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LAWNFIELD
HISTORIC STRUCTURE REPORT

JAMES A. GARFIELD NATIONAL HISTORIC SITE



NATIONAL PARK SERVICE

Approved:

Don H. Castleberry
Regional Director, Midwest Region

January 12, 1990



Printed on Recycled Paper

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HISTORIC STRUCTURE REPORT

JAMES A. GARFIELD NATIONAL HISTORIC SITE

Prepared by
Paul Newman

1991

DENVER SERVICE CENTER
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR
DENVER, COLORADO

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PREFACE

The *Lawnfield Historic Structure Report* has been prepared to satisfy the research needs as stated in the task directive approved by the director of the Midwest Region concerning the James A. Garfield National Historic Site under package 103. Data from this report will provide an information base which will be used to plan the preservation, restoration, adaptive use, interpretation, and future management of the cultural resources of this site.

This report covers the existing conditions and recommendations for the main house, Lawnfield, at the site. It does this by discussing the chronological development of the site and buildings from the acquisition of the Dickey farm by James A. Garfield, through the historical society ownership, to its establishment as a national historic site. Information was gathered from abstracted portions of the *Historic Resource Study*, further historical research, analyzing historical photographs and drawings, paint and wallpaper investigations, and on-site study. A description of the physical elements and conditions of the site and buildings was made, again focusing on the main house from on-site inspections, testing, and recording. This information is presented in text, charts, drawings, and photographs, all of which are necessary for the complete understanding of the findings. Recommendations for treatment and a cost estimate to accomplish the work are included. This report contains only a precursory research on the outbuildings, with preliminary recommendations so that site priorities could be determined.

Since this document has been drafted, additional reports have been written which answer some of the research needs called for in the "Additional Investigation" section. The *Interpretive Prospectus* for the site was finished November 1990 by the Harpers Ferry Center. Archeological survey work was carried out by the Midwest Archeological Center in conjunction with the Cleveland Museum of Natural History, July 1990, although the lab tests on the collected artifacts and a comprehensive report have not yet been prepared.

As recommended in this report, further research is needed to answer a number of questions about the original configuration of the kitchen and second-floor bathroom, the structural condition of the building, handicapped accessibility, and to provide more detailed recommendations on the mechanical/electrical systems. To accomplish this various documents were completed in the spring of 1991 through A/E contract to the Denver Service Center, by van Dijk, Johnson and Partners, Architects, and their consultants. A *Supplemental Investigation* to the main house *Historic Structure Report* was accomplished on the 1885 kitchen area and second-floor bathroom. This research records the chronology of these two spaces and in some cases revises some of the data and drawings that were originally included with this report. A number of other reports were combined in a document called *Preliminary Study* which carries out more investigation in the following areas: structural analysis, accessibility, electrical/mechanical, building codes, and drainage around the main house. A *Cultural Landscape Report* for the whole site and a *Historic Structure Report* for the carriage house were prepared as part of this package. Other documents to fulfill the planning and compliance needs of this site such as a *Historic Structure Report* for the remaining outbuildings and a *Historic Structure Preservation Guide* for the entire site will be published separately in the future.

A number of persons have assisted in the preparation of this report. Measured drawings for all the structures on this site were recorded by the Historic American Building Survey, with on-site direction from John Schlinke during the summers of 1984 and 1985. Technical studies, including exterior and interior paint chronologies, wallpaper study, and mortar analysis, were prepared by Barbara Yocum, architectural conservator with the North Atlantic Historic Preservation Center, Boston. Siegfried Buerling, director of properties for the Western Reserve Historical Society, coordinated and provided a carpenter to assist in the removal of materials in the physical examination. Historical architect Ed Adelman, and more recently Bob Martin, provided helpful liaison with Cuyahoga Valley National Recreation Area staff and management during the course of the project. Mark Chavez, regional historical architect, Midwest Region, aided with appropriate comments and advice as well as expediting the needed compliance clearances.

Quite a number of Denver Service Center staff contributed to the writing and production of this document. Additional historic research was conducted by Dr. Ronald Johnson, now section chief,

Branch of Planning. On-site recording of existing conditions was assisted by architects Krista Pace and Art Stanley. Investigation and analysis of structural conditions was conducted by Barry Welton. Mechanical engineer Paul Hixenbaugh and electrical engineer Harry Nuce aided in the evaluation of the existing engineering systems. Special thanks go to Mary Ryan Hooper, editor, who assisted greatly with the organization and assembly of the document and without whose persistent efforts this report would not have been possible.

INTRODUCTION

Lawnfield is the home from which James A. Garfield was elected to the Presidency of the United States during the summer and fall of 1880. It was the first residence Garfield lived in that he considered a permanent home, a place where he could further his strong interest in scientific farming. The American agricultural farm heritage, ethics, and values were highly esteemed by Garfield. He hoped to educate and pass these values onto his children by providing them with an environment where they could observe and participate in the farm activities. While he never lived to see the complete realization of his plan, part of the significance of the site revolves around the continuation of the family development and the use of the home as the center of family life led by the matriarch Lucretia Rudolph Garfield, the slain president's widow.

It is the place where James A. Garfield is memorialized by the preservation of the house he had constructed, and where the idea was fostered of a large addition in which his books, papers, and career mementoes could be accommodated--the idea of a presidential library. The addition also became symbolic of the improved financial status of the Garfields after the death of the president, where they could maintain themselves in the forefront of society and have the surroundings to accommodate that lifestyle. The house and grounds were developed to incorporate the latest in technology of the late 1880s, having its own natural gas well to provide heat and light throughout the large house, as well as its own water system which was supplied by an on-site windmill.

James A. Garfield bought the property in late 1876 from Harriet Dickey. This purchase included a ca. 1832 one-and-one-half-story farmhouse in poor condition, and a collection of dilapidated barn structures. By the spring of 1877, he had fixed up the house to accommodate his large family and moved in. This house, though, was never able to meet the needs of the rising young Republican politician and his family. In the early spring of 1880, Garfield enlarged the house to a three-story structure with a wide porch across the front. That summer the remodeled house became famous as the site of the "front porch" campaign, as Garfield was elected 20th president of the United States. In 1885, four years after the death of Garfield, his widow added a stone wing to house his books, with a steel lined fireproof room in which his private papers and documents were kept. Some subsequent remodeling took place in 1903/04 which reflected the changing needs of Lucretia Garfield and her family in their later years, and to make repairs to deteriorating parts of the house.

In 1936, the home was deeded by the heirs of the Garfield estate to the Western Reserve Historical Society (WRHS) for the purpose of opening it to the public as a museum in the memory of James A. Garfield. It operated under the management of the Lake County Historical Society (LCHS) for this purpose, as well as for the interpretation of the history of Lake County. Through the years, both historical societies struggled with funding problems for maintenance of the house, outbuildings, and grounds, not to mention staff salaries and administration. In 1980, Congress authorized establishment of the James A. Garfield National Historic Site. Today the property is owned by the National Park Service (NPS) with on-site management by WRHS.

The site is located on US 20, a busy four-lane thoroughfare in Mentor, Ohio, about 26 miles east of Cleveland. The irregular area of land that comprises the site is approximately 390 feet wide by 860 feet deep, the remaining 7.8 acres of a once much larger property. The large rambling Garfield home contains 29 rooms on three floors. The first and second floors are furnished in a manner reflecting the family's use of the home. The furniture and furnishings on display were actually used by President Garfield and his family. A large portion of the third floor has been converted to lodge a museum display of a number of Garfield related relics, documents, and mementoes. These valuable furnishings and artifacts reveal an eloquent testimony to the life and character of James A. Garfield.

A small one-story building stands in the yard at the northeast corner. Known as the campaign office, this building served as Garfield's headquarters during the 1880 campaign. About halfway back on the property is the 1893 carriage house which Lucretia Garfield had constructed to replace the barn complex that once existed just to the northwest of the main house. This structure has been selected by the *General Management Plan* to be adaptively reused as a visitor center for the site. Other remaining site structures include the windmill/pumphouse, tenant house, barn, granary, and chicken coop.

ADMINISTRATIVE DATA

PROJECT IDENTIFICATION

Lawnfield is a national historic landmark property within the boundaries of the James A. Garfield National Historic Site. It is located at 8095 Mentor Avenue in Mentor, Ohio. The site is part of the national park system and is managed by the superintendent and staff of the Cuyahoga Valley National Recreation Area, 15610 Vaughn Road, Brecksville, Ohio. The house is listed as number 001 in park 6380, category A (structures that must be preserved and maintained).

MANAGEMENT HISTORY AND PARK ESTABLISHMENT

A number of property transactions took place before the heirs of President Garfield finally disposed of their interest in the property. In 1936, the family deeded the main house site to the WRHS to be operated as a museum for future generations. They donated additional property surrounding the main house to WRHS in 1944. The LCHS purchased the remaining northern portion of the site in 1975 and later sold it to the National Park Service in 1984. As provided by the authorizing legislation, the WRHS donated the Lawnfield (southern) portion of the site to the National Park Service in 1988. The property was designated a registered national historical landmark in 1964.

From 1938 to 1984, the entire property was operated and maintained by the LCHS under a contract with the WRHS. This county historical society used Lawnfield as its administrative headquarters, which included the county historical archive/library as well as the Garfield museum. The home was open to the general visiting public seven months a year. In 1984, the WRHS resumed direct responsibility for management and operation of the historic site, and returned the entire focus of the site back to the interpretation of Garfield.

Funds to operate and maintain Lawnfield came from admission fees, memberships, and donations. The Lake County Board of Commissioners contributed funds for Lawnfield operations until 1966. When this support was no longer possible, the county historical society turned to the WRHS for financial assistance. Between 1967 and the late 1980s approximately $95,000 in capital improvements have been made to the property. Most of the funds were provided by the WRHS, with some money coming from the federal government in the form of matching preservation grants. However, this funding has been insufficient to meet the ongoing maintenance requirements for the buildings, the collections, and the site, as well as development opportunities; hence the need for federal involvement.

The James A. Garfield National Historic Site was authorized as a unit of the national park system by an act of Congress [public law 96-607] on December 28, 1980, to "preserve for the benefit, education, and inspiration of future generations certain historically significant properties associated with the life of James A. Garfield," 20th president of the United States. Congress designated this 7.82-acre site to preserve President Garfield's home (known as Lawnfield) and the grounds, which together constitute the only remaining portion of his original farm.

