, and vegetation will be planted to reduce erosion. Army maps of trees existing before the 1969 grading project will be used to determine the original species and their locations. As existing trees die they will be replaced by species of similar mass and form.

The ravine just north of the commanding officer's house will be cleaned up. Erosion control measures will be undertaken as needed.

The walks and paths will be improved and maintained.



Interpretation/Visitor Use

The 1980 "Interpretive Prospectus" will be implemented in phases, according to demand. The interpretive program will be designed for three types of visitors--arms enthusiasts, school groups, and general interest visitors. The program will focus on the history of the armory and its relationship to the surrounding community, the manufacturing and industrial processes, and the internationally renowned arms collection. An audiovisual presentation, exhibits (both within the arsenal and at outdoor wayside information areas), and a self-guiding tour booklet will be used.

BYERS-PEARL
STREETS GATE

FEDERAL STREET
NORTH GATE

MAIN COLLEGE
GATE

  HISTORIC ZONE (NPS-ADMINISTERED)


 ADAPTIVE USE SUBZONE

 LANDSCAPE MODIFICATION
SUBZONE

 HISTORIC ACCESS AND
CIRCULATION SUBZONE

 LANDSCAPE MANAGEMENT
SUBZONE

 COLLEGE-ADMINISTERED AREA

 FENCE

 EXISTING CONTOURS

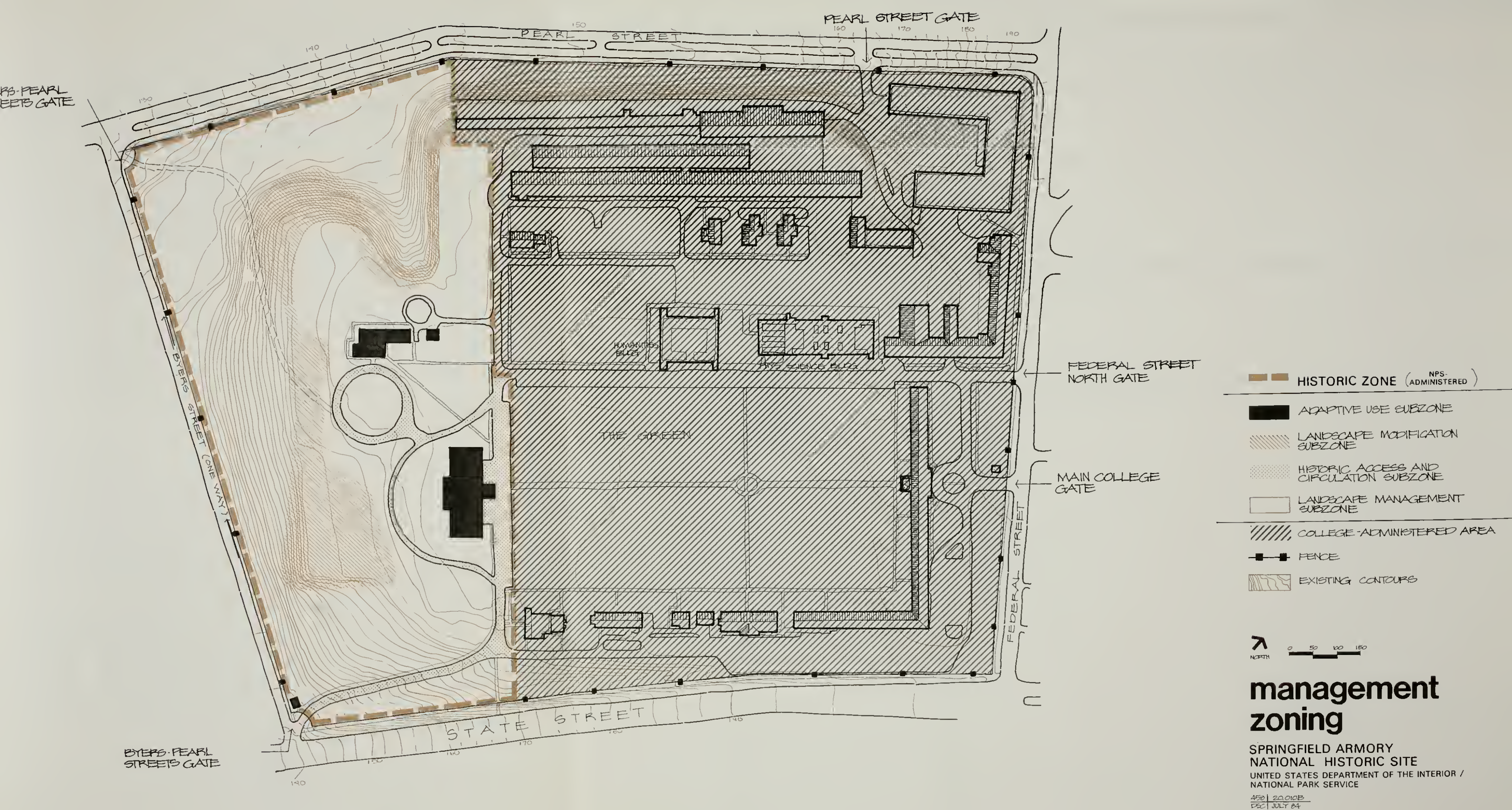

NORTH



management zoning

SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE
UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

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The main arsenal will be the focal point of the park, and the museum will concentrate on the history and significance of the site and on the arms collection display. In addition, the museum will be a major information point where an orientation film will be shown and various handout materials will be distributed. The commanding officer's house and gardens, the gatehouse and historic gate, paths, and the historic terraces will all be interpreted by means of wayside exhibits and a self-guiding tour booklet.

Visitors will be encouraged to tour the remainder of Armory Square, which is administered by the college. Features such as the master armorer's house, the green, the stables, the west arsenal, and the testing range will be interpreted in cooperation with the college by using the self-guiding tour booklet and wayside exhibits.

To give a true sense of the armory's importance, size, and complexity, visitors will also be encouraged to see the other facilities in the original army complex. A driving tour to Federal Square, the Watershops, and the railhead will be included in the self-guiding tour booklet.

Finally, interpretation at Springfield Armory will be coordinated with other major tourist attractions around the city of Springfield, such as the Basketball Hall of Fame and the Quadrangle.

Because of increased levels of development and interpretation, visitor use will likely increase from 18,000 visitors at present to 25,600 people by 1990, or 4.5 percent per year.

General Development

Under the proposed action, the major development issues relate to landscaping; the adaptive use of existing structures will not require any new construction. The two areas in need of landscape treatment are the steep slope facing Byers Street and the ravine to the north of the commanding officer's house. Approximately 3,000 cubic yards of fill will be removed from the crest of the slope facing Byers Street. Ground cover and drainage tiles will be used where necessary to stabilize the slope and reduce erosion. Topsoil will be retained and replaced after regrading. The disturbed areas will be seeded.

Landscape modifications to the ravine area will involve the removal of debris and possible regrading to restore the historic terraces. Approximately 2,000 cubic yards of debris and fill will be removed. The disturbed area will be planted to stabilize the slope.

Traffic routes will be adequately signed and marked to ensure proper traffic flow. The turning radii of several curves will be improved. Parking will continue to be provided in front of the main arsenal.

Table 1: Construction Cost Estimates, Proposed Action
(Phasing Period--15 Years)

	<u>Costs</u>
Cultural Resources	
Main arsenal preservation	\$2,600,000
Commanding officer's house preservation	522,000
Garage preservation	5,000
Gatehouse stabilization	25,000
Fence stabilization and preservation	<u>164,000</u>
Subtotal	\$3,316,000
Interpretation/Visitor Use	
Interpretive media for main arsenal (see "Interpretive Prospectus")	\$1,630,000
Wayside exhibits (both NPS and non-NPS lands)	30,000
Self-guiding tour pamphlet	6,000
Directional signs	<u>5,000</u>
Subtotal	\$1,671,000
General Development	
Slope modification/erosion control	\$ 152,000
Revegetation of disturbed areas	7,000
Replanting of trees and shrubs (1968 configuration)	50,000
Installation of drainage tiles	10,000
Access road upgrading (increased turn radii)	<u>20,000</u>
Subtotal	\$ 239,000
Net Construction Cost	\$5,226,000
Gross Construction Cost*	\$7,630,000

*Includes 46 percent allowance for project planning, project supervision, and contingencies.