The act directed the secretary of the interior to administer the site, but it specified that the Lawnfield portion, owned by the WRHS, may only be acquired by donation. Upon such acquisition, the secretary was permitted to enter into an agreement with the WRHS to maintain, operate, and interpret this historic property.

PROPOSED TREATMENT

The enabling legislation specifies that the site shall be administered in accordance with the act of August 25, 1916, (39 Stat. 535), as amended and supplemented; and the act of August 21, 1935 (49 Stat. 666), as amended. This legislation also required the completion of a comprehensive *General Management Plan*. Development and planning at the site are now guided by the *General Management Plan* approved in 1986 (herein referred to as the plan).

A house tour will continue to be conducted to interpret the life and times of James A. Garfield. At present, all visitor use functions and facilities are located within the main house, but the plan calls for removing them. Orientation, fee collection, museum exhibits, sales, and public rest rooms will be provided in a new visitor center utilizing the 1893 carriage house.

As stipulated in the plan, the campaign porch (an original feature of the 1880 improvements) and the 1882 east porch will be restored. The remainder of the exterior and the interior are planned to be preserved in their present configuration. The plan does say that "final recommendations regarding interior and exterior restoration will be made in the historic structure report and historic furnishing report."

RECOMMENDATIONS FOR THE PROPOSED TREATMENT

When the historic porches were removed in 1904, additional alterations took place on the exterior parlor wall and the parlor interior. It is proposed to restore this wall and the interior of the room to the appearance during the designated historic period, 1885-1904.

The restoration date in the plan is approximately 1900. This date was selected for the appearance before the porches were replaced in March 1904. Although alterations to the second floor were made prior to this work, it is not planned to restore the second floor to an earlier period since it is documented that, for a period of time, these changes existed simultaneously with the old porches. Therefore, the restoration date will be adjusted to prior to the removal of the porches but after the second-floor alterations were completed, which most likely occurred the summer of 1903.

The plan states "the second floor will not be accessible to the disabled, and interpretation of this area will be presented in the carriage house." Since this plan has been approved, strong lobbies for the implementation of accessibility rightly push for full access to facilities and programs. However, this is a historic structure, and all actions must also comply with historic preservation regulations. Therefore, further study of this problem will be made.*

*Accessibility is discussed in this document under "Handicapped Accessibility." The report concludes that an elevator location which does not clearly cause a negative effect to the historic significance of the building is only possible within the kitchen area. More study is being done to determine the amount of remaining historic fabric in this area. While it may have less significance than other areas of the structure, due to the complex level changes, the installation of an elevator will permanently alter both the floor plan and floor levels. Also, an elevator at this location will allow access only to the library, not to the full second-floor level. The exact extent of the intervention has not been determined because actual designs were not prepared. While the this report recommends that other means of complying with accessibility to the second floor be approved, further study to determine the exact amount of intervention necessary will be accomplished before a final decision is made.

COMPLIANCE STATEMENT

All actions proposed at the James A. Garfield National Historic Site will comply with the NPS Management Policies and Cultural Resources Management Guideline (NPS-28). The goal of the recommended treatments is to restore Lawnfield to its 1885-1904 appearance. The results will increase the life of the building, its historical and architectural values, and associated furnishings. Coupled with the various outbuildings located on the site, this structure will be a beneficial contribution to the interpretation of the life and times of James A. Garfield and the preservation/restoration of the scene in which those events took place.

In applying the criteria of effect, 36 CFR Part 800.3(a), the National Park Service has determined that the proposed undertaking will have an effect on the James A. Garfield National Historic Site.

In applying the criteria of adverse effect, 36 CFR Part 800.3(b), the National Park Service has found the effect not to be adverse because:

1. The proposed undertaking will not result in the destruction of the significant features of the property, even though substantial alterations are planned. Changes to fabric of the house and grounds by the Western Reserve and Lake County Historical Societies in the course of making repairs will be restored to their 1885-1904 appearance. This date will also be used to restore changes made by Mrs. Garfield in her later years in 1904, including the south and east porches, and the parlor (room 106). Updating of thermal and moisture protection, mechanical systems, the structural system, security system, and fire protection will be handled in a manner to have the least visual impact on the building.

   All buildings on the site have been recorded to the standards prescribed by the Historic American Building Survey and the National Park Service will maintain a collection of historic and contemporary photographs of the buildings in its files.

   The primary significance of the house and site is the life and times of James A. Garfield and, therefore, the removal of a minor amount of fabric and the restoration of the historic appearance to enhance the interpretation, will not adversely affect the qualities which make this structure important.

2. The proposed undertaking will not result in the isolation of the property from, or alteration of, its surrounding environment. Rather, it will recreate the historic scene to the time of peak family use and involvement with the house.

3. The proposed undertaking will not introduce visual, audible, or atmospheric elements that are out of character with the property, nor will it alter the setting. As stated above, the proposed undertaking will result in the recreation of the 1885-1904 historic scene.

   Incompatible modern elements will be removed such as electric meters, conduit, area lights, and exterior storm windows. Utilities will all be brought in underground. New exterior mechanical and electrical equipment will be installed at a location remote from the building, and it will be screened with plantings, if possible.

   Any exterior modifications which are necessary to make this building accessible to the handicapped will be accomplished in a sensitive and unobtrusive manner at the gift shop entrance and the east porch. A new path will also be introduced to the new east side ramp. Construction will be sympathetic to the original, but will be identifiable as new construction.

4. The proposed undertaking will not result in the transfer, sale, deterioration, or destruction of federally owned property.

HISTORY OF PHYSICAL CHANGES

SITE CHRONOLOGY*

1796	Land surveyed and divided into 16 tracts by Connecticut Land Company. A portion of tract 5 later became the northern part of the Garfield farm.
Ca. 1802	Ralph Bacon bought 183 acres from Connecticut Land Company adding to land already owned. A portion of this land later became the south part of the Garfield farm.
1802	December 21 - Drawing held by Connecticut Land Company to divide Mentor Township tracts, including tract 5, to individuals in the company.
1811	Warren Corning (father of Harriet Corning) bought 183 acres from Ralph Bacon.
Ca. 1831-32	Construction of "Dickey House."
1835	James Dickey and Harriet Corning married and apparently began to live on farm.
1842	Dickey became owner of record of a 40.5 acre lot located on the old Bacon property.
1846	Dickey bought 53.6 acres, combining three smaller parcels originally part of tract 5.
1848	Dickey bought 23.35-acre parcel, originally part of tract 5. The farm then totaled 117.46 acres.
Ca. 1850s	Dickey may have added a wing to the house, but it can not confirmed at this time.
1855	James Dickey died.
1876	Harriet Dickey bought a 1-acre parcel, Botten lot with the tenant house.
	In September, James A. Garfield bought the 117.46 acre farm from Harriet Dickey, and the additional 1-acre Botten lot parcel.
1877	James A. Garfield bought a 40-acre tract from George W. Dickey.
1877	The ice house was constructed 12 feet by 15 feet.
	The hydraulic ram was installed.
	The house received a new roof, interior plastering, painting, and new carpets.
	The tenant house was moved and remodeled for a library.
	The barns were moved back from the road and battens were applied to the barns to improve their appearance.
	A new horse barn was built.
	Hayrack was built.
	Privy, (brick foundation) was built

* For more information on property transfers see the *Historic Resource Study*, September 1984.

New fences were constructed.

Landscaping - fruit trees, shrubs, evergreens, and flowers were added.

1878 Unspecified repairs to the east wing of the house.

Water pipes were repaired.

New barn with cupola was constructed.

The long shed was moved to line up north-south with the old barn.

Two sheds were built in the barnyard, southwest and northeast corners.

The harness room in the barn was converted into quarters for two farm hands.

The farm building was converted to an engine house to cut, grind, and steam fodder and corn.

The hog pens were moved from the old orchard to the new orchard across the lane from the new cow barn.

A well was dug at the tenants property, Botten tract.

1879 Replastered the kitchen.

Added new gate to the front.

1880 The house was enlarged to two and one-half stories. The cost was approximately $4,000 and the work included the following: new broad front porch, multi-gabled roof, all new exterior siding and windows, all new interior finishes in the rooms, landscaping, and fences.

Flagstones were placed in the yard near the steps to the front porch for a walk.

Cistern built for cesspool; pipes installed for removal of roof water.

Vestibule doors and weatherstripping were added.

Front doorbell was added.

Botten lot tenant house was remodeled/repaired because the cellar had collapsed.

An addition was attached to the horse barn for carriages.

Coal tar and iron mixture applied to the outhouse and barn roofs.

The library converted for use as campaign headquarters.

1881 Garfield sells 3.19-acre right of way to the railroad.

September 19: James A. Garfield dies after having been shot on July 2.

1882 A new porch was built on the east side.

A new barn was built north of railroad to store hay and grain.

1885 Memorial library addition built including: fireproof vault, library, new kitchen, pantry, fuel storage, laundry, carriage porch and new entry, new first-floor bathroom, hall, new

reception hall, monumental stair, a new second-floor bathroom, second-floor servants quarters, third-floor bedrooms, and 300-gallon water storage tank in the attic.

Tenant house on Botten tract sold and moved off of the property.

New tenant house built down lane from the main house.

Campaign office moved near ice house.

New well dug in the old orchard, topped by stone wellhouse/windmill which piped water to the 300-gallon tank which was installed on the third floor of the new addition.

1893 New carriage house was built.

Old horse barn and other barns moved to the back of the property.

1895 House repainted light gray color with dark gray trim. The red window sash and doors were then painted dark green to match the shutters.

1903 Second-floor bathroom (room 214) two bedrooms (rooms 208 and 213), and hall (room 209) altered.

1904 Old front and east porches removed. New smaller porches and tiled arbor constructed on the south and east elevations. House painted a beige/yellow color.

New main entry built to replace the street entrance. (The entry door from the front porch to the sitting room was removed at this time. It is believed that the new entrance was the new vestibule, which was constructed around the existing entrance on the east porch into the dining room.)

Unrecorded changes in furnishings, floor, wall coverings, and decorations.

1908 Lucretia Garfield sold 87.34 acres to William P. Murray. This included all land north of the railroad right of way.

1918 Lucretia Garfield died.

1921 Repairs to the old barn totaling $2,500.

1922 Repaired the heating system.

1923 Unspecified repairs in 1923 budget by family totaling $750.

1930s The condition of the house was described by family members as decrepid.

1936 May 20: Garfield heirs donate the main house and campaign office to WRHS (.779 acres). Ten thousand dollars funded for "cosmetic repair" and preparation of the opening to the public by WRHS.