BYERS-PEARL
STREETS GATE

MASTER
ARMORER'S HOUSE

CONTINUE ADAPTIVE
USE BY COLLEGE;
NPS TECHNICAL
ASSISTANCE FOR
STABILIZATION AND
MAINTENANCE

LANDSCAPE
RESTORE HISTORIC
TERRACES; PLANT
TREES IN HISTORIC
CONFIGURATION

COMMANDING
OFFICER'S HOUSE

CONTINUE ADMINIS-
TRATIVE USE; LEASE UNUSED
PORTIONS
FEDERAL STREET
NORTH GATE

VISITOR ACCESS
IMPROVE TURNING
RADI

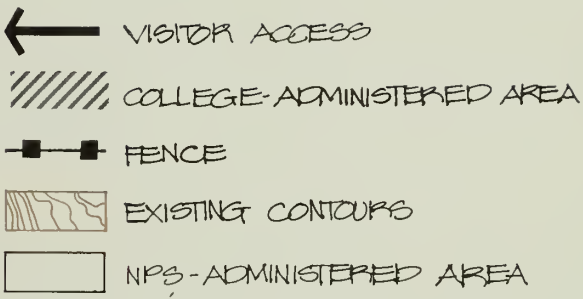
MAIN ARSENAL
PRESERVE, WITH ADAP-
TIVE USE OF INTERIOR

PARKING
CONTINUE EXISTING
MAIN COLLEGE
GATE

FENCE
STABILIZE AND REPAIR
DETERIORATING

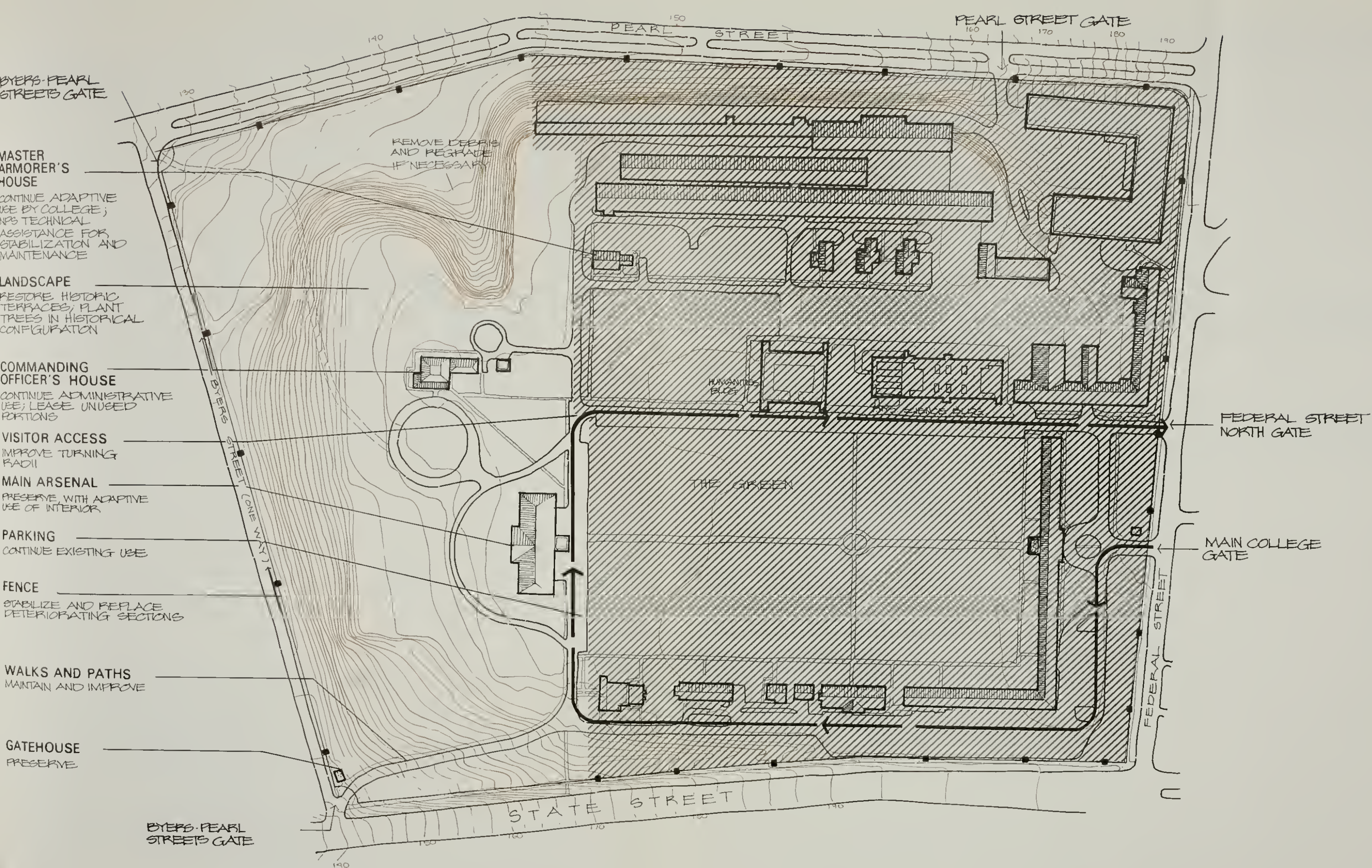
WALKS AND PATHS
MAINTAIN AND IMPROVE

GATEHOUSE
PRESERVE



proposed action

SPRINGFIELD ARMORY
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proposed action

SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE
UNITED STATES DEPARTMENT OF THE INTERIOR /
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ALTERNATIVE 1: CONTINUATION OF EXISTING CONDITIONS (NO ACTION)

Under alternative 1, existing conditions, management policies, and funding levels would be continued. This implies ongoing maintenance and interpretation at existing levels, but it does not extend to the rehabilitation of deteriorating structures. Cost estimates are shown in table 2.

Resource Management

This alternative would recommend no further development, and present levels of stabilization, preservation, and protection would continue. Although no additional programs or construction would be undertaken, the National Park Service would stabilize and maintain the properties under its jurisdiction that are listed on the National Register of Historic Places, as required by law. Stabilization is defined as the application of measures to reestablish an unsafe or deteriorated structure's weather resistance and stability, while maintaining its present essential form. Stabilization is normally an interim treatment for historic structures and a final treatment for prehistoric resources.

The main arsenal would continue to serve as a museum for the display and storage of the arms collection. The commanding officer's house would retain its administrative and maintenance headquarters function, while the adjacent garage would still be used for maintenance and vehicle storage. The gatehouse would be stabilized, but it would remain vacant. The National Park Service would maintain its portion of the fence and gates.

The National Park Service would provide technical preservation and restoration assistance, as requested, to the college. The college-owned master armorer's house would continue to be treated like the other structures on college grounds, and it would continue to be adaptively used.

The current landscape would be maintained. Additional maintenance would be required to control the increasing erosion problem of the steep slopes north and west of the main arsenal and the commanding officer's house.

Interpretation/Visitor Use

The arms collection housed in the main arsenal would remain as the prime visitor attraction. The history and significance of the site would continue to be interpreted according to the 1980 "Interpretive Prospectus," which would be implemented in phases, based on demand. Media used for the interpretive programs would be exhibits (inside the main arsenal), an audiovisual presentation, and a self-guiding tour booklet.

Aside from the visitor services provided in the main arsenal, the remainder of Armory Square, particularly the NPS-administered portion, would provide supplementary information on the armory's organization and significance through the self-guiding tour booklet.

Because development and interpretation would continue at the present levels, visitor use would increase to 24,630 people by 1990, an increase of approximately 4 percent per year. This projection reflects the existing trends for visitation over the last five years.

General Development

Automobile access to the site would continue to be from Federal Street, through the main entrance to the college, and by way of the parking lots on the south side of the college grounds. Pedestrian access to the main arsenal would continue to be either by the stairs or the ramp on the north side of the tower. The current proposals to improve sign placement to direct site visitors would be carried out.

Table 2: Construction Cost Estimates, Alternative 1

	<u>Costs</u>
Cultural Resources	
Main arsenal stabilization and maintenance	\$2,308,000
Gatehouse stabilization	25,000
Commanding officer's house stabilization	<u>522,000</u>
Subtotal	\$2,855,000
Interpretation/Visitor Use	
Interpretive media for main arsenal (see "Interpretive Prospectus")	\$1,630,000
Self-guiding tour pamphlet	6,000
Directional signs	<u>3,000</u>
Subtotal	\$1,639,000
Net Construction Cost	\$4,494,000
Gross Construction Cost*	\$6,561,000

*Includes 46% allowance for project planning, project supervision, and contingencies.

BYERS-PEARL
STREETS GATE

MASTER
ARMORER'S
HOUSE

CONTINUE ADAP
USE BY COLLE
NPS TECHNICAL
ASSISTANCE
STABILIZATION
MAINTENANCE

COMMANDIN
OFFICER'S
HOUSE

STABILIZE AND
MAINTAIN, CON
ADMINISTRATIVE
USE

FEDERAL STREET
NORTH GATE

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STABILIZE AND
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PARKING

CONTINUE EX

MAIN COLLEGE
ATE

FENCE

STABILIZE AND
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GATEHOUSE
STABILIZE AND



VISITOR ACCESS



COLLEGE-ADMINISTERED AREA



FENCE



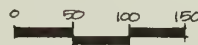
EXISTING CONTOURS



NPS-ADMINISTERED AREA



NORTH

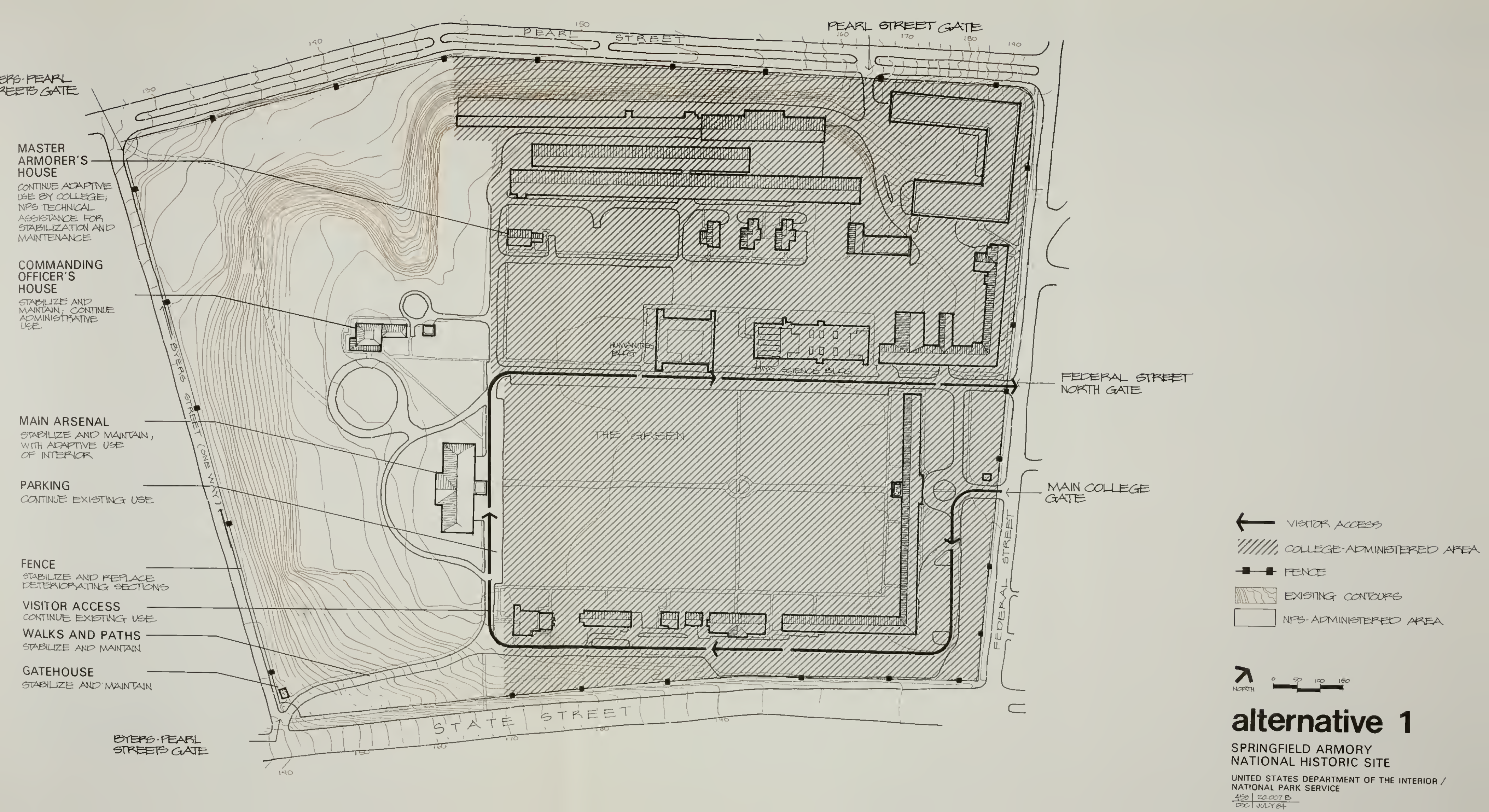


alternative 1

SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE

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ALTERNATIVE 2: SELECTIVE RESTORATION AND DEVELOPMENT

This alternative represents a blend of preservation, the selective restoration/reconstruction and adaptive use of certain cultural resources, and the full development of interpretive facilities both on the armory grounds and in the city. This alternative would involve a closer working relationship between the park, the college, the city, and private enterprise. Cost estimates are shown in table 3.

Resource Management

The main arsenal would continue to house the arms collection and related activities. The existing wooden ramp for access by handicapped visitors and the concrete loading dock would be removed. The ramp would be replaced by a lift rising approximately 4 feet from grade to the first-floor level. The entry would be restored or reconstructed to reflect conditions before the loading dock was added in 1945.

The first floor of the commanding officer's house would continue to be used for park administration and operations. The second floor could be used by community groups or leased for various purposes, subject to NPS approval.

The garage adjacent to the commanding officer's house would continue to be used as a maintenance shop.

The gatehouse would be preserved, and an onsite interpreter would be stationed here during peak use periods.

The master armorer's house would be relocated to its original site adjacent to the main arsenal. This would partially re-create the historic appearance of the green and ensure the preservation of this structure. The exterior of the building would be partially restored to reflect its appearance at the time it was moved (1879). The structure would be used for interpretation and general storage; it could also be used by community groups. Site features such as the existing road and sidewalk north of the arsenal would be removed. New sidewalks and utility services would be provided to the structure.