1936 August: •Work accomplished by WRHS to open the house to the public for the first time.

New asphalt shingle roof applied.

Repainted exterior.

Refinished floors.

Revarnished and repainted woodwork.

1937 April: Leveled floors on the interior; replaced broken front porch tiles.

1939 March: Wallpaper work in the hall, two small bathrooms upstairs, and bedrooms.

New hot-water furnace installed.

Hot-air furnace installed.

Unspecified plumbing repairs.

1939 June: The house was connected to village water supply.

1939 August: Unspecified electrical repairs for the third-floor Lake County Museum.

Unspecified painting.

Unspecified landscaping.

1940 Discovered and treated for powder post beetles in floor joists of the parlor and log joists (oldest part of house).

1941 Construction Contracts Let: $250 for exterior carpentry repair; $98 for masonry repair; $28 for treatment powder post beetle; $513 for repairing and making heating system automatic; $50 for artwork on signs and pamphlets; $67.50 for sheet metal work; $141.50 for painting; $800 for landscaping; $500 for new road signs; $300 for inside painting; $100 for new furniture; $100 for restoring furniture.

December: Electrical improvements totaling $107 included: extending a range line in new kitchen, wiring the dining room fixture, placing an electric door opener at the service door, preparing a rear porch light and switch (probably north porch).

Additional electrical improvements for $184.50 included: basement wiring; installation of two new fuse panels; two master switches dividing lower and upper floors; extra lights in store rooms, basement and hall; and repair of lighting fixtures and outlets.

1942 January: Installed Delco automatic warm-air heating system in the front wing with registers in all rooms on the first two floors. Enlarged the hot-water plant in the rear wing and installed hot-water heat in the library. Cost of work totaled $2,257. There was an additional $513 spent on the living quarters.

March 27: Exterior of the house painted white. Cost totaled $1,008.

1943 Refinished floors on oak stairway and reception hall; repainted the linoleum in the living quarters; refinished the floor in the second-floor living quarters; painted new screens and doors and varnished the old screens; painted and applied creosote to the sign posts; shellacked the window sills as needed; cleaned the wallpaper on two floors in the front of house; cleaned or repainted the kitchen and stairwell in the living quarters; connected the water storage tank; installed shut-off valve for the third-floor sink; repaired basement drains; repaired the public toilet; erected a flag pole; patched the dress case; repaired two signs; replaced cracked windows; installed locks and repaired the cellar windows; fixed a downspout; fixed the ceiling in the stairway and toilet.

Work accomplished included: plastering; unspecified repairs; cleaning of several oil paintings; extension of fence; tree repair; resurfacing of drive and enlargement of the parking facilities; carved woodwork and furniture repaired and refinished.

1944 January: Installation of insulation on third-floor flat ceilings, third-floor sloped ceilings and knee walls, second-floor exposed ceiling for heat loss, and above both furnaces for fireproofing.

July: Electrical improvements totaling $255 included: four floor plugs; gas fixtures in the new entry hall; rewiring two living room lamps and converting nine gas fixtures to electricity; replacement of ceiling lights with electrified reproduction gas fixtures; installation of four sidewall fixtures; and replacement of 12 ceiling fixtures on the third floor.

Other work included: $103 for electrical improvements; $120 for cementing cellar floor (partial); $396 for new oak floor living quarters; sanded scraped and finished first-floor front of house; $321 for refinishing/waxing woodwork in library and reception hall/stairway; $385 for plastering on the third floor; $60 for repair of boiler for living quarters.

Grounds improvements include: $1,055 for new lawn; $520 for tree trimming; $654 for black top driveway; $247 for fence extension; $217 for screens; 75 new signs; other smaller projects.

WRHS received 3.269 acres from the Garfield heirs including the carriage house, although they retained a 40-foot right of way along the east line of the property for access to other property still owned by the heirs. They also retained another right of way for water pipes from the well.

1946 Work included: $2,480 for lawn work; $370 for feeding and spraying trees; $297 for repairing and painting street signs; $55 for repairing roof of house; $269 for repairing the roof of the barn; $132 for sanding two floors; $300 for waterproofing basement and cellar; $150 for refinishing dining room and hall; $155 for painting walls in the living quarters; $100 for repairing the west wall of the home; total cost was $4,308.50.

1947 The heirs sold 14.5 aces to Henry G. Winders, a developer who subdivided the land for single-family houses.

Mollie (Garfield) Stanley-Brown sold the 1-acre Botten tract to Henry Winders.

September: The heirs transferred 48.96 acres to the Land Title Guarantee and Trust Company.

1950 General repairs totaling $539.93 (most likely this includes reroofing the log cabin and exterior and interior restoration of the campaign house).

1951 General repairs totaling $2,476.66 (although it is not specified in the record, this item may have included $205.54 for removal of the 1904 pergola, which was accomplished in 1951, and rehabilitation of the roofing and eavespouting; $1,113.50 for painting of the house, carriage house, and the campaign house; $136.45 for coating of the roof; $25.19 for additional repairs; $350.55 for repair of tin work and windows; and $105.50 for repair of the chimneys).

The heating units in both the main house and living quarters were completely overhauled and reconditioned; $250 for living quarters redecorating; $200 for tree trimming; and extension of the oval driveway 15 feet northward for additional parking.

1952 New septic tank at a cost of $450 and $273 for plumbing; $248.50 for myrtle planting; $421 for yard and house labor.

Eleanor B. Garfield (daughter-in-law of James R. Garfield) bought a 3.44-acre tract from the heirs containing the 1885 tenant house, sheds, barn, and pump house for $2500.

1953 Fence repair and painting totaling $110; $125 for work on trees; $246 for yard work; $59 for grading and seeding the backyard.

1955	Roof repairs totaling $293; $2,548 for painting; $615 for unspecified house repairs; and $248 for unspecified yard repairs.
1956	Heirs sold the remaining 45.516 acres to Jerome T. Osborn, developer, who subdivided the land for single-family houses.
1959	Osborn donated 1/3 acre to WRHS to alleviate a conflicting claim.
1961	The fence at the front of the property was replaced with a new one; removed historic eave troughs and cornice box gutters, replaced rotted roof boards and reroofed this lower roof area; installed new hung metal gutters and downspouts; and replastered and repainted the women's rest room walls in the museum.
1962	Started replacing the old plumbing with copper pipes and new fixtures.
1963	A portion of the third floor was remodeled into a museum by removing walls, replastering, and installing new flooring, lights, and display cases. The cost was approximately $5,625.
	Unspecified house repairs totaling $2,941 included some rewiring of electrical fixtures.
	Wallpapering and repairing plaster accomplished in two bedrooms and the parlor.
1964	Unspecified house repairs totaling $1,235.
1965	Unspecified house repairs totaling $1,360.
1966	Painted south (front) and east sides of the house totaling $1,200; $300 for removing two elms; and $440 for unspecified house repairs.
1967	March: Main house connected to the county sanitary sewer system. The septic tank was pumped and filled.
1968-75	Spent $87,992 on maintenance.
1969	Repairs to the roof. Replastering, and wood and paper repair occurred to correct the moisture damage. Improvements to the parking lot and driveway.
1970	All interior lighting fixtures were rewired, refurbished, and rehung. This work was bid at $10,000-$12,000.
	The main house and campaign house were painted.
1971	Carriage house painted one coat.
1972	Second coat of paint applied to the barn.
1973	Main house received new cedar shingle roof $10,000. House rewired for a cost of $11,000.
1975	The LCHS bought a 3.44-acre parcel from Eleanor B. Garfield including such structures as the well house, tenant house, barn (HS-005), granary, and other small outbuildings for $70,000.
1979	The wallpaper in James A. Garfield's bedroom (room 103) was duplicated to its 1904 appearance.
	June: House was painted, three porches repaired (presumably the south, east, and west porches).

July 15: Tenant house condition was inspected. Considered options for use of this structure.

1980 December 28: Congress authorized establishment of the James A. Garfield National Historic Site.

1984 April: The National Park Service acquires the 3.44-acre rear parcel (see above, 1975) including the outbuildings from the LCHS for $205,000.

1986 Delco heat plant replaced by two gas forced-air furnaces.

1987 Two chimneys of the main house were dismantled. The tenant house was reroofed and painted. The carriage house was painted.

1988 All seven brick chimneys of main house were rebuilt from the roof up using salvaged brick from the original chimneys. The interior and exterior of the tenant house was rehabilitated for use by an on-site caretaker.

July: The National Park Service acquired a 4.4-acre front parcel, which included Lawnfield, the campaign house, and the carriage house, from the WRHS through a cooperative agreement.

HISTORICAL ANALYSIS

Dickey Farm, 1786-1876[1,2]

The Garfield property historically was located within the United States territory known as the Connecticut "Western Reserve." This territory, 120 miles long by 72 miles wide, less the area occupied by Lake Erie, was claimed by the state of Connecticut. Congress confirmed their claim to the land on September 14, 1786. On September 2, 1795, a 35-member consortium purchased the 3-million-acre tract of land for 1.2 million dollars. The company mortgaged the land with Connecticut and they, along with 22 other individuals, formed the Connecticut Land Company.

The written history of the Garfield farm began with the surveys conducted by the Connecticut Land Company during the late 18th century. Mentor Township was surveyed in October of 1796. The land was divided into 16 tracts and a drawing was held among company members on December 21, 1802, to distribute the property. Company members received 1,757 acres in tract no. 5, the area from which the northern part of the Garfield farm was formed. The southern part of the farm evolved from a portion of a lot owned by Ralph Bacon (see plate LM-1).

Warren Corning and his wife Elizabeth Pettingill had moved from New Hampshire to Mentor Township in October 1810. They settled on what was locally known as the Ward farm. On December 16, 1811, Warren Corning purchased a 183-acre parcel in Mentor Township for $1,000 from Ralph Bacon. Bacon had purchased this tract from the Connecticut Land Company in September for $300. Around 1830 Corning divided his property among his children. Harriet M. Corning was the youngest of the nine children. She married James Dickey on June 5, 1835. Dickey had moved to the Western Reserve in the early 1830s from Walpole, New Hampshire. He had entered into a contract with the Cornings during the 1830s for a 40.75-acre farm. The deed referred to "said lands and tenements," and excepted a 1-acre parcel of land which later became known as the Botten lot. The property was bisected by Mentor Road (known as Mentor Avenue as early as 1874) that ran on a southwesterly/northeasterly axis through the tract. This road linked Cleveland with New York. The deed also mentioned another 14-acre tract "lying North and adjoining the said piece of land above herein described, and being a part of the South East division of Tract No. five." No amount of money was mentioned in the deed so it is not known if the land and dwelling were a gift or whether it was purchased by Dickey. W.C. Dickey, son of James Dickey, asserted that James had purchased the

[1]Information abstracted from the Historic Resource Study, September 1984.

property from Warren Corning. It is probable that the Dickeys lived on the property after they were married, however, Dickey did not become the owner of record until 1842.