The steep slopes would be graded to restore the terraces as developed in 1846 and to control erosion. Army maps of trees existing before the 1969 grading project and an archeological survey would be used to determine exact species and locations. Hedges and the fountain pool adjacent to the commanding officer's house would be reconstructed according to photographs and maps. The rose arbor would be reconstructed, and the commanding officer's gardens would be restored, with the development of hedges, lawns, plants, and any other additional landscape features uncovered through research; a local community group would be sought to maintain it. The entrance to the arsenal would also be reconstructed, and original landscape materials, if confirmed by research, would be used. The 1952 tennis court would be removed and the area revegetated. The area of the spring would be restored and replanted. All walks would be upgraded and maintained.

Interpretation/Visitor Use

The 1980 "Interpretive Prospectus" would be implemented, with minor additions. The major difference between this and the other alternatives is that visitors would be provided with a broader understanding of the armory and its relationship to the surrounding communities and the nation.

Visitor use patterns would be the same as described for alternative 1. To get a true sense of the armory's importance, size, and complexity, however, visitors would be encouraged to tour the other facilities that were a part of the original army complex--Federal Square, the Watershops, the railhead, and several test-firing sites. A self-guiding tour booklet would be prepared for this use. Wayside exhibits could be constructed, and tours could be conducted with the cooperation of the present owners. Finally, Springfield Armory would be tied into other key tourist attractions situated around the city of Springfield. A walking tour of the city could feature such sites as the Basketball Hall of Fame and the Quadrangle.

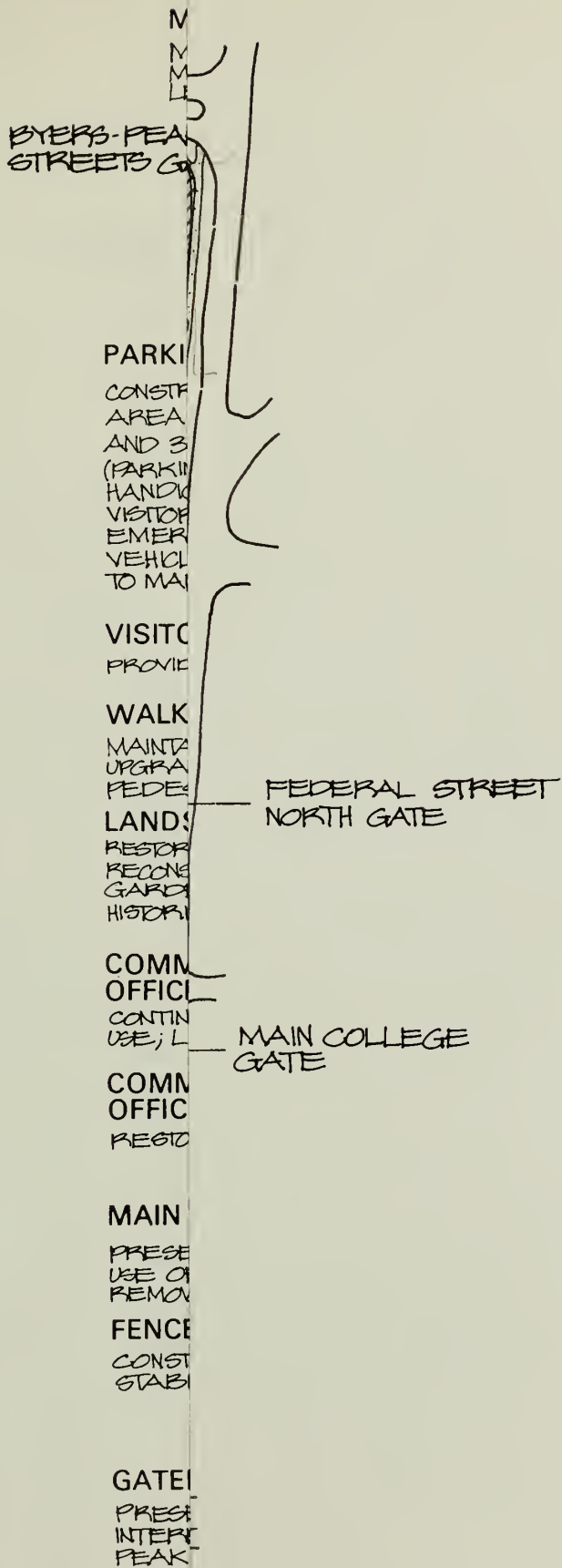
This alternative represents the highest level of development and interpretation, and visitation is projected to increase to 26,600 people by 1990, an annual increase of about 5 percent.

General Development

Access would be provided from Byers Street through a new opening in the fence and into a new parking lot located in the northwest corner of Armory Square. The parking lot would be paved and would accommodate 25 cars and three buses. Park visitors would be discouraged from driving through the college campus, except for handicapped visitors, who would be directed to parking in front of the main arsenal. Visitors would reach the main arsenal by way of the hay road, which would be upgraded for pedestrian access. A portion of the existing parking lot in front of the arsenal would remain for handicapped visitor parking, service vehicles, and emergency access. The rest of the parking spaces would be removed and the area revegetated.

A pedestrian trail network (shown on the Alternative 2 map) would be either constructed or upgraded for access to the main arsenal and for interpretation of the key features of the park. Major portions of the trail network would be accessible to the handicapped.

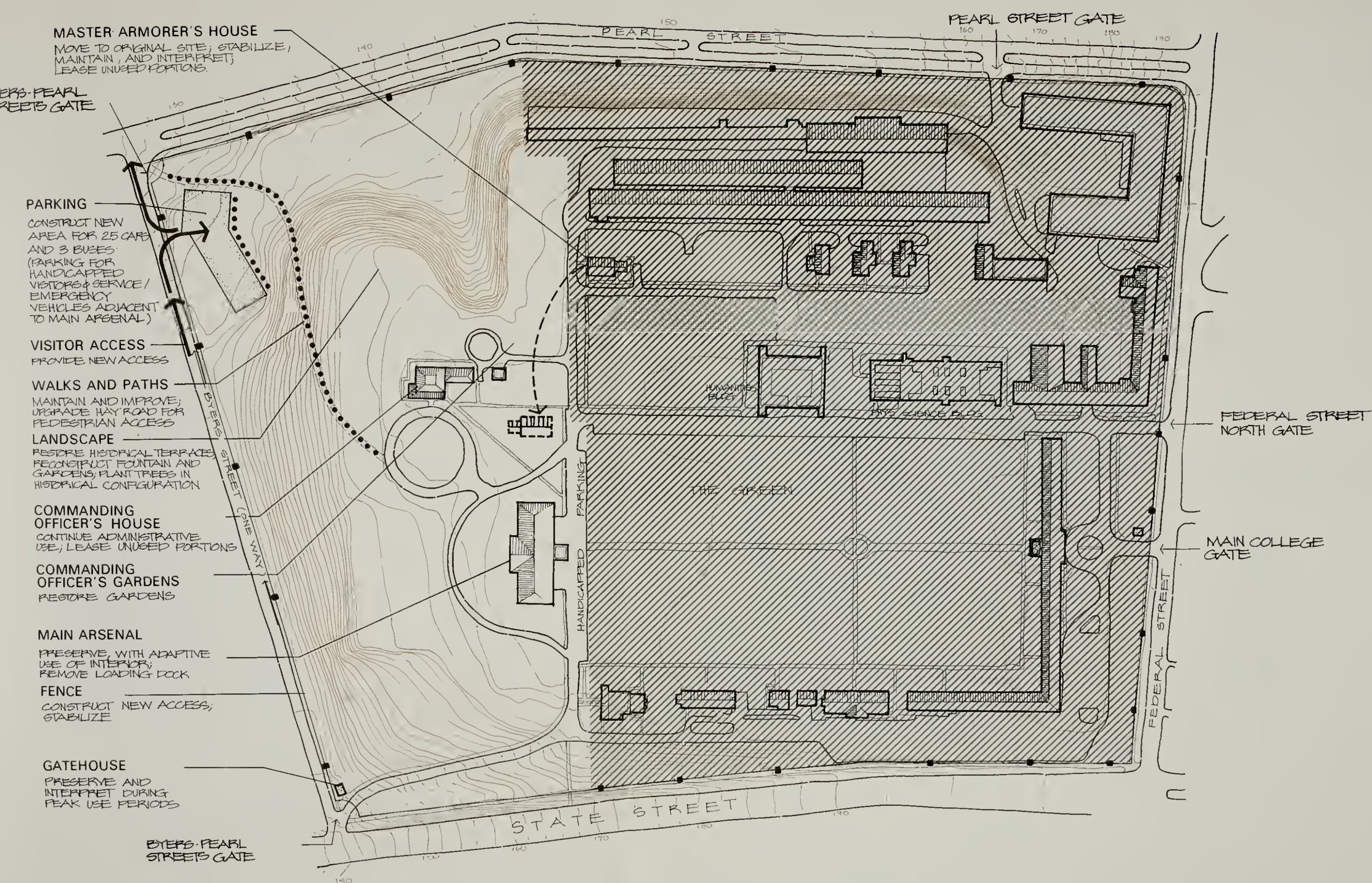
The master armorer's house would be relocated to its original site adjacent to the main arsenal, and the exterior of the building would be partially restored. A ramp would be built parallel to the long side of the house for handicap access. It would be screened from the road and most of the historic site. Interior circulation is generally adequate, but bevels would be required for thresholds; a lift would be needed for access to the basement or second floor. The existing bathroom on the first floor would be modified to meet accessibility standards. This would include installing grab bars, insulating hot water pipes, and lowering mirrors. The current bathroom does not provide adequate turning space, but the room could be enlarged to include the hall closet so that the space would be marginally acceptable.



alternative 2

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alternative 2

SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE
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Table 3: Construction Cost Estimates, Alternative 2

	<u>Costs</u>
Cultural Resources	
Main arsenal	
Preservation	\$2,600,000
Removal of 1945 loading dock	20,000
Commanding officer's house perservation	522,000
Reconstruction of commanding officer's gardens (including rose arbor)	60,000
Garage	5,000
Gatehouse preservation	52,000
Fence stabilization and preservation	164,000
Master armorer's house restoration	<u>350,000</u>
Subtotal	\$3,773,000
Interpretation/Visitor Use	
Interpretive media for main arsenal (see "Interpretive Prospectus")	\$1,630,000
Wayside exhibits (both NPS and non-NPS lands)	60,000
Self-guiding tour pamphlet	6,000
Interpretive media for commanding officer's house	6,000
Interpretive media for master armorer's house	6,000
Directional signs	<u>10,000</u>
Subtotal	\$1,718,000
General Development	
Restoration of terraces and erosion control	\$ 740,000
Reconstruction of hedges and fountain	18,000
Revegetation of disturbed areas	165,000
Removal of tennis court	5,000
Replanting of trees (1968 configuration)	50,000
Landscaping of entrance to main arsenal	15,000
Access road upgrading (increased turn radii)	20,000
Construction of new parking lot, accompanying road, and entrance	25,000
Pedestrian trail network (surfaced)	42,000
Removal of walks and road adjacent to main arsenal and commanding officer's house	40,000
Relocation of master armorer's house	<u>50,000</u>
Subtotal	\$1,170,000
Net Construction Cost	\$6,661,000
Gross Construction Cost*	\$9,725,000

*Includes 46% allowance for project planning, project supervision, and contingencies.

AFFECTED ENVIRONMENT

CULTURAL RESOURCES

For nearly 200 years, Springfield Armory occupied a unique position in American history. As a center for arms research and development, the armory held an international reputation for its quality products and its innovative contributions to the industrial revolution.