1835 Geauga County tax records indicate that a dwelling existed on the property and was assessed at $412. These same records indicate that the value of the house had been included in the total assessment for the property since at least 1832. Prior to 1832, the value of the tract amounted to $332 and then jumped to $1,032 in 1832. It stayed at this level until 1835 when the value of the dwelling was separated from the overall value of the property. From these records it is likely that the dwelling was built sometime between 1831 and 1832. Dickey began paying the property taxes as early as 1839. The 1839 records also mention a one-frame dwelling.

In 1846, James Dickey purchased a total of 53.6 acres, combining three smaller parcels. Then in 1848, he purchased an additional 23.35-acre parcel. These parcels were located directly to the north of his original holdings on which the house was located. By the end of 1848, Dickey owned a total of 117.46 acres. During 1850-1851 the Cleveland, Painesville, and Ashtabula railroad line was constructed. The section from Cleveland to Painesville ran through Mentor and was popularly known as the Lake Shore Road. The Lake Shore and Michigan Southern railroad (formerly the local railroad and later the New York Central railroad) right of way traversed the northern portion of the farm along a northeasterly/southwesterly axis roughly, paralleling Mentor Avenue to the south.

James Dickey died unexpectedly on September 19, 1855, at 47 years of age while back east in New Hampshire. His wife, Harriet, continued to manage the farm until she sold it to James A. Garfield on November 1, 1876. There is little information of activity on the farm during the 1860s and 1870s. Harriet Dickey continued to live in the Mentor area until her death in 1889. In 1877, James A. Garfield purchased an additional 40-acre tract from George W. Dickey.

James A. Garfield Residence, 1876-1879[1]

There are several reasons for Garfield's purchase of the farm in Mentor. These reasons include political boundaries, family concerns, and access to Cleveland. The Democratically controlled state legislature had recently realigned the Congressional districts. Garfield's listed residence was Hiram located in Portage County, part of the 19th district. Garfield, a Republican, saw the 19th district separated from the GOP counties of Ashtabula, Geauga, Lake, and Trumbull and merged with Ashland, Star, and Wayne. This gave Garfield a reason to want to change his residence to one listed in a district more in keeping with his political stance.

While Garfield's political duties and career were developed in Washington, his summers were often spent at home in Ohio. Garfield had not had a permanent residence since 1872. A few seasons were spent with his wife Lucretia's family at the Rudolph home in Hiram. There was an inconvenience with not having a permanent Ohio residence to return to during the summers. Garfield wanted to obtain a summer place where he could teach his sons to farm. This concern motivated Garfield through the negotiations to purchase the Dickey farm, even when he had doubts about the farm as a financial investment.

The Dickey farm was located on Mentor Avenue, a main road to Cleveland. This ease of accessibility was an advantage over Garfield's former residence in Hiram. The farm was also less than 1 mile west of the Mentor railroad depot and only a half mile from Dr. John Robison's residence, a friend and later administrator of Garfield's construction and farm activities.

Ancillary Structures. In May of 1877, the *Geneva Times* reported that the barns and pig sty were in disagreeable proximity to both the street and dwelling at the newly acquired property of General Garfield. One of the early projects Garfield resolved to do was to move the farm structures back away from the main road and orient them so that the barnyard activities would no longer be readily visible from the house. As early as January of 1877, Dr. Robison had contracted with a man named Barnes to "move the barns back 15 rods or less from the street." This included "the large barn, the

[1] Ibid.

long shed, the carriage [shed], the corn houses, and hog pen." At the time of the contract, Robison sought advice from Garfield on where he wanted the barns located. Since the general often delayed on making final decisions, it is not surprising that a final recommendation as to the location of the barn would not occur until a visit in late March. In his diary on March 20, 1877, Garfield has recorded: "After dinner went again to the farm and made further studies of the situation and determined to what point I would move the barns."

By mid-April 1877, the existing barns were finally moved to the rear of the house. The orientation and placement of the existing barns were hinted at in an 1878 diary entry. There was a reference that Garfield wanted to move the "long shed" to line it up along a north/south axis with the old barn. The old barn is probably the main barn or large barn mentioned in the contract Robison had with carpenter Barnes to move the structures back. From this diary entry, it seems that at least one of the barns may have been moved a second time before Garfield was satisfied with their placement. If this is so, then this begins to form the west side of the barn complex as illustrated in plates HP-8 and HP-11. By the time of this entry, Garfield also had two new barns constructed.

The first of the new barns was a horse barn built by a carpenter named Barnes. This is the structure that figures prominently in plate HP-1. It also later occurs in plate HP-2 and finally in plate HP-8 as the barn complex begins to form a complete enclosure. It was constructed during June and July of 1877. At that time, it was a freestanding structure. There are later photographs of this barn with horses being led in front (plate HP-44), and another one with two children in front of it (plate HP-45). Its location at the terminus of the drive, past (but near) the house and facing the street, make it the logical location for a horse barn. When the barnyard enclosure was later completed by placing a number of barn structures in a contiguous arrangement, only this structure and a small carriage shed faced the street. This again points to use for transportation rather than agricultural related activities. This horse barn (HS-005) is still extant today and is located on the back of the property (see plate BC-1 for conjectural plan of barn complex).

A large barn at the rear of the complex was constructed during June and July of 1878. This structure, like the horse barn mentioned earlier, was built by carpenter Barnes. The contract included a cupola to be built on the barn 5 feet by 8 feet by 6 feet high. Plate HP-8 shows two barns having cupola's on their roofs. The barn shown in the front of this illustration has a more square shaped cupola and has been established in the previous paragraph to be the 1877 barn. The barn shown in the rear of the illustration is most likely the 1878 barn.

The appearance of the farm was valued by Garfield and he strived to improve it. There was a reference in his diary that battens were placed on the east side of the main barn as well as the hen house. The battens show on all the visible barn structures from this era in the historic photographs and illustrations. This was an attempt to unify the appearance of the old Dickey barns with the new barns to create a more harmonious and picturesque image.* There are still remaining battens on the old horse barn (HS-005) and another old outbuilding HS-007.

Little is known about the remainder of the barn structures on the north and east side of this complex, as well as other scattered barn structures that appear in photos. Archeology may be able to shed more light on the location and use of barn structures.

The south side of the barn complex (facing the street) was not completed until 1880 when the carriage shed was added west of the horse barn. During the spring of 1880 as construction work proceeded on the house, Garfield and William Judd, a carpenter and contractor from Cleveland, had a difference of opinion over the plan for a new carriage shed. Judd suggested utilizing the existing horse barn for carriages and locating the stables in a new structure. Garfield initially "thought of building a new horse barn, large enough for carriages then making two additional stalls at the east side of the present barn." He later reduced the scope of the project to a shed addition on the horse barn to store the carriages.[3]

* This is the type of unified, harmonious, but picturesque image espoused by architect/authors, such as A. J. Downing, popular in the 1860s and 70s.

The original location and purpose of the small structure (16 feet by 25 feet), which came to be known as the campaign office, is not well defined. It was referred to as an "old house," possibly a tenants home. In 1936, Joseph Stanley-Brown[1] relates that the building was used by the owners before Garfield as a dormitory. This building was either already located (most likely), or moved to a position just northeast of the main house and remodeled to serve as a library from April through July of 1877.

The extent of the work is not known, but it included a new porch, removing interior partitions, building book cases with doors, and laying new flooring (which was laid by Garfield personally). The interior wall finish material of horizontal beaded boards probably dates to the work of 1877 because no evidence of earlier partition walls has been discovered. Since the same carpenters did work on both the main house and the library, it is not surprising that similar stick-style porch details occur on both buildings. By mid-June, the library was "grained" and nearly ready for occupation. This statement regarding graining is believed to refer to the book cases only, since they still exhibit this finish.

There is a reference that before the completion of the work more shelves were needed since additional books were discovered. This may account for the shelving at the southwest corner which varies from the design and symmetry of the layout from the others. The library was completed in late July. Brown relates that once Garfield completed the office on the interior of the main house, he never spent much time in this building again.

There was a separated 1-acre parcel on the tract of property south of Mentor Avenue, (on the west side) known as the Botten lot. This lot contained a house, most likely used as a tenant house. There is little mention of this property across the road, except when some occasional repair was required. Some of these repairs were recorded in Garfield's diary, such as in November 1878 when a new well was dug. The house was sold and moved off the property in 1886 after a new tenant house was built. This property remained in the control of the Garfields until November 1947 when Mary (nicknamed Mollie) Stanley-Brown sold it to Henry Winders, a real estate developer.

Main House. There is very little evidence left to study of the house that James Dickey and his family lived in. The only known sources of documentary information concerning this house are a few tax records which, by deduction of amounts levied against the owners, date the house to ca. 1831-1832. The house was built on the 40.75-acre parcel of land (located on the old Bacon property), owned by Warren Corning since 1811.

The Dickey house had most likely been expanded by James and Harriet Dickey in the years before James Garfield purchased the house. This addition was probably built in the 1850s. The enlarged version of the Dickey house is depicted in a photograph taken after Garfield had purchased the farm and had already accomplished a number of remodeling tasks. It shows an outbuilding and fence arrangement which reflect Garfield's changes made shortly after his purchase of the property. This dates the photograph between the late spring of 1877 and the fall of 1879 (see plate HP-1). This photograph provides the only surviving visual information of the original Garfield farm. The arrangement of the structures shown in the photograph corresponds closely with the documented records of James A. Garfield's diary, letters between Garfield and Dr. Robison, recollections of relatives, and newspaper articles. It would also have been more likely for a photograph to be taken of the nationally known congressman and former Civil War general's home, rather than one of the locally known Dickey family's home. The photograph is one of the best sources of information on the appearance of the Dickey house. Although the photograph is blurred and trees and fences hide some of its features, the main massing of the house and some fenestration and detail can be determined.

A handed-down description of the house, as recalled by Lucretia G. Comer (one of Garfield's granddaughters), also gives a further understanding of the house. This description portrays the Dickey house that Garfield purchased and mentions a small family room addition that Garfield had added on soon after his purchase of the home.