History of the Armory

The history of Springfield Armory began with the American Revolution. In 1777 Gen. George Washington selected Springfield for a magazine and laboratory for the manufacture of ammunition and the storage of weapons. The specific site was a level, sandy plain ending in an abrupt cliff overlooking the town. Unwanted by farmers, more easily defensible than surrounding areas, and near the growing cluster of firearms manufactories, the site could not have been more appropriate.

In 1794 Congress formally established the national armory, and from that time the armory experienced continual growth. The armory also contributed to the growth of Springfield as a major industrial center in western Massachusetts.

During the early 19th century Springfield Armory played an important role in the development of the principle of interchangeability of parts, an essential concept in the modern assembly line techniques of American industry. In 1822 Thomas Blanchard, an armory workman, devised a machine for turning gun stocks. This machine proved a forerunner of machines for making other standardized gun parts.

From 1794 to 1861 Springfield Armory and the armory at Harpers Ferry, Virginia, supplied arms to U.S. armed forces. After the Harpers Ferry armory was destroyed during the Civil War, Springfield was the only producer of government-made small arms until 1904, when the Rock Island arsenal began production in Illinois.

The rifles developed, tested, and produced at Springfield Armory included the .58 caliber rifle carried by Union troops during the Civil War, the .45/70 caliber rifle and carbine used by the U.S. Army in Indian wars in the West, the .30/70 caliber Krag-Jorgenson rifle used in the Spanish-American War, and the "03" Springfield used in World War I. The M-1 rifle issued to U.S. forces in World War II was developed by an armory employee, John C. Garand. The last military rifle produced at the armory was the M-14 in the 1960s.

Physical Layout of the Armory

After the formal establishment of the armory, buildings were constructed and modified to suit the needs of the growing installation. Col. Roswell Lee, assuming command in 1815, inherited an industrial area considered

large for its day. Lee recognized the potential grandeur of the site and began the development of a "Grand National Armory." While each of Lee's successors applied it differently, this central theme is essentially the story of the site. Strength, solidarity, and an aura of national might would always show in its features.

The third commanding officer of the armory, Lt. Col. James W. Ripley, generated changes in the physical layout of Armory Square that were even more dramatic than Roswell Lee's. Ripley, adding to a visual concept initiated by Lee, expanded the magnitude and created a majestic federal establishment.

Work on the main arsenal building started in late spring 1847. Its size, combined with its position between the master armorer's house and the paymaster's house at the end of the green, made the building one of the most imposing in the entire complex. When construction was completed three years later, the main arsenal formed a focal point at Armory Square. Also begun in 1847 were plans for an iron fence to serve both utilitarian and symbolic needs. Actual construction of the fence did not start until 1852 and continued until 1864.

The steep slopes to the north and west of the main arsenal and the commanding officer's house were regraded during Ripley's tenure. His plans for terracing the area are still the most effective means of controlling the pervasive erosion caused by the seepage of springs from the face of the bluffs.

From the end of the Ripley administration in 1854 to 1968 there were no major construction projects at the armory. The master armorer's house was moved to its present location sometime between 1877 and 1882. This did not, however, preclude major technological changes or the coming and going of thousands of workers and soldiers. The armory met the challenge of ordnance manufacturing from the Spanish-American War through the Vietnam War. In its last years as an active military installation, the armory served as the U.S. Army's principal research and development center and pilot manufactory for small arms. When phased out in 1967-68, the armory was the federal government's oldest manufacturing arsenal.

Because the Springfield Armory National Historic Site is under the jurisdiction of both the National Park Service and the Springfield Technical Community College, the following description reflects this division of administration.

Resources Administered by the National Park Service

Potential Archeological Resources. The topography of the armory site is a level plain that ends in a bluff overlooking the Connecticut River valley, and several springs are located throughout the area. Consequently, the site is more easily defensible than any surrounding areas (USDI, NPS 1978), suggesting an ideal location for hunting, camping, and occupation by prehistoric populations. It is possible that archeological evidence of prehistoric use of the site could be recovered.

Historical documentation for the Springfield Armory indicates the probability of recovering archeological resources that could be used to identify and interpret various previous structures and activities associated with the site since at least 1786. Although major development at the site did not begin until 1794, some sort of armory or arsenal activity took place there constantly since 1777. Before 1777 it was used by the community of Springfield as a training field.

Sites with potentially significant archeological resources have been identified through historical references to former structures, deposits reflecting the activities associated with these structures, and evidence now visible on the ground surface indicating previous activities or structures. The locations of 12 former structures are shown on the Archeological Resources map, in addition to the sites of potential remains of early water and sewer structures, various outbuildings, and three private dwellings, all of which could be investigated. Archeological resources besides those described here could be expected, even though not now exposed or documented.

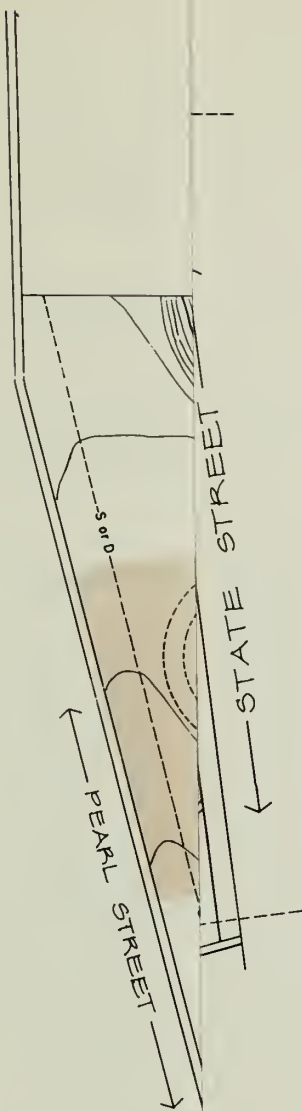
Arms Collection. The arms collection is one of the largest of its kind in the world. Since the late 1880s small arms from other installations have been collected and deposited at the armory. Most experimental models produced at the armory also went into the collection, as well as thousands of pieces from foreign countries used in experimental arms development. The armory endeavored to collect a wide variety of military small arms so that they could be used for research and development of small weapons as well as for academic studies of warfare as an instrument of national policy. The arms collection, which now runs the gamut from a 14th century hand cannon to electric revolving cannon, is on indefinite loan to the National Park Service under a 1978 cooperative agreement with the Department of the Army. The collection is currently estimated to have a market value somewhere between \$10 million and \$20 million.

Landscaping. The landscape of the historic site reflects design concepts and philosophies that have developed throughout the history of the site. The formal orientation of the mid 1800s is reflected by the classic tree plantings around the green and the remains of the formal rose garden near the commanding officer's house. More informal naturalistic layouts are characterized by recent unstructured tree plantings throughout the green.

Main Arsenal (Building 13). The arsenal was one of the primary expressions of Lt. Col. James W. Ripley's grand design for the armory. It balances the mass of the college's administration building (building 16) at the opposite end of the green.



Of the structures administered by the National Park Service, this building best illustrates the industrial character of the armory complex. It is a brick warehouse, with large spans and building masses. Only minor modifications have been made to the building form.

Commanding Officer's House (Building 1). The commanding officer's house was built in 1845 under the direction of Colonel Ripley. It reflects Ripley's influence and his conception of the role and significance of the



- A ADDITION TO BUILDING 17, CIRCA 1877
- B ICEHOUSE, CIRCA 1864
- C ICEHOUSE, CIRCA 1864
- D SENTRY BOX, CIRCA 1864, REMOVED 1875
- E GATEHOUSE, 1875-1905 (AT SITE OF BUILDING 33)
- F ENTRANCE ROAD, 1875 (TRACE IS APPROXIMATE)
- G MONUMENT, CIRCA 1877-1910
- H GREENHOUSES, CIRCA 1902-1958
- I POOL AND FOUNTAIN
- J ARMORY SQUARE
- K TERRACING
- L ENTRANCE ROAD UNTIL 1875
- M FOUNTAIN AND POOL, CIRCA 1877-1909
- N FOUNTAIN (POSSIBLY MEANING A SPRING), CIRCA 1877-1909
- O SCHOOLHOUSE
- P PAY OFFICE
- Q SOLOMON HOTON'S STORE
- R FOUNTAIN, CIRCA 1851
- S "CATHOLIC LOT"
- T ROSE ARBOR

- BLDG. 1 COMMANDING OFFICER'S HOUSE
BUILT 1845-1847
- BLDG. 10 MASTER ARMORER'S HOUSE
BUILT 1833, MOVED 1880
- BLDG. 13 MAIN ARSENAL: BUILT 1845-1850
- BLDG. 17 PAYMASTER'S QUARTERS: BUILT 1833,
MOVED 1880, DESTROYED 1968
- BLDG. 33 GATEHOUSE, 1908, REPLACED HEXAGONAL
STRUCTURE IN THE SAME LOCATION

-  NO DOCUMENTARY INDICATIONS
OF ARCHEOLOGICAL RESOURCES
-  DOCUMENTARY INDICATIONS
OF ARCHEOLOGICAL RESOURCES
- W— WATER LINES
- S or D-- SEWER OR DRAINS
- NONEXTANT BUILDING SITES



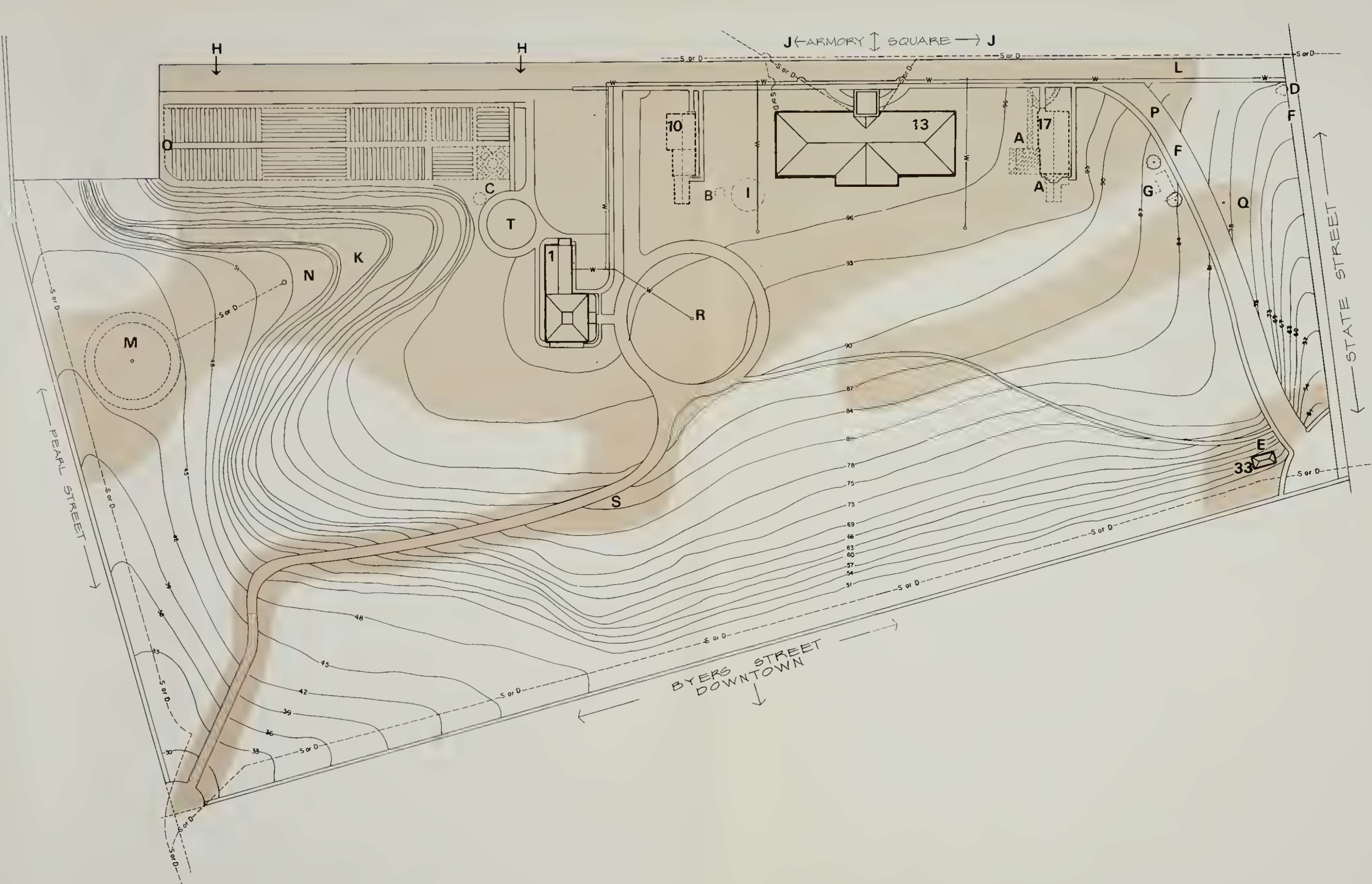
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archeological resources