> A typical Ohio farmhouse--at the back of a recess[ed] porch [which was located at the front of the house] [was a] dining room, [a] parlor facing the street, a small bedroom

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[1]Joseph Stanley-Brown was James A. Garfield's secretary and later married Mollie Garfield.

> at the rear of the parlor, and one [bedroom] cut out of a corner of the kitchen with the rain barrel outside. The new family room was next to the woodshed, to the rear of the center of the house, and between it and the dining room was a somewhat spooky hall containing storage cupboards. The roof story had an attic and two bedrooms.

The house was a nine-room, one-and-one-half-story structure with two low pitched gabled roofs, a shed roof addition at the rear of the house, and a shed roof on the front porch. The one-story addition to the rear of the house was probably not original. It was common to build onto the rear of a house to accommodate necessary functions omitted from the original construction, or to enlarge spaces which no longer were sufficient in size.

The house has been described by others as resembling the Greek Revival style due to its low pitched roofs, wide verge and frieze boards, and its cornice returns at the eaves. The house was, however, more vernacular in appearance. The Greek Revival style, while prevalent at the time of construction, actually had only minor influence on the appearance of the house. Although it was common during this time period to have the main entry on the long side of a building with the gables on either end, the Greek Revival style strongly favored the temple form of architecture with the entry on the gable end wall. Another characteristic of the Greek Revival style is bilateral symmetry. Since there is no evidence of two sides of the Dickey/Garfield house, it is not possible to know if it conformed to this symmetry. With the later addition and what seems to be a dormer on the roof, it appears that the Greek Revival style was not followed rigidly by the builders.

At the time that Garfield and his family moved to the Mentor farm, the family included James A. Garfield, his wife Lucretia, their children Harry (age 14) James R. (age 12), Mollie (age 10), Irvin (age 7), and Abram (age 5). James and Lucretia Garfield had two other children who had died earlier. James Garfield's mother Eliza (age 76) also resided with the family until her death in 1888.

When Garfield purchased the house, it was said to appear neglected and deteriorated with the building and grounds needing renovation. The shingles had rotted on the main roof prior to Garfield's family residing in the home and had caused water damage to the master bedroom. The first work Garfield did on the structure involved adding new shingles, plastering, interior painting, whitewashing, and installing new carpets, stove, and pipes. In 1878, the pipes bringing water to the kitchen were overhauled and two sinks were placed in the new pantry. It is not known if there was any physical change to the street appearance of the home. At this time, no record of alterations has been found, although the detailing of the front porch (see plate HP-1) resembles the stick-style detailing of the campaign office.

The only physical evidence of the earliest version of the Dickey house remains in what can be surmised from the exposed interior foundation and first-floor framing. Little sense could be made from comparing this remaining floor framing with the Lucretia Comer description of the house.

James A. Garfield Addition, 1880-1885

Ancillary Structures. In order to facilitate the new house construction which was to occur in the spring of 1880, the campaign office (which was still only the general's library) had to be moved since it was in such close proximity to the house. The approximate location is shown on the chronology drawings (BC-1).

There is no information on changes to the barn structures during this period, but one could surmise that they were probably in pretty good condition since they were all recently either moved (and presumably improved at that time) or built. Some smaller changes may have been necessary, though, to house or adapt for new agricultural machinery to accomplish the scientific farming practices Garfield had been implementing on the farm.

Main House. Garfield put forth the notion several times in the preceding years to acquire more land adjacent to his property and build a new house. He vacillated over the decision until late January 1880, when he finally made up his mind that he would abandon the idea of a new house (most likely because of cost) and remodel the old one. Once this decision was made, his close friend Dr. Robison

was able to push ahead the project with great speed. Plans for the work were drawn up by William Judd, a Cleveland contractor. Draft plans were forwarded to Washington for revision and approval.

Major changes began on the house in early March 1880. Plans called for the house to be enlarged to a two-and-one-half-story structure. The existing first-floor framing was jacked up to raise the floor level 12 to 18 inches in order to improve the appearance of the house. A new foundation was built under the dining room and by the March 15 the two chimneys were constructed up to the second floor and the entire shell was up.* At least some of the exterior walls remained from the earlier house according to a Robison note to Garfield that new casings (for windows) were placed in the studs. By the end of March, the rafters and roof were in place and work was being done on the gutter eave troughs. The family agreed to have the roof treated with fireproof paint. A letter from Lucretia Garfield to James A. Garfield dated May 19, 1880, mentions that there was a cost savings in using yellow ocher as a base coat for the roof. During the spring of 1880, the work which was done included the laying of pipes for the removal of roof water.

When the 1880 house was complete, it incorporated steeply pitched gables with sawn vergeboards and decorative finials, and at least two dormers, one on the front of the house and the other on the rear. A porch was constructed along the full length of the front of the house. The porch supports were slender square posts grouped together with small wooden diamond-shaped members connecting them about midspan (see plate HP-15). It was this porch that became associated with Garfield's presidential campaign. There was a direct entry from this porch into the parlor (which has since been removed). Several photographs show a wooden and string or wire framework was put up for climbing vines to grow on, providing a shade cover during the summer for this south facing porch. All rooms in the house received new interior finishes. From ca. 1880 lithographs it is apparent that lighting in the house was by oil lamps. Heat was provided by coalburning fireplaces and coal stoves. Overall, the house had a simplified Victorian Gothic appearance, characterized in contemporary accounts as a "fine country residence." Findings from a paint analysis (done by North Atlantic Region Historic Preservation Center in October 1987) show that the house was painted white with red sash and doors, and dark green shutters. The wood shingle roof was painted "dark Turkish red."

In 1882, a newspaper account states that a porch was built on the east side of the house. It is highly unlikely that it or any part of that porch is the one reflected in plate HP-19 of the east elevation (see discussion, "East Porch"). If a small porch was added at this time, it is probable that it was removed and replaced by a more comprehensive design in 1885.

James A. Garfield Memorial Library Wing, 1885-1900

Ancillary Structures. Although there were some minor additional outbuildings and shed changes in the intervening years (ca. 1880-1893), the main development of the barn complex near the main house did not change. The barns remained on this site until ca. 1893 when the new carriage barn was constructed. Some or all of the barn structures were then moved back on the property approximately 750 feet. A new barn complex was created, probably from the moved buildings from the front of the property. No pictures or illustrations are known of this second area although the 1900 base map (plate BM-4) and 1924 base map (plate BM-5) indicate a barn complex was created. The only structure remaining of this barn complex is the 1877 horse barn (005), the second most significant of the James A. Garfield-era out buildings. There are also remains of foundation walls north of the horse barn.

Main House. Following James Garfield's death in 1881, Lucretia Garfield received a large sum of money from the public as an outpouring of grief for the assassinated president. A portion of this money was used to build a memorial library wing addition to the home. The curation and preservation of Garfield's personal library and state papers assumed great importance to the family. This interest and a desire to memorialize the slain president combined into a strong motivation to build the library addition which featured a fireproof vault. The amount of work being contemplated also afforded Mrs. Garfield the opportunity to improve the existing portion of her home with new conveniences such as gas lighting and heating. Lucretia hired Cleveland Architect Forrest A. Coburn,

*Undoubtedly, other chimneys were built also. It is believed that the 1880 house had four chimneys.

senior partner in the firm of Coburn and Barnum, to design the addition in 1885. While Coburn is the architect of record, certainly Lucretia and her older sons Harry and James R. became involved in the project. Joseph Stanley-Brown, a former aide to President Garfield, continued to work for Mrs. Garfield. He carried on extensive correspondence with her which resulted in the preservation of his deep involvement with the design and construction of the addition. His concern, promptings, and design suggestions are well documented in the *Historic Resource Study*, pages 117-131. While all suggestions were not implemented, the final project did bear a strong resemblance to his written design ideas.

While the project was being designed, Joseph Stanley-Brown warned Lucretia about unscrupulous architects and builders "considering you fair plucking because you have reputed wealth." He urged her to "pay the architect a fair price for his work and dismiss him. Do not pay him a percentage for over-seeing the work." Possibly because of this warning it does not appear that the architect did supervise the construction work.[1] Other documentation cites William Judd as the supervisor of the construction. Judd was the contractor that drafted the plans and built the 1880 rehabilitation project.

Ground was broken for the project in June 1885, but it was not until mid-1886 that all construction and furnishing terminated. The addition was sited to reduce impact on the existing house. The connection at the northeast corner and rear of the existing house made the bulk of the addition seem to recede, thus preserving the street appearance of the 1880 home which James A. Garfield knew. It is a rock-faced sandstone and frame structure with third-story dormers having sawn shingle wall surfaces. The addition has its closest ties to the Richardsonian Romanesque and Queen Anne styles. The compatibility between the addition and the 1880 house is achieved through the shared two-and-a-half-story height, gabled roofs, chimneys, and dormers. The most ungainly conflict of the 1880 house to the 1885 addition occurs at the connection of the south porch to the east porch. While it is most likely that the east porch shown in figure HP-19 was an integral part of the design and construction added at this time, it does not match or integrate well with the 1880 porch.[2] Instead, its lathe turned members were more massive and had a greater level of detail and ornament reflecting the Queen Anne style (see plate HP-22).

The carriage porch (west porch) and the north porch were originally screened, as can be seen in HP-26 and 27, and presumably protected by glass panes in the winter as originally suggested by Joseph Stanley-Brown. This provided a pleasant place to relax during summer days, as illustrated in HP-28 and 29.

In 1885, the paint scheme for the new addition was a light grey field with dark grey trim, with bold red window sash and doors, and dark green shutters. The red roof (originally painted red in 1880) was probably repainted at this time. By 1895, the color scheme was toned down some. Shutters, window sash and doors were painted a dull green, however, the remainder of the house stayed the same. It was much less likely that the roof was again painted red, since the accent color that complemented it was changed.

The construction project, beside providing a place to house James A. Garfields large collection of books and congressional papers, transformed the country home into a mansion. A newspaper article cites that a $30,000 dollar addition was made to a $5,000 house. The remodeled house reflected the high social and economic status the Garfields achieved. The new addition contained the memorial library with its fireproof vault room, a new kitchen with its adjacent pantry, butlers pantry, laundry, first-floor bathroom (under the stair), new main stair to the second and third floors, two second-floor servants quarters with a bathroom, and two new large bedrooms on the third floor. The old kitchen

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[1] The saving of some money by Lucretia Garfield in the construction of the addition in 1885 may be costing the government a great deal to correct over a hundred years later. At the time the addition was built, architects drawings consisted of plans, elevations, and details of how he wanted the finished work to look. Special details, electrical, mechanical, and structural systems were worked out on the job. By dismissing the architect, it is believed that some of the structural sizing and detailing was not as good as it could have or should have been. As a result of deficient structural support when it was built, some portions of the building are experiencing problems today.

[2] While there exists some sketchy documentation that a porch was added to the east side of the house in 1882, it is believed because of the carefully worked out details and integrated construction that the victorian porch pictured in HP-19 was constructed in 1885. If there was an earlier porch, then it was most likely demolished and replaced at this time.

was remodeled into the new reception hall, the dining room bay window was installed, the old first-floor bathroom (room 105) was made into an entrance vestibule, and a second-floor bedroom on the east side was converted to a bathroom. A new gas well on the property supplied gas for lighting in all rooms, and fireplace heaters were changed to gas. The kitchen also presumably had gas ranges and a water heater.

Garfield Family, 1900-1936

Main House. A number of changes were made ca. 1904 (we are not sure of the exact date) and others are documented to have occurred in that year. Some of the changes were to repair parts of the house that had deteriorated, and others were done to redesign portions based on need. By this time the Garfield children had all left Lawnfield and lived in their own homes. Lucretia may have felt that some redecorating and adjustment of spaces to meet her needs was in order.

In 1904 the front (south) porch was removed and replaced with a new smaller porch and an arbor. The new front porch changed from a slender Stick style post to a more substantial Doric column, giving the house more of a Colonial appearance. It appears that the floor structure for the new porch was retained from the earlier porch since they have the same plan, steps, etc., as can be seen in the historic photographs. At this time, the doorway which joined the porch and the parlor was removed, along with the two windows directly west of it, and a new bay window was built in their place. Since this was a major change to the parlor, the opportunity was taken to make further alterations. The old natural finished wood fireplace mantel with its beveled mirror and shelves above, an adjacent built in bookcase, and all the remaining door trim were removed. The new work in the parlor reflected the Federal style, popular at the turn of the century. Mrs. Garfield either because of sentimental feelings or because she was frugal, had the old fireplace mantel installed in the first-floor bedroom/sitting room (room 103). It still has the ghost outline of the original shelves.

The east porch was also replaced at this time. It, too, incorporated Doric columns and kept its floor structure and deck. But, unlike the front porch, it was partially enclosed, creating a vestibule for the dining room entrance. There was a statement made in the newspaper that, "as part of the porch alterations, a new main entry was built to replace the street entrance." It is believed this statement refers to the vestibule built on the east porch which, more accurately, improved the existing entrance.

Another area of change took place on the second floor at the southeast corner bedroom (room 213) and the bathroom to the north (room 214). It appears that this area was rearranged to create a two bedroom suite (with Lucretias's original bedroom and the southeast corner bedroom) and reduce the size of the bathroom (see plate BC-4). When the wall between the bedroom and bath was moved it also caused a window on the east elevation centered under the gable to be altered. It was changed from a single window (see plates HP-19 to 21) to two smaller ones with a wooden panel between (where the new wall intersected it) (see plates HP-22 and HP-23). The interior portion or this work included a new door to the hallway, a new closet, and new fireplace mantels in both bedrooms (where there were formerly none). From the paint analysis it was determined that this work was accomplished just prior to the 1904 repainting of the house.

An alteration involving the installation of a new bathroom on the third floor may very possibly have also occurred at this time (1904). It included altering the rear gable third-floor window on the west elevation. A small horizontal window located below the shingled gable end was changed to a pair of double-hung windows extending up into the shingled gable. Ghost outlines and plumbing connections of the old fixtures can still be seen on the wall. The bath had a lavatory with a high backsplash, a watercloset, and a claw foot tub. The remaining woodwork, door, and hardware appear to date from the early 20th century. It is suspected that the installation of this bath occurred at the same time as alteration of the window on the east, but it is not known for sure. A photograph dated to 1888 (HP-18) shows the exterior of this portion of the house as it was originally constructed in 1885. It appears in a ca. 1904 photograph (HP-27) without alteration. The next photograph showing this area, with the window altered, is dated ca. 1936 (HP-31), after the WRHS opened the home as a museum.

One other change believed to have occurred around this time is the installation of the lavatory (room 122) at the rear of the house (now the gift shop, room 121). This small room was partitioned off

from room 121 by a beaded board partition wall. The cast-iron plumbing vent exits out through the stone wall of the library addition and up the outside face of the wall to a height above the roof. This work is not likely to be original to 1885 because it is not integrated with the construction of that time period. It is also not likely to have occurred after 1918 (the death of Lucretia Garfield) since it seems so little was spent on the house during that period (the only noted expenses were for maintenance items).

Along with these changes came a new paint scheme. The field of the house was painted a beige yellow with black sash, dark green doors, and bright green shutters. Between this 1904 paint scheme and approximately 1940, the paint analysis found two coats of creme paint, one of light pink and one of light grey.

Not much is known about physical changes at Lawnfield after 1904. It is presumed that very little or nothing was altered after the death of Lucretia Garfield in 1918. Surviving correspondence from this time period refers to the high expense of keeping the old place up, the desire to maintain the house as a place for Uncle Joe Rudolph to live (he had been living there since 1885), and also a desire to preserve the house as a memorial to their parents. Letters between various family members indicate very little was expended for upkeep of the house and outbuildings. The condition of the place was referred to as decrepid. During the 1920s and 1930s the five Garfield children often discussed the fate of the farm and main house.* Finally in late 1935, an agreement which met the approval of all family members was reached with the WRHS to donate the house as a museum.

Western Reserve Historical Society, 1936-1980

The Garfield Bequest to the WRHS. The Garfield family donated approximately one acre of land containing the main house and nearby campaign office/library to the WRHS on June 15, 1936. According to the subsequent deed the premises could be used "only and solely as a memorial to our father...and our mother...for the purposes of a historic building and museum to preserve objects of historic interest especially connected with Ohio."[4] Integral to the transaction, the WRHS agreed to pay all taxes and assessments from July 1, 1936, onward, which immediately relieved the Garfields of a heavy financial burden. The heirs retained the right to "reenter after said premises are no longer maintained solely as a memorial."[5] The historical organization received the property for "so long a period of time, and no longer"[6] as it maintained Lawnfield as a public site.

When the WRHS acquired the main house in 1936, it was extremely rundown, and required a great deal of immediate fix-up to prepare the house for visitation. Hurried cosmetic preparations occurred at Lawnfield that summer to ready the main house for visitors. There was no real plan or priorities established for this initial phase of rehabilitation activity at Lawnfield. James R. Garfield, the second eldest son who lived nearby, recorded many of his impressions about the transfer to the Cleveland group in a positive vein, but still felt a tinge of remorse about having to give up the house. He realized that Lawnfield must be preserved by those with greater resources than the family could muster, but realized "great loss and sorrow over giving that old home to the Historical Society."[7] Despite these privately expressed misgivings and sense of personal loss, the work proceeded on schedule. Garfield helped the crew with painting and papering. The WRHS officials soon realized a great deal of deferred maintenance needed to be accomplished before the public entered, but many problems were not resolved for a decade or more. Thus since that time many changes have occurred at the main house and on the grounds, and this report will chronicle as many as possible.

Initial Preparations, 1935-1936. Laurence H. Norton president of the WRHS initiated a vigorous fund raising campaign in late 1935 to rehabilitate the house. Between 1936-1938 WRHS collected as much as $10,000 for house repairs. A typical letter sent to prospective contributors stated that historical society solicited funds for "necessary repairs to the house and to fix it up as a museum will require, according to the architects estimate, a fund of $10,000."[8] In his appeal, Norton also stated that "this historic house will be the only president's home in the Western Reserve proper and should be preserved as are the homes of President Hayes at Fremont, of President Harding at Marion, of Andrew

*A full discussion of the schemes to preserve, or demolish, or donate the house is contained in the *Historic Resource Study* on pages 149-160.

Andrew Jackson at Nashville and the historic homes of the early presidents in Virginia."[9] Norton pitched the appeal to individuals who either lived in Mentor or had summer homes in the area. However, one prospective donor was not so enthusiastic. S. Prentiss Baldwin wrote to Norton in late 1935:

> The Garfield house would seem to me of such architecturally, nondescript character as to be no credit to the President; and I am surprised that the family wish it maintained as a memorial. If the Mentor neighbors wish it to be made into a local attraction, located as it is on the main road, I would think it more suitable to organize a local Mentor Historical Society or Garfield Memorial Association.[10]

Despite this negative response, the money poured in, and Laurence Norton spent over $5,000 getting the house ready for visitation in 1936. By June 1936, Norton had collected over $7,000 to do "considerable replastering and repapering in the interior."[11] Visual inspection suggests that the plastering work included the entire ceiling of the front entry hall (room 102) and the dining room (room 111). The oak cornice is not consistent stylistically and in species with the other woodwork and has a different finish. The WRHS opened the house in late August 1936.

August 1936, Lawnfield Opened Formally to the Public. The WRHS invited 150 special guests to the ceremony, and opened the house to the public on August 25. Invitations stated that visitors could "view rooms and relics on display." According to the *Painesville Telegraph* the preparations included repair and redecoration inside and outside. Work included a new asphalt shingle roof, repainting the exterior, refinishing the floors, and revarnishing and repainting the woodwork. Although the paper also reported installation of new "metal rain gutters and eavespouts," this work apparently was not done until 1961. The paper reported that all of the walls except for James A. Garfield's former bedroom on the first floor and one bedroom once occupied by his wife Lucretia had been repapered.[12] Obviously the age of the structure, the local severe climate, and the wear and tear created by the thousands of visitors annually would create ongoing maintenance problems at Lawnfield. The existing data suggests that many of the specific items described above had to be redone every few years, and that created severe budgetary problems for a local historical society without large cash reserves for operations and maintenance. This issue more than any other would influence Lawnfield's operations for the next six decades.

When James R. Garfield returned from a European vacation he toured the house in early September. "I am astonished," he wrote, "at what has been done so quickly. Laurence Norton has, with Janet's assistance, arranged the old house beautifully."[13] Working closely with WRHS officials, James toiled that fall with insurance matters, removing surplus items, designating those artifacts and objects to be exhibited by the WRHS and numerous other unrecorded chores.