SPRINGFIELD ARMORY
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- A ADDITION TO BUILDING 17, CIRCA 1877
B ICEHOUSE, CIRCA 1864
C ICEHOUSE, CIRCA 1864
D SENTRY BOX, CIRCA 1864, REMOVED 1875
E GATEHOUSE, 1875-1905 (AT SITE OF BUILDING 33)
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- BLDG. 1 COMMANDING OFFICER'S HOUSE
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- NO DOCUMENTARY INDICATIONS
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archeological resources

SPRINGFIELD ARMORY
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armory. The brick structure is in the Classic Revival style of the Federal period, and it has been modified.

Gatehouse (Building 33). Located adjacent to the gate on the corner of State and Byers streets, this brick building was built in 1908 to replace an earlier octagonal gatehouse.

Garage (Building 18). This two-bay brick structure adjacent to the commanding officer's house was built in 1937 by the Works Project Administration.

Iron Fence. The fence surrounding Armory Square was designed during the administration of Colonel Ripley and construction began in 1847. Iron for the fence came primarily from melted cannon tubes.

Resources Administered by Springfield Technical Community College

The cooperative agreement between the National Park Service and Massachusetts defines the means for preserving the historic scene within the national historic site. The locations of structures and sites are indicated on the Existing Conditions map. Several specific resources are significant and relevant to the interpretation of the military and industrial character of the armory complex.

Administration (Building 16). This building is comprised of three separate historic buildings: the administration building (built in 1819) and the flanking north and south shops (both built in 1824). During the Civil War, the three buildings were joined and a third story was added to each. The five-story square tower was also added to the west facade of the administration building, and the five-columned Doric portico was installed on the east facade.

West Arsenal (Building 11). This brick building is the oldest existing building (1807-1808) within the national historic site. Originally only two stories tall, a third story was added in 1863. Throughout its history, it was used for finishing musket barrels and as a storehouse, a recreation hall, and a barracks.

Officers' Quarters (Buildings 5 and 6). The double officers' quarters were built in 1870 in the Second Empire style. The main block (brick with slate roof) is three stories, and a one-story service well extends to the rear. A wide balustrade porch with copper roof spans the three-bay entrance facade.

The Green. Sometimes known as the parade, this vast expanse of grass dotted with trees forms the heart of Springfield Armory. It is the site of the training field used during the Revolution and the first government barracks, shops, storehouses, and powder magazine. The college has removed the majority of trees from the east side of the green to provide athletic fields. On the west side the linear, formal arrangement of the plantings can be detected within the current, more naturalistic planting. The green reflects the evolution of landscape design philosophy. Its role is central to the original classic layout of the armory buildings.

Master Armorer's House (Building 10). Building 10 and its mirror twin, building 17, first flanked the original commanding officer's house and then the main arsenal, accentuating the symmetry of Armory Square. The Greek Revival houses were moved around 1880 to the northwest corner of the green, where building 10 remains today. Building 17 was demolished by Springfield Technical Community College to make room for new construction.

The Long Storehouse or Caserne (Building 19). This long brick structure, built in 1863, had soldiers quarters on the second floor and a horse stable on the ground floor. The stable area was uniquely efficient, with good floors, wide stalls, and a system of chutes to make cleaning easier. The caserne is believed to be the finest remaining example of this building type in the United States.

Test Range (Building 28a). This concrete belowgrade structure reflects the manufacturing and testing function, which was the backbone of the armory complex.

NATURAL RESOURCES

Topography

The topography of the historic site is typical of the uplands along the Connecticut River. In the vicinity of Springfield, the river basin extends up to a series of subdued hills on both sides of the broad terraced river valley to the enclosing uplands. The Connecticut River and tributary floodplains are well below the national historic site.

The Connecticut River flows through a Triassic lowland that is underlain by shale, sandstone, and conglomerate, with interbedded basalt and diabase flows usually known as trap rock. The Triassic rocks have been faulted and tilted so that subsequent erosion has removed the weaker sediments, leaving the trap rock standing out in prominent ridges above the eroded hills to form the major topographic features of the region.

The topography of the basin has been modified by glaciation, which scraped the tops from the bedrock hills and filled the valleys with glacial detritus. Glaciers, however, apparently caused little diversion of drainage flow in the Connecticut Basin. The major effect of the glacial fill in the valleys was to raise the streams from their old beds, thereby permitting the development of present channels that have little or no relation to the underlying configuration of the old valley in the bedrock. Wetlands and poor drainages are commonly associated with glacial areas; however, no wetlands are near or within the national historic site.

Soils

Soils consist of a series of nonhomogeneous sand deposits overlying varied silt and clay deposits on a basal till layer resting on Triassic sandstone. Because the silt and clay soften when stress-relieved and exposed to free water, such as rain or inflowing groundwater, special techniques must be

BYERS-PEARL
STREET'S GATE

BUILDINGS

- 1 C.O.'S HOUSE
- 5 OFFICERS' QUARTERS
- 6 OFFICERS' QUARTERS
- 7 N.C.O. QUARTERS
- 8 N.C.O. QUARTERS
- 9 N.C.O. QUARTERS
- 10 MASTER ARMORER'S HOUSE
- 11 WEST ARSENAL
- 12 GUARDHOUSE
- 13 MAIN ARSENAL
- 14 MIDDLE ARSENAL
- 15 STOREHOUSE
- 16 ADMINISTRATION
- 18 C.O.'S GARAGE
- 19 LONG STOREHOUSE
- 20 INSPECTION & SHIPPING
- 21 MAINTENANCE
- 25 RESEARCH & ENGINEERING
- 27 SHOP
- 28 BALLISTICS
- 28a TEST RANGE
- 29 GARAGE
- 32 RESEARCH & ENGINEERING
- 33 GATEHOUSE
- 35 MAINTENANCE

SIGNIFICANT FEATURES

- A HAY ROAD
- B C.O.'S GARDENS
- C ROSE ARBOR SITE
- D BUILDING 10 SITE (BUILT 1833-MOVED 1830)
- E POOL & FOUNTAIN SITE
- F TENNIS COURT
- G BUILDING 17 SITE (BUILT 1833, MOVED 1877,
DESTROYED 1968)
- H STEEPENED SLOPES
- I PARKING

FEDERAL STREET
NORTH GATE

MAIN COLLEGE
GATE

////// COLLEGE-ADMINISTERED AREA

—■— FENCE

 EXISTING CONTOURS

 NPS-ADMINISTERED AREA

↑
NORTH

0 50 100 150

existing conditions

SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE

UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

458 | 20,000±B
DSC | JULY 84

BYERS-PEARL
STREET'S GATE

PEARL STREET GATE

BUILDINGS

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FENCE

EXISTING CONTOURS

NPS-ADMINISTERED AREA

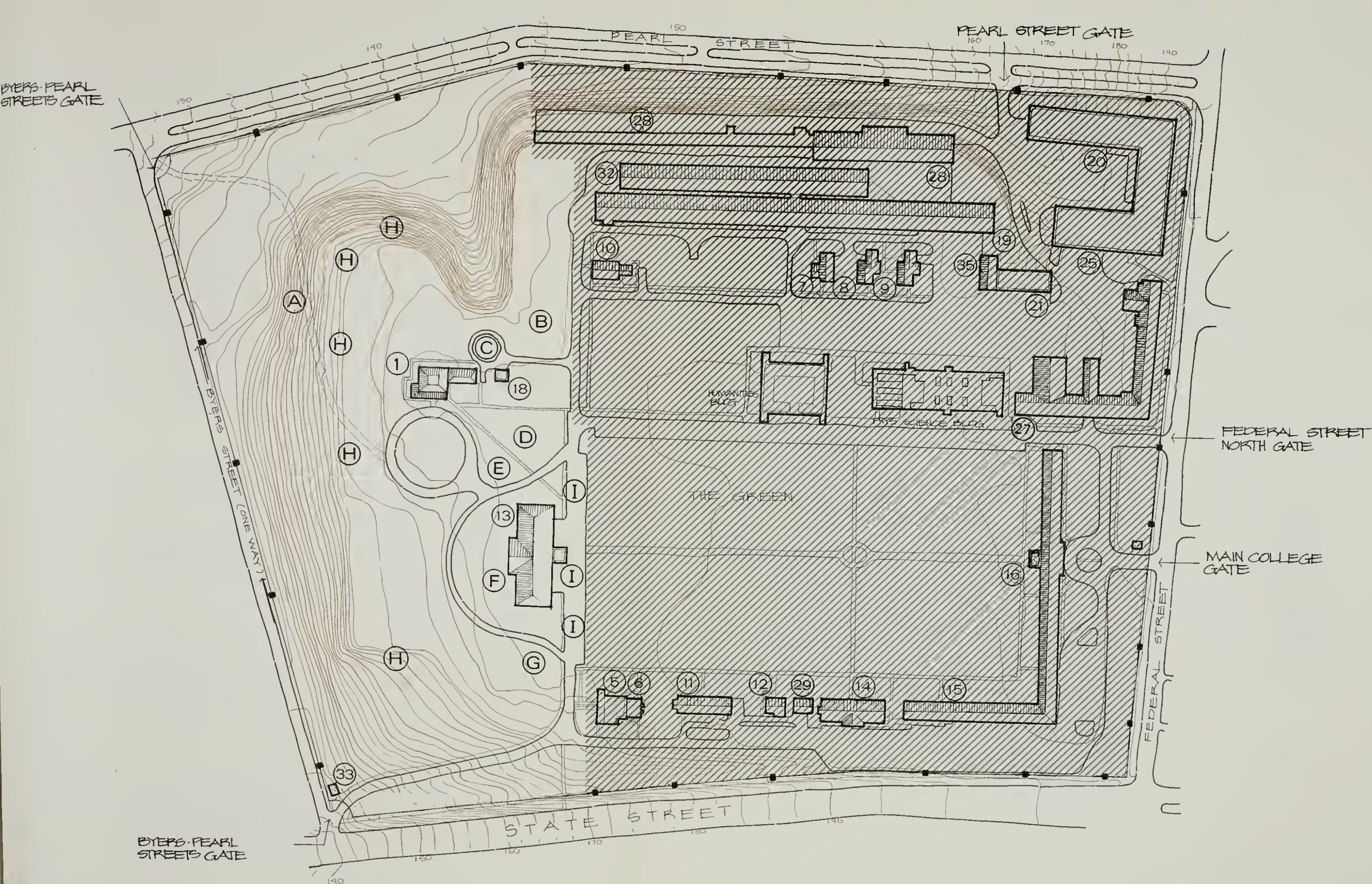
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NORTH

existing conditions

SPRINGFIELD ARMORY
NATIONAL HISTORIC SITE

UNITED STATES DEPARTMENT OF THE INTERIOR /
NATIONAL PARK SERVICE

55B 20,000 B
1980 11/24



BYERS-PEARL
STREET'S GATE

STATE STREET

FEDERAL STREET
NORTH GATE

MAIN COLLEGE
GATE

FEDERAL STREET

considered for any construction project. The soils are also very susceptible to vibrations when stress-relieved. Steep slopes are likely to erode.