By mid-September, 2,500 visitors had registered, and more came to Lawnfield until late November when the WRHS closed the house for the season. (For many years Lawnfield only remained open from spring to late autumn principally due to lack of heat in the house and financial constraints.) The local papers followed the Lawnfield story closely. For example, the (Cleveland) *Plain Dealer* published a lengthy description of the house and grounds:

> Recently at the invitation of Mr. Samuel D. Dodge, I visited the home of Garfield at Mentor. The house and grounds immediately around it have since May 20, 1936, been the property of the Western Reserve Historical Society. We walked across the wide lawn from the old Corning home. Stately trees, well-spaced, shade it. The exterior of the Garfield house is much as it was when rebuilt in the spring of 1880. First, we walked back the path to the chicken yard and barn. Good healthy chickens gathered under shade trees at the corner. The barn, a New England one, with cupola and wooden shutters, short plank runway from the big door to the ground, all plainly of the day of Garfield. We went along the hedged and fenced lane, big old orchard on the left, on the right large garden with grape arbor near the center, such as one would see on a good farm 50 years ago. Way down the lane we turned its shady corner, and through a wide opening in the trees saw over lowland the New York Central, once the Lake Shore....Then Mr. Dodge and myself went out the long brick path to the house of James R. Garfield. We passed noble trees spaced in park-like grounds.[14]

The Founding of the Lake County Chapter, WRHS. Although the WRHS had opened Lawnfield to the public on a limited basis in August 1936, the organization discovered that local management would be more effective. On February 23, 1938, the Cleveland-based group founded a Lake County Chapter to assume operation of the house museum. At the inaugural meeting at Rider's Tavern in Painesville, President Norton stated that the Lake County affiliate was organized for the "preservation of historical documents pertaining to the county and articles of historic interest with the idea of housing them in one central place, the President Garfield Memorial Home," as well as promoting the "stimulation of greater interest in the national shrine."[15]

Thus from the very beginning of Lawnfield's period of public benefit, a dual function has occurred at the site--the memorial to James A. and Lucretia R. Garfield and a home for the Lake County Chapter of the WRHS, a place to store "individual, scattered and incomplete historical collections as well as a place to display household, agricultural and mechanical curiosities of a historical nature."[16] Such historical artifacts and displays found a permanent home on the third floor of Lawnfield until the Lake County organization moved in 1984. The long-term professional relationship between the parent and its offspring organization has continued into the 1980s.

The Transition Continues, Late 1930s/Early 1940s. When the family donated Lawnfield to the WRHS, the house and campaign office still contained furniture, personal effects, and documents dating to the mid-and late nineteenth century. To ascertain that all materials, artifacts, and effects were properly recorded, the WRHS prepared a comprehensive inventory of the contents of each room in July 1938. This 26-page compilation illustrates that much of what material goods the Garfields' had owned remained *in situ*. For instance, the library contained framed pictures of Lincoln, Otto Prince Bismark, Mark Hopkins, Napoleon, Edward Everett Hale; "one Hallet and Davis piano; two show cases and contents; one Mahogany desk; one pedestal and original marble bust of President Garfield by Preston Powers, 1883," and many other items.[17]

The Garfield heirs reserved all rights to this personal property until they had made their personal selections. Irvin wished to donate his share to the WRHS but suggested that the siblings be given an opportunity to retain specified property.[18] Although the transmittal of property agreement was signed in October 1939, it was delayed until February 1945, due to the illness and death of Harry A. Garfield in 1942. During this transition period, the family reserved use of two rooms: one in the southwest corner of the third floor, and the "memory room" (the fireproof vault) until they removed certain preselected contents. James also informed Norton that some articles would be loaned to the WRHS and ultimately given to the organization. Books would be donated to the historical group with certain exceptions, and Garfield reviewed the 1938 inventory page-by-page indicating which items would be retained by the family.[19]

Physical Improvements at the Public Shrine, Late 1930s. Laurence H. Norton himself took an active hand in running Lawnfield in the late 1930s, although he had hired curators for the property. Since the transition to semi-public management in 1936, Lawnfield had received a great deal of upkeep and maintenance. Mrs. Ivan Sutliff, a curator between 1936-1938, related that there was no central heat or electricity in the "Garfield residence" portion of Lawnfield, a principal reason why the WRHS closed the house in winter. There was heat and electricity in the rear where Mrs. Sutliff and her husband lived.

An unsigned, undated drawing prepared by A.O. Beamer, found in the files that apparently dates from the late 1930s, shows a large undivided multi-purpose room (now divided by partitions into rooms 116, 117, 118) serving as a kitchen and sitting room for the Sutliffs (see plate MD-1). But room descriptions of where to place new radiators in a 1942 contract correlate to the present location of the wall between the present living quarters and the present kitchen. This contract document does indicate though, that the late 1930s kitchen was located in the historic kitchen (room 116) and the living room was in the space of present rooms 117 and 118 (which were not divided as they are now). This is consistent as far as where functions were located with the drawing in plate MD-1. Remaining fabric in these rooms, although altered, seems to indicate that the wall dividing rooms 116 and 117 was always there. It is believed that the drawing was a proposal that was never enacted. By 1941, the kitchen was moved to room 117, and room 116 became the living room. Later room 116 functioned as the library reading/research room for the LCHS into the 1980s, and then again as a living room for a curator.

The actual book stacks room (room 121) directly below the memorial library (now a gift shop) served as the pantry and fruit cellar--a "dark and dingy" place. To help open the house, the couple arranged everything "just as it was when the family lived here" in close consultation with James R. Garfield.[20]

Surviving records held by the WRHS and the LCHS in Mentor give ample testimony to Norton's professional, business-like approach to operations. For instance, surviving records illustrate how he put initial fund raising to good use. A major undefined contract with T.E. Westlake amounted to $3,000 plus "$25 extras." Disbursements included wall papering (George W. Bierce). Wallpapering seemed to be an ongoing chore at Lawnfield. In March 1939 curator Helen Norris received bids from two paper hangers for work in the hall and two small bathrooms upstairs as well as the bedrooms. Other work included three cleaning women for 34 days, a new hot-water furnace, hot-air furnace (provided by Mark A. Sandburg), plumbing, window shades, fire extinguishers, curtains, and many other projects. The Cyclone Fence Company provided wire guards for the library book cases.[21] Norton kept up the pressure to acquire contributions to keep Lawnfield operating in the late 1930s, and the available evidence demonstrates that he was successful in keeping the house open.

Besides dedicated management, local history enthusiasts and friends of Lawnfield sponsored many activities through the years to support the historic site. In August 1939, typical activities raised money for "needed repairs" such as providing electricity to the third-floor Lake County museum as well as painting and landscaping.

As concerned managers of a historical treasure, the WRHS feared that fire could destroy the aged wooden structure. The organization invited the Assistant State Fire Warden and the Ohio Inspection Board of National Board of Fire Insurance Underwriters to evaluate the main house for potential dangers. An undated (ca. late 1930s) combined report sketched twelve major recommendations including replacement of the electrical system; chimney closure or repair; replacing the inadequate lightning rod system; replacing the existing pipeless furnace; creating a proper location for a new heating plant; permanently closing all register and grille ventilator openings in wood lath and plaster walls or closing combustible ventilating shafts; and tracing all gas piping to supply lines entering the building and capping abandoned pipe ends.[22]

Insurance Coverage, 1930s. The WRHS carried insurance on Lawnfield with the Indemnity Insurance Company of North America to cover the house and contents. Indicative of his personal commitment to historic preservation, Norton himself advanced a sum of $1,234 to cover insurance for a five-year period on April 25, 1938.[23] Seemingly, the insurance company had some influence concerning repairs at Lawnfield. For example, a company safety engineer advised the WRHS to replace broken tile on the pergola and to make its floor level to prevent accidental falls. The organization resolved this problem by April 1937.[24] As of April 1940, since the WRHS carried $20,000 worth of insurance on the house and $10,000 coverage on the contents, Norton requested a reduction in the insurance premium primarily due to the installation of village water.[25]

Municipal Water Comes to Lawnfield. In June 1939, the committee applied to Mentor Village for a water meter and service from the Mentor Village Waterworks System. Until this time Lawnfield had its own water delivery system as evidenced by the elaborate wind driven pump house to the northeast of the main house.[26] The lack of a reliable municipal water system certainly made the insurance premiums higher in the late 1930s.

The Campaign House. In August 1936, Joseph Stanley-Brown contacted Norton about the Campaign Office near the main house. He said:

> It was used by the former owner as a dormitory but when sold, the partitions were taken out and the single large room which resulted was devoted to office purposes. It remains practically unchanged from what it was as I first saw it, about the middle of June in 1880. Around the walls were bookcases extending almost to the ceiling, the base being widened out and enclosed by panelled doors. These small closets formed convenient places for the storage of stationery and other articles requiring protection. The book shelves were largely filled with government reports and other official publications that would not have graced the general household library, lodged the enlarged residence.

> The office was most meagerly furnished. A small upright globe-shaped stove, which burned hard coal, furnished heat as the autumn came on. There was a small flat topped table with one drawer. This was supplemented later by a carpenter-made cross-legged table about three feet by four feet....There were three or four chairs of the style of that day, as indicated by the drawings. A small table carried a letter press and all communications sent out, if important, were duplicated by means of wet tissue paper sheets bound in book form.[27]

The available records do not indicate any rehabilitation of this structure in the 1930s (see the sketch of the interior by Joseph Stanley-Brown, plate MD-2).

Projected and Actual Improvements, Early 1940s. More active planning for repair and maintenance appeared in the early 1940s. An undated ca. 1940 "Long Range Plan of Development for Garfield Home" sketched a lengthy list of proposals to enhance the property, most of which were completed over time. The list specifically mentioned:

1. Restoration of Interior and Exterior of Home (repairs and improvements to be executed in order of urgency).
2. Acquisition of barn and additional land.
3. Restore original driveway.
4. Build parking lot.
5. Recreate 1890 flower garden on site of original Garfield garden.
6. Move cabin away from the home.
   a. Surrounded by rail fence.
   b. Build wishing well and pioneer woodpile.
   c. Place old fashioned prairie schooner along side.
7. Move or turn campaign house-open to public.
8. Repair barn-display Garfield carriages there.
   a. Exhibit of agricultural tools and equipment.
   b. Convert front garage section into auditorium for meeting purposes.
9. Convert ground floor basement into small auditorium for meeting purposes. Make available to patriotic and other organizations in county.
10. Locate small picnic area on grounds.
11. Place groups of outdoor furniture along walks.
12. Build small stand at gate or parking lot to serve as point of contact for collection of admissions and sale of refreshments and souvenirs.
13. Establish definite tour and place signs to lead visitors from one point of interests to another. Might have guides available in busy months.[28]

Although many of these proposals were brought to fruition, some schemes like the prairie schooner never saw light. Other improvement recommendations were added to this list and included labeling trees, restoration of original porch, miscellaneous yard work such as shaping, cleaning, and removing dead trees, adding new topsoil and lawn as well as new bushes and flowers. The Lake County Chapter removed the rail fence on the general property line to surround the cabin to keep free-loaders out.