Plant and Animal Life

The site has been extensively landscaped or altered. According to Kuchler (1964), naturally occurring vegetation contains three potential climax plant communities: the northern hardwoods type, with sugar maple, yellow birch, beech, and hemlock being the dominant trees; the Appalachian oak forest, with white oak and northern red oak as dominant; and a transition type, with trees of both communities. Other trees include elm, walnut, various oaks and maples, and white pine. With the exception of wet meadow areas at the base of the steep slope and the marshy ravine to the north of the commanding officer's house, the armory grounds consist of lawns and trees, giving the appearance of a city park. Most of the trees are native to the region. There are no known rare or endangered plant species at the historic site.

Birds common to Springfield's urban parks include juncos, chickadees, robins, crows, starlings, and pigeons. Small mammals, including squirrels, rats, and mice, can be found within Armory Square.

Climate

Springfield has a continental climate, at times modified by maritime weather from the Atlantic Ocean, with pleasant summers and moderately cold winters.

Prevailing westerly winds, shifting to the southwest in summer and to the northwest in winter, produce temperature fluctuations from summer to winter and considerable range from day to night. Summer temperatures average 72° F, with afternoon maximums in the low 80s and night minimums in the low 60s. Temperatures December through February average 29° F.

Precipitation, which is slightly higher in summer than winter, averages almost 47 inches annually. Summer rains are brief, with thunderstorms most frequent in June and July. Fall and winter precipitation may be augmented by occasional coastal storms ("northeasters"), and more rarely by fall tropical storms from the South Atlantic. Seasonal snowfall varies widely, with an average of 13 inches.

Air Quality

Springfield is included in the Hartford-New Haven-Springfield interstate air quality control region. The Massachusetts Department of Environmental Quality Engineering monitors pollution levels within the region and reports these findings to the Environmental Protection Agency.

Based on the air pollution conditions, that agency assigns a priority for each of five pollutants: sulfur dioxide, total suspended particulates, carbon monoxide, photochemical oxidants, and nitrogen dioxide. Three priority levels, as described below, have been established for these pollutants:

priority I - pollution levels exceed the national ambient air quality standards

priority II - pollution levels are marginal

priority III- pollution levels are relatively low

The Springfield region is classified as priority I for sulfur dioxide, total suspended particulates, carbon monoxide, and photochemical oxidants. It is rated as priority III for nitrogen dioxide.

The Clean Air Act amendments of 1977 require that federal facilities comply with state regulations and that they maintain records about emissions.

THE PARK AND ITS ENVIRONS

Regional Context

The city of Springfield lies on the banks of the Connecticut River, in a scenic valley known as the Connecticut or Pioneer Valley. The city's elevation ranges from 75 to 243 feet. The hills around the city include the Wilbraham Range to the east, the Holyoke Range to the north, and the foothills of the Berkshires to the west. The surrounding countryside, only a 15-minute drive from the city, is predominantly rural.

Springfield is a transportation hub lying at the crossroads of New England. Major north-south and east-west interstate highways and national rail lines pass through the city. Several bus lines provide frequent service to points throughout the Northeast. Bradley International Airport, also serving Hartford, Connecticut, is 18 miles away and offers passenger service to many destinations.

Land Use

Land use patterns developed as a result of topography, community needs, and economic trends. In the first half of the 19th century, a rail line was built along the Connecticut River, and an intersecting line that crossed the river was built between Boston and Albany. Industry grew up along the rail lines and established Springfield as the commercial center of the region.

Springfield experienced an economic boom at the same time that a grand design for the armory was being developed. This was also a time of industrial innovation, fostered by research at the armory. Rapid growth downtown soon filled available land with commercial and industrial establishments. The areas north and east of the armory grounds were also soon occupied primarily by industrial development.

Springfield has experienced many of the urban problems common across the country, but the late 1970s and early 1980s have witnessed a renewed interest in the city center and the development and rehabilitation of neighborhoods surrounding the armory. Local historical societies and the city have been working with private developers to renovate and reuse existing historic structures wherever possible to maintain the historic character of the city. They have also been working with federal agencies to get community block grants to help in the redevelopment. The neighborhoods to the south and east of Armory Square are being redeveloped mainly as housing, those to the north are being rehabilitated for industrial purposes, and the downtown area to the west is seeing a variety of reuse, including residential and commercial. A complete description of Springfield's planning and redevelopment effort is contained in the city's 1978 planning document, It's Time for Springfield.

Socioeconomic Characteristics

Springfield is the urban center of western Massachusetts. A city of almost 153,000, it is the third largest city in the state, and it forms the center of a metropolitan area approaching 550,000 people.

Springfield's industrial reputation was originally established by the armory. From revolutionary muskets to modern M-1s and M-14s, the "Springfield rifles" were synonymous with quality, precision, and craftsmanship. Springfield also became a booming and highly diversified industrial center. The first practical push-lawnmower, the first American-built automobile, and the first motorcycle were all created in Springfield around the turn of the century. Today, a variety of companies--Friendly (ice cream), Milton Bradley (games), G. & C. Merriam (dictionaries), Breck (shampoo), Buxton (leather goods), Monsanto (chemicals), Digital (computers), and Smith & Wesson (small arms)--reinforce Springfield's image as a preeminent manufacturing center.

Recreation Resources

The Springfield region abounds in recreational opportunities provided by its abundant rivers and lakes, by the Berkshire, Holyoke, and Wilbraham mountains, and by its rich cultural history. Several state parks and forests are within an hour's drive of the city. Mount Tom and Mount Holyoke state parks are the most popular, and both provide numerous recreational pursuits, with Mount Tom offering snow skiing and an amusement park. Laughingbrook Natural Preserve and Arcadia Wildlife Preserve, both operated by the Massachusetts Audubon Society, have become popular with those interested in nature study, hiking, and picnicking. The region also has many cultural attractions, including the re-created Sturbridge Village (often compared to Williamsburg), the Warehouse Point Trolley Museum, and the Old Newgate Prison in nearby Connecticut. Tanglewood, which is located in the Berkshires, is popular during the summer for concerts, dance performances, and plays.

The city of Springfield is noted for its Quadrangle, which contains the Museum of Fine Arts, the George Walter Vincent Smith Art Museum, the Springfield City Library, the Connecticut Valley Historical Museum, and the Science Museum. Springfield is the home of the Naismith Memorial Basketball Hall of Fame, which tells the history of basketball from its beginning in Springfield to the present. Just across the river is the Eastern State Exposition grounds, the home of the largest fair in the Northeast. Two other popular areas are Forest Park and Riverfront Park, on the Connecticut River just west of downtown. Plans are underway to construct a new Basketball Hall of Fame building adjacent to Riverfront Park. This would create an excellent opportunity to tie Springfield Armory National Historic Site in with the nearby downtown attractions of the Quadrangle and Riverfront Park.

VISITOR USE OF THE HISTORIC SITE

Annual visitation to the national historic site has increased from nearly 15,000 visitors in 1978 to over 18,000 visitors in 1982; 1981 was the peak year, when almost 20,000 people visited the armory. The most recent visitor data indicate that June, July, and August are the peak months. One half of the park's total visitation occurs on weekends, and the rest is distributed throughout the week.

Family groups comprise approximately half of the annual visitation, and individuals, peer groups, and organized groups most of the other half. Handicapped, minority, and foreign-speaking visitors account for less than 2 percent of total visitation per year.

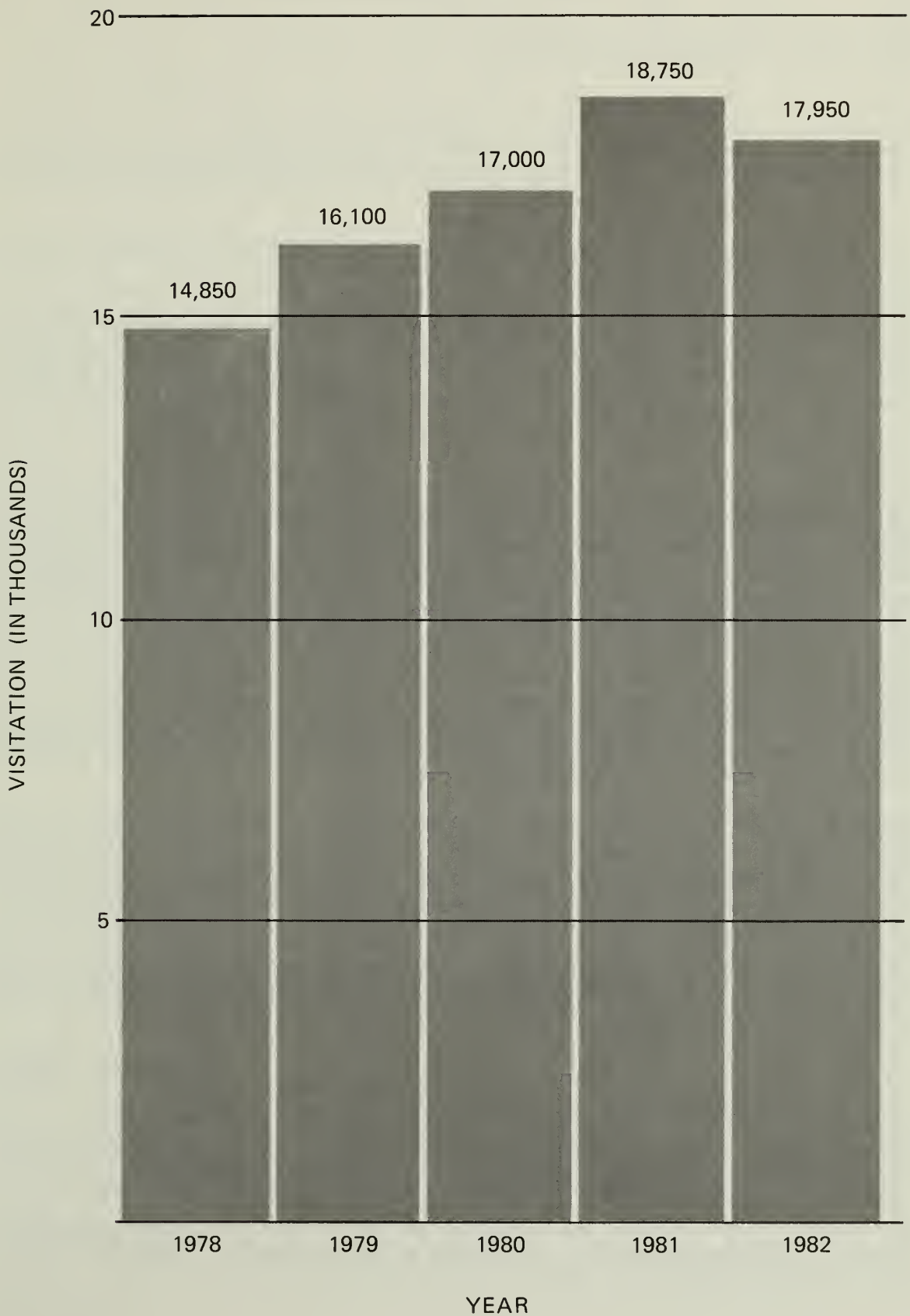
Arms enthusiasts are considered a special audience, and they generally spend three to four hours in the museum, compared to casual tourists who generally spend about an hour touring the museum. In addition, some 20 to 30 times a month requests are made for specialized services, such as access to files, the library, and the study collection.

More than half of the visitors are estimated to be from out-of-state. This is reflected in the origin of automobile traffic: 20 percent local, 20 percent in-state, and 60 percent out-of-state. Most visitors reach the park by car, and daily car counts range from 15 to 25 vehicles. There are usually no more than five cars at any one time.

Projections of visitor use trends have been based on the park's visitation figures for the last five years and on comparisons with other similarly situated areas. From 1978 to 1982 visitor use at the armory increased by 20 percent, or an average yearly increase of nearly 4 percent per year. Regional visitation at 18 historical parks in the Northeast increased 25 percent, or just less than 5 percent per year, over the same period (5,032,600 people in 1977 and 6,252,400 in 1982).

Future visitation to Springfield Armory may be influenced by the construction of the new Basketball Hall of Fame on the Connecticut River near the downtown area. Local officials are projecting that visitation to the new facility, as well as to the downtown area, will increase dramatically. There would likely be a spillover effect on visitation to Springfield Armory because it is so near the downtown area.

VISITATION 1978–1982



ENVIRONMENTAL CONSEQUENCES

IMPACTS OF THE PROPOSED ACTION

Overall, the proposed action would protect and preserve the cultural resources of Springfield Armory National Historic Site. It would also ensure the preservation of the structures and landscape for visitor use and enjoyment. Springfield Technical Community College would continue to function in a compatible manner.

Impacts on Cultural Resources

The impacts on historic resources are discussed as they apply to each structure and area under NPS management. Impacts on resources that the National Park Service does not have direct control of, such as Federal Square and the Watershops, are discussed more generally. All NPS structures would be maintained and preserved, thus perpetuating the historic scene.

Archeological Resources. Archeological resources would be evaluated by means of a parkwide survey meeting the requirements of Executive Order 11593. If necessary, project-specific archeological evaluations would be undertaken before any ground disturbance. It is still possible, however, that archeological resources not located during these surveys could be lost or destroyed as a result of ground-disturbing activities.

Historic Resources. The main arsenal, in its 1968 condition, would be the focal point of the historic scene. The interior would be modified to accommodate museum and support services, but the character and feeling of the arsenal as a warehouse would be maintained wherever possible. Some historic fabric could be altered or lost.

Preservation of the commanding officer's house would contribute to the 1968 Armory Square scene. Interior modifications would be made to accommodate compatible uses under lease; such modifications could involve some loss of historic fabric. Adaptive uses (normal business and day-to-day activities) would have minor impacts on the historic scene.

Preservation of the garage would help maintain the historic scene. The existing maintenance and storage uses would have little or no effect on the character of the armory.

The historic fence and gates would be maintained, and missing fence sections would be replaced to preserve the character of the square.

Maintaining the existing character and use patterns of walks and paths would preserve the historic setting.

The historic scene would be restored by regrading the steep slopes to resemble the appearance of the historic terraces and by replanting trees in the original locations.

Resources Administered by the College. The cooperative agreement allows for the adaptive use of structures, but only minimal exterior modifications. Although some student athletic activities are not entirely compatible with the historic scene, the movement of people reflects some of the historic activity that occurred when the armory was a working industrial complex.

Continued adaptive use of the master armorer's house by the college would require some exterior and interior modifications, which would alter the historic fabric.

Federal Square, Watershops, and Other Citywide Cultural Resources. Co-ordinated interpretive programs for other cultural resources in Springfield would foster a greater appreciation of the integrated nature of the resources. Such programs, however, would depend on the willingness of the owners to cooperate. Some private companies might not wish to cooperate, resulting in some loss in the coordinated interpretation of the city's various industrial facets.

Impacts on Natural Resources

The most significant impacts on natural resources would result from the regrading of the eastern slopes to more closely resemble the historic terraces. This action would minimize existing erosion and gullying problems, and it would facilitate area maintenance. The planting of trees to reflect the form and size of the historic trees would re-create the parklike qualities of the site as well as restore the historic setting. Some soil erosion would occur during the work.

There would be no impacts on endangered or threatened plant or animal species because none are known to be in or adjacent to the site. Nor would there be impacts on wetlands or floodplains.

With higher visitation to the armory, auto emissions would increase slightly (about 970 additional visitors per year over the no-action alternative). However, this increase would be insignificant when compared to metropolitan Springfield's 1980 population of 550,000.

The removal of trash and accumulated debris from the ravine draining to the north of the site would eliminate health hazards and rodent habitat as well as improve the appearance of the area.

Impacts on Visitors

The proposed action would improve the visitor experience by maintaining the character of the armory as it appeared in 1968. The modified landscape, the preservation of structures, and the improved interpretation of college-managed structures and other city resources (Federal Square and the Watershops) would give visitors a better understanding of how the armory operated. In addition, the coordination of NPS visitor opportunities with those offered by the city and private concerns would help visitors to more fully appreciate the resources of Springfield.

Other impacts on visitors would include easier access because of improved directional signs. Some visitor hazards would also be minimized by regrading the steep slopes and removing trash and debris from the ravine area.

Impacts on the Socioeconomic Environment

Overall the proposed action would have no significant effects on the socioeconomic environment because of the relatively small scale of development proposed and the minor staffing and visitation increases in comparison to the city as a whole. However, the proposed development at Armory Square, combined with increased tourist opportunities due to coordination between the park and other citywide resources, would likely result in slightly higher visitation increases than if no changes in current operations were proposed. The expenditures of federal funds for preservation, development, operation, and maintenance of the national historic site would have some positive effect on the local and regional economy, as would visitor spending. Preservation and development of the site would make the local community more attractive.

Impacts on Management

The proposed action would facilitate management of the national historic site by resolving some of the long-term undefined aspects of site operations. It would also establish a clearer direction for future site management. The landscape grading improvements would facilitate maintenance by reducing erosion and channeling runoff. Planting new trees would require maintenance. The income generated by leasing portions of the commanding officer's house would likely be offset by additional administrative costs.

IMPACTS OF ALTERNATIVE 1 (NO ACTION)

The no-action alternative would provide the minimum level of stabilization and some preservation and interpretation of park resources. Although this alternative would resolve some existing management problems, it would leave others unsolved.

Impacts on Cultural Resources

Archeological Resources. Same as the proposed action.

Historic Resources. Stabilization and maintenance of the main arsenal would prevent further deterioration, but it would not ensure the preservation of its historic character.

Impacts on the commanding officer's house would be the same as the proposed action except that fewer interior modifications would be made because unused portions of the structure would not be leased. Impacts on the garage, fence, walks, and paths would be the same as the

proposed action. The gatehouse would be stabilized and maintained, but it would not be used for interpretation.

The historic landscape scene would not be restored, creating a false impression on visitors about the former character of the armory. Existing erosion and health problems would continue.

Resources Administered by the College. Same as the proposed action.

Federal Square, Watershops, and Other Citywide Cultural Resources. No special attention would be given to these resources in terms of interpretation. Consequently, visitors would not learn about these resources in NPS brochures and could miss them unless they found them either by chance or through diligent searching. The integrity of these resources could also be lost if present owners were not aware of the significance of structures or of the management options available.

Impacts on Natural Resources

The present erosional problems on the steep slopes adjacent to Byers Street, and the health problems resulting from the accumulation of trash in the ravine, would continue. There would be no impacts on endangered or threatened plant or animal species, wetlands, or floodplains. Also, there would be no additional impacts on air quality because present visitation trends would continue.

Impacts on Visitors

Signs would be installed to better direct visitors to the main arsenal, but the route would still pass through college administration parking lots, then behind loading docks and several buildings that face the green.

Visitor hazards relating to steep slopes and trash in the ravine would remain.

Impacts on the Socioeconomic Environment

The continuation of present visitor trends would not result in additional visitor-related impacts. Federal expenditures to stabilize the armory structures would have some minor effects on the surrounding community, but less than under the proposed action.

Impacts on Management

Present management procedures would continue. There would be less coordination with the college. NPS visitor opportunities would not be coordinated with those at Federal Square and other city resources. There would also be a smaller staff than under the proposed action because of lower visitation projections, development levels, and interpretation.

Maintenance problems associated with the steep slopes adjacent to Byers Street would continue.

Access to the park would continue to be circuitous. Large trucks that occasionally make deliveries would continue to have difficulty in making the right-angle turns.

IMPACTS OF ALTERNATIVE 2 (SELECTIVE RESTORATION AND DEVELOPMENT)

Alternative 2 would provide for the most extensive development, preservation, and restoration of armory resources. However, the scene that would be created would not be an accurate representation of any past settings.

The development of the new parking lot would be the most physically and historically disruptive. This parking lot would intrude on the integrity of the site and create parking where it did not exist historically. In addition the historic fence would have to be altered, and an existing grassy area would be removed. Some visitors could have difficulty with the long, uphill walk from the parking lot to the main arsenal, and access to the parking area from Byers Street would be difficult to find and circuitous. Traffic circulation in the area would also be adversely affected because Byers Street is narrow, cars park on both sides, and it does not carry a large volume of traffic. Also the intersections of Byers and State streets and Byers and Pearl streets could become more congested because of visitor traffic to the armory.

Impacts on Cultural Resources

Archeological Resources. Same as the proposed action.

Historic Resources. The impacts on the main arsenal would be the same as the proposed action except that the concrete loading dock that was added to the structure in the 1940s would be removed to re-create the pre-1940s appearance of the tower. The removal of the dock would also allow the construction of a more aesthetically pleasing visitor entrance as well as a more convenient access for handicapped visitors. Another benefit of this modification would be more direct access to the basement of the main arsenal, making it easier to get to the water valves and aiding in fire protection. Impacts on the commanding officer's house, the garage, and the gatehouse would be the same as the proposed action.

The impacts of restoring the fence would be the same as the proposed action except a section of the historic fence along Byers Street would have to be removed for access to the new parking lot. This action would affect the historic integrity of the fence and the character of that corner of Armory Square.

The improvement of the walks and paths would help maintain and more closely resemble the historic setting as well as facilitate pedestrian circulation.

Moving the master armorer's house back to its original site, just to the north of the main arsenal, would ensure its long-term preservation because it would be moved to NPS-owned land. The exterior would be partially restored, and the structure would be interpreted. The new site of the structure would create a scene that never existed. When this structure was in its original position, a similar structure (building 17, located just south of the main arsenal) balanced the setting. Building 17 has since been demolished, and reconstructing it would be prohibitively expensive. Moving the master armorer's house could result in some structural damage.

Many landscape features, such as the fountains and the commanding officer's gardens, would be restored, thus improving the historic setting and assisting in the interpretation of the lifestyle of a commanding officer. However, the northwest corner of the site would be altered because of the new parking lot. Thus, the scene that would be created would not be historically accurate.

Impacts on Natural Resources

Impacts would be similar to those of the proposed action, except for the construction of the parking lot in the northwest corner of the site and the restoration of the historic terraces rather than merely modifying them. The new parking lot would require the removal of turf and the installation of a drainage system and lighting and the improvement of walks and paths from the parking lot to the main arsenal. This would create a nontraditional visitor approach to the armory grounds. There would also be additional, although minimal, auto emissions because of increased visitation. There would be increased dust and noise during construction.

Impacts on Visitors

This alternative would add to the visitor experience more than the proposed action because the commanding officer's gardens and other landscape features would be reconstructed, and the master armorer's house would be relocated. Although the resulting scene would be one that never existed historically, it would be more attractive and pleasing to visitors than the present scene.

The development of the new parking lot would simplify the present circuitous access around the green. There would be a long, uphill pedestrian path from the parking lot to the main arsenal, which would be difficult for some visitors to walk. Because of its remote location at the northwest corner of the site, the new parking area could pose safety hazards because of the potential for vandalism and muggings.

Impacts on the Socioeconomic Environment

Socioeconomic impacts would be similar to those of the proposed action except that more development and visitation under this alternative would

increase impacts proportionately. Also, traffic on Byers Street would be increased because of the new parking lot access.

Impacts on Management

This alternative would have impacts similar to those of the proposed action except that relocation of the master armorer's house and construction of the new parking lot would result in the highest development costs.

The development of a new parking lot could cause some management problems because of its location in the remote northwest corner of the site and the potential for vandalism and muggings. This location could also encourage recreational use on the terraces adjacent to the parking lot, which could be incompatible with the historic setting.

COMPLIANCE

All actions affecting the historic site or specific properties will comply with the regulations of the Advisory Council on Historic Preservation, the National Historic Preservation Act of 1966 (as amended), and section 2(b) of Executive Order 11593 (Protection and Enhancement of the Cultural Environment). To the maximum extent feasible, all modifications to historic structures will be carried out by applying barrier-free design principles, while maintaining architectural and historical integrity.

Because lands and structures within the national historic site are on the National Register of Historic Places, they are protected under section 106 of the National Historic Preservation Act and other laws. In accord with the September 11, 1981, programmatic memorandum of agreement executed by the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, both the council and the Massachusetts state historic preservation officer have participated in the planning for the national historic site through consultations and on-site inspections.

Consultations will continue throughout the planning process to ensure that the plan is developed in accordance with applicable NPS policies and guidelines to provide for responsible management of the cultural resources of the national historic site. Completion of this process will satisfy the requirement of section 106 of the National Historic Preservation Act as applicable to the development and subsequent adoption of the general management plan. Evidence of final compliance with section 106 for the plan will be included in the final environmental document for the plan.

CONSULTATION AND COORDINATION

Representatives from the Denver Service Center, Springfield Armory National Historic Site, and the North Atlantic Regional Office have consulted with or gathered information from the following agencies, institutions, organizations, and individuals.

Federal Agencies

Advisory Council on Historic Preservation
Department of Agriculture
 Soil Conservation Service
Department of Army
 Corps of Engineers
Federal Bureau of Investigation

State Agencies

Massachusetts Historical Commission
Springfield Technical Community College

City of Springfield

Department of Public Works
Planning Department
Police Department

Other Organizations

Greater Springfield Chamber of Commerce
Junior League of Springfield
League of Women Voters
Springfield Armory Historical Association
Springfield Historical Society
Springfield Women's Club

Springfield Armory

An Act to provide for the establishment of the Clara Barton National Historic Site, Maryland; John Day Fossil Beds National Monument, Oregon; Knife River Indian Villages National Historic Site, North Dakota; Springfield Armory National Historic Site, Massachusetts; Tuskegee Institute National Historic Site, Alabama; Martin Van Buren National Historic Site, New York; and Sewall-Beimont House National Historic Site, Washington, District of Columbia; and for other purposes. (88 Stat. 1461) (P.L. 93-486)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I

SEC. 101. (a) Unless otherwise provided hereafter, the Secretary of the Interior (hereinafter referred to as the "Secretary") is authorized to acquire by purchase with donated or appropriated funds, donation, exchange, or by transfer from another Federal agency such lands and interests in lands as hereafter provided for establishment as units of the national park system, as follows:

* * * * *

(4) for establishment as the Springfield Armory National Historic Site, Massachusetts, those lands depicted on the map entitled "Boundary Map, Springfield Armory National Historic Site, Massachusetts", numbered NHS-SPAR-91,003 and dated January 1974, the oldest manufacturing arsenal in the United States: *Provided*, That the historic site shall not be established unless an agreement is executed which will assure the historical integrity of the site and until such lands as are needed for the historic site are donated for this purpose.

(b) The Secretary may also acquire personal property associated with the areas referred to in subsection (a) of this section. Lands and interests therein owned by a State or any political subdivision thereof which are acquired for the purposes of subsection (a) of this section may be acquired only by donation.

SEC. 102. (a) When the Secretary determines that an adequate interest in lands has been acquired to constitute an administrable unit for each of the areas described in section 1 of this Act, he may, after notifying the Committees on Interior and Insular Affairs of the United States Congress of his intention to do so at least fourteen days in advance, declare the establishment of such unit by publication of a notice to that effect in the Federal Register. Such notice shall contain a map or other description of the boundaries of the unit, together with an explanation of the interests acquired and the costs incident thereto. The Secretary may refrain from acquiring

property for establishment of any unit authorized by this Act where, in his judgment, satisfactory agreements or donations with respect to properties which are needed for the protection and administration of a particular unit have not been consummated with the owners of such properties.

(b) Pending the establishment of each unit and, thereafter, the Secretary shall administer the property acquired pursuant to this Act in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535), as amended and supplemented, and, to the extent applicable, the provisions of the Act of August 21, 1935 (49 Stat. 666), as amended.

SEC. 104. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, not to exceed, however, the following:

* * * * *

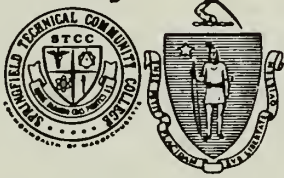
(d) Springfield Armory National Historic Site, 5,300,000 for development:

* * * * *

Approved October 26, 1974.

APPENDIX B: LETTER FROM
SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

Springfield
Technical
Community
College



ONE ARMORY SQUARE, SPRINGFIELD, MASSACHUSETTS 01105 • TELEPHONE: (413) 781-7822

July 1, 1983
DA-O-83-484

Mr. Herbert S. Cables, Jr.
Regional Director
National Park Service
15 State Street
Boston, MA 02109

Dear Mr. Cables:

Springfield Technical Community College has enjoyed working with the National Park Service in preparing the draft General Management Plan for Springfield Armory National Historic Site. The course of action proposed by this plan is consistent with the educational needs of this institution while also preserving the Site's historic character and values. It is clear that the proposed plan will help both of us in carrying out our individual responsibilities in administering the Site.

I understand that the next step is to submit this document to various State and Federal agencies as well as the public in Springfield for review. Please be assured of our continued support as we bring this planning process to a satisfactory conclusion.

Sincerely yours,

A handwritten signature in cursive script that reads 'William A. Baker'.

William A. Baker,
Dean of Administrative Services

WAB/kr

cc: President Collamore
President-Elect Scibelli
W. Douglas Lindsay, Jr.

SELECTED BIBLIOGRAPHY

ALLIED SOILS AND FOUNDATION DIVISION, INC.

1969 Greater Springfield Massachusetts. Chicago: Windsor Publications.

1972 "A Foundation Study for Proposed Buildings 12, 14, and 16, Springfield Technical Community College, Springfield, Massachusetts." Design report.

BAUER, FRANK

1975 At the Crossroads, Springfield, Massachusetts, 1636-1975. Bicentennial Committee of Springfield, Inc.

KUCHLER, A.W.

1964 Manual to Accompany the Map, "Potential Natural Vegetation of the Conterminous United States." American Geographical Society. Special publication 36.

SPRINGFIELD, MASSACHUSETTS, PLANNING DEPARTMENT

1969 "Community Renewal Plan."

1973 "Neighborhood Analysis No. 10, Pearl Planning District."

SPRINGFIELD, MASSACHUSETTS, AND SPRINGFIELD CENTRAL, INC.

1978 It's Time for Springfield: Rebirth of Downtown.

U.S. DEPARTMENT OF COMMERCE, ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION

1969 Climatological Summary, Springfield, Massachusetts. Climatology of the United States, no. 20-19.

U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

1976 "Draft Case Report for a Variety of Proposed Actions Affecting Armory Square of Springfield Armory, Including Demolition and Construction Actions." Federal Property Assistance Program 13.606.

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

1971a "Draft Master Plan, Proposed Springfield Armory National Historic Site, Springfield, Massachusetts." Office of Environmental Planning and Design, Eastern Service Center.

1971b "Historic Structure Report, Architectural Data, Springfield Armory National Historic Site," by Robert L. Carper. Draft. Denver Service Center.

1978 "Historic Structure Report, Historical Data/Base Map, Springfield Armory National Historic Site," by John L. Albright. Denver Service Center.

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE,
DENVER SERVICE CENTER

1982 "Archeological Survey, Proposed Electrical Line Corridor,
Springfield Armory National Historic Site."

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE,
HARPERS FERRY CENTER

1977 "Collection Management Plan, Springfield Armory National
Historic Site."

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE,
NORTH ATLANTIC REGIONAL OFFICE

1976 "Assessment of Alternatives, Public Involvement Workbook and
Public Comments, Springfield Armory National Historic Site."

1978 "Status Report, Springfield Armory Planning," by Shary
Berg.

U.S. DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE,
SPRINGFIELD ARMORY NATIONAL HISTORIC SITE

1978 "Interpretive Themes with Possible Exhibits," by W. Douglas
Lindsay, Bill Meuse, and Stuart Vogt.

1979 "Statement for Management."

U.S. GENERAL SERVICES ADMINISTRATION, PUBLIC BUILDINGS
SERVICE, REGION 1.

1978 Draft Environmental Impact Statement, Courthouse and Federal
Office Building, Springfield, Hampden County, Massachusetts.

LIST OF PREPARERS

PLANNING TEAM

Lawrence E. Beal
Team Captain/Community Planner, Denver Service Center

William Baker
Dean of Administration, Springfield Technical Community College

W. Douglas Lindsay
Superintendent, Springfield Armory National Historic Site

Nancy Nelson
Landscape Architect, North Atlantic Regional Office

Linda Romola
Cultural Resource Planner, Denver Service Center

Michael Spratt
Outdoor Recreation Planner, Denver Service Center

A. Whit Watkins
Outdoor Recreation Planner, Denver Service Center

CONSULTANTS

John Albright
Historian, Denver Service Center

Craig Cellar
Cultural Resource Management Specialist, Denver Service Center

Charles Clapper
Associate Regional Director, Planning and Resource Preservation, North Atlantic Region

Dave Clark
Chief, Environmental Compliance, North Atlantic Region

Larry Lowenthal
Chief, Visitor Services, Springfield Armory National Historic Site

Dick Hsu
Regional Archeologist, North Atlantic Region

Bill Meuse
Curator, Springfield Armory National Historic Site

Dwight Pitcaithley
Regional Historian, North Atlantic Region

Robert Rothweiler
Environmental Specialist, Denver Service Center

Terry Savage
Chief, Branch of Planning and Design, North Atlantic Regional Office

Richard Turk
Historical Architect, Denver Service Center

William Witmer
Project Manager, Denver Service Center

Richard Wittpenn
Former Chief, Branch of Planning, Mid-Atlantic/North Atlantic Team,
Denver Service Center

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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