A 1940 "List of Recommendations for Improvements," prepared by A.O. Beamer listed "urgent" needs in several areas including landscaping, painting, carpentry, masonry, plumbing, electrical work, and special craftsmen (see "Appendix A, List of Recommendations for Improvements, Ca. 1940"). Each of the categories contained between eight and ten specific items recommended for action. Thus by the early 1940s, Lawnfield administrators got a firm grasp on the problems posed by the aging structure.

Another (ca. 1940) report "List of Recommendations for Improvements" (prepared by curator A.O. Beamer) outlined a number of additional significant problems affecting visitation at Lawnfield. Beamer suggested that the house was not sufficiently visible from the highway which lay less that 30 feet from the front porch. High bushes and low branches concealed the porch thus masking Lawnfield from potential visitors. The grounds needed landscaping, and the trees in front of the house required trimming and, in some cases, removal. M.H. Horvath, a Mentor landscape architect also recommended that existing worn-out top soil be replaced and grass replanted. A similar report mentioned a possible relocation of the driveway to make the entrance on the front porch and more visible and easy to

locate.[29] The report also suggested that the house be painted white, not only to attract attention from the road but to give it an appearance of size (its color then was a "dull gray"). Some years passed before the house received a new coat of paint.

One other report stated that the "Garfield Home is a satisfying piece of merchandise to visitors after they have gone through but it needs packaging. It needs to be wrapped in an attractive package that will make casual passersby stop and want to see it." Site managers and Lawnfield supporters realized the importance of expanding visitation to insure a revenue stream sufficient to operate and maintain the property.[30]

This report also detailed two serious interior problems. First, the report stated, "The Home should be rewired. At present it is not too good an insurance risk. Because of the irreplaceable nature of its contents more efforts should be directed to fire protection." Secondly, the floors and woodwork badly needed to be refinished because neglect had led to a serious attack of powder post beetles which had drilled over a "hundred holes in the living room floor" and attacked beams supporting the oldest part of the house.[31]

Later in 1940, Beamer reported to the Garfield Home Committee that the condition of the parlor floor, which had been attacked by powder post beetles, had improved. The maintenance man had used a solution of paradachorodebenzine and kerosene reducing but not eliminating the pests.[32]

Despite this successful campaign against destructive pests, the early 1940s needed improvements list continued without apparent resolution. The author of "Report on Garfield House" (again probably Beamer) wrote that it was not too good an insurance risk in its present condition since the house had to be rewired. Much of the furniture required attention. Many of Garfield's mementos were not shown because of the lack of proper display facilities. The chimneys and foundation walls needed painting and repair. The existing entrance porch faced repair and replacement of supporting beams, and the lightening rod system required attention. To accomplish these needs, Beamer estimated the total package at $10,000. But the proposed budget asked for at least $5,000 for improvements which represented the "least amount with which the Home can be efficiently and effectively operated."[33]

Other rehabilitation projects surfaced, on September 14, 1940 Mentor carpenter Edward F. Olsaver proposed the following repair work at Lawnfield:

> Campaign Office: a. Incidental interior work to make ready for public; b. Entrance step repair; c. Chimney bricks replaced and repointed.
>
> Main House: a. Entrance porch floor and posts raised and repaired; b. Terrace covering, porches, cornice molds and necessary replacing and renailing; c. New doors on basement entrance, exterior, at rear of house; d. Pointing of all chimneys foundations walls, especially around porches where some stones are falling out of place; e. Inspection and repair if possible the leaking into Library from balcony above. Olsaver estimated this work would cost $110 and he asked for another $820 for two coats of nationally branded exterior white paint, (blinds and iron work would receive one coat), and reputtying of glazing on main house. Beamer felt certain that an investment in landscaping, paint and repair of the house, and erections of additional signs would further increase the attendance and income probably enough to eliminate the deficit.[34] There is no evidence that Olsaver completed the repair work or painting in 1940. Once again the house did not receive adequate maintenance, despite the recommendations of the site manager. There was not enough money to support the needs of Lawnfield.

Funding Necessary for Lawnfield Arrives from the State of Ohio. The Lake County Chapter of the WRHS seemingly reached a financial crisis in January 1941. Apparently there were not sufficient funds to operate and maintain the house and grounds effectively. In an urgent letter to its state representative Jack A. Easton on January 8, 1941, the Lake County Chapter informed Easton that the organization had contributed $600 annually to operate a county museum on the third floor. Furthermore, the $5,000 budget represented the minimal amount with which the house could be operated. The January 1941 minutes further stated that for the "past four years improvements and even essential maintenance items have been completely neglected due to lack of funds and the Home at present is in urgent need of repairs and replacements which cannot be much longer postponed if

the Home and its contents are to be maintained in a condition for exhibition to the public." Thus the sum needed for capital improvements totaled $10,000.[35]

The Ohio legislature responded with a $10,000 appropriation for repair and improvement of the Garfield house in early 1941. The state funds were to be divided between the 1941 and 1942 biennium for repairs, painting, and landscaping, as well as opening the long neglected campaign office to the public. This subsidy would be transmitted through the Ohio State Archeological and Historical Society (OSAHS) in Columbus. Hence the Lake County Chapter had to supply detailed records for the Ohio historical agency. Once the state funds were a reality, the Lake County Chapter terminated its support of Lawnfield, which in July 1941 amounted to a $50 monthly stipend.[36]

Apparently the actual transmittal of state funds for the Garfield property occurred very slowly. By October 1941, Beamer reported that $5,000 to be monitored by the OSAHS finally came to Lawnfield. Thus the local historical group awarded contracts in December which included $250 for exterior carpentry repair, $98 for masonry repair, $28 for further treatment of powder post beetles, $513 for repairing and making the heating system automatic, and $50 for art work on signs and pamphlets.[37] Subsequent contracts included $2,500 for a Delco heating plant, sheet metal work $7.50, and painting $141.50. Other appropriations earmarked $800 for landscaping, $500 for parking lot improvements and new fences, $500 for new road signs, $300 for inside painting, $100 for new furniture, and $100 for restoring furniture. This expenditure of the 1941-42 appropriation was divided into several main categories such as Garfield Home Interior, Home Exterior, Living Quarters, basement and cellar, museum, yard, campaign, and log cabin.[38]

Apparently administrative and even perhaps unrecorded personality tensions that existed between the Lake County Chapter and the OSAHS delayed the transfer of the badly needed funds. (This bureaucratic relationship is best told elsewhere). But during the World War II years, the State of Ohio kept Lawnfield afloat with its annual subsidy. Seemingly some differences of opinion existed between the state and the Mentor group over how funds were to be used--capital projects or routine operations. By 1945-46 the state still subsidized Lawnfield with a $4,500 appropriation. In 1947, Ohio transmitted some $3,000 to Lawnfield for salary, utilities, cleaning, fuel oil, and maintenance. The OSAHS continued to subsidize Lawnfield to some extent during the late 1940s, but by 1950 threatened to discontinue such funding unless the Lake County Chapter deeded the property to Ohio. During that interval the state contributed approximately $22,000 to Lawnfield. In fact the state continued limited funding to Lawnfield until autumn 1961. At that time, the OSAHS contributed at least $1,400 annually for the curator's salary and it paid the utility bills.[39]

Specific Improvements, 1940s--The Second World War Years. The Garfield house remained open during the wartime emergency. The Lake County Chapter of the WRHS lengthened hours, sponsored special programs, and repair and rehabilitation work was accomplished thanks to the annual state subsidy which seemingly had become institutionalized during the war years.

Painting The House. Although Beamer had recommended a complete exterior painting job at Lawnfield in 1940, it was not until March 27, 1942, that the Garfield Home Committee awarded the exterior painting contract to R.H. McLeod, Cleveland, for $850.00. The Sherwin-Williams paint came from the Franz Paint Service, Painesville, Ohio, specified as white oil-base exterior paint at $2.83 a gallon. Including other painting expenses, the entire job cost $1,008.00.[40] This was the first time the house was painted white. The trim, window sash, and doors were also painted white, with the screen doors painted black, and the shutters light green. The only changes to color after this was the color of the shutters, later changing to blue-green and then to black, which they still have today.

Electrical System Improvements. Ever since the WRHS assumed management of Lawnfield electrical wiring problems surfaced and received mention in the minutes. In the early 1940s, successful low bidder John F. Shaffer, an electrical contractor in Mentor, fixed several minor tasks. For example in December 1941 Shaffer extended a range line in the new kitchen (most likely room 117), wired the dining room fixture, placed an electric door opener at the service door, and installed a porch light (assumed to be the north porch) and switch for a $107 fee. Another Shaffer bill illustrated necessary changes in basement wiring; installation of two new fuse panels, two master switches dividing lower and upper floors, and extra lights in store rooms, basement and hall; and repair of lighting fixtures and outlets for $184.50. Other work orders followed in 1942 and 1943. In July 1944, Shaffer billed the Garfield Home $255 for four floor plugs, gas fixtures in the northwest entry hall, rewiring two

living rooms lamps, converting nine gas fixtures, replacement of two ceiling lights with gas fixtures, installation of four sidewall fixtures, and replacement of 12 ceiling fixtures on third floor.[41]

Heating System Improvements. Beamer brought in a professional heating consultant to analyze the problems at Lawnfield. A.L. Lindsay, the heating engineer at University Hospitals and the Western Reserve University, prepared an extensive report which resulted in specific action. A number of alternatives were suggested and analyzed giving valuable insight into the type and conditions of the existing early 1940s mechanical system. On January 14, 1942, the Garfield House Committee authorized the Union Sand and Supply Corporation to install an oil fired automatic Delco warm-air heating system in the front wing with registers in all rooms on the first two floors, and to enlarge the hot-water plant in the rear wing and install hot-water heat in the library (see "Appendix B, Specifications and Contract Agreement for Heating Improvements, January 29, 1942"). In 1942, this heating contract work totaled $2,257 and another $513 went to the living quarters.[42]

Subsequent Wartime Projects. On August 15, 1943, Beamer reported to Norton that the State Board of Control had released $4,500 of the $10,000 grant for 1943-1944.[43] (see "Appendix C, Recommendations for Expenditure of 1943-44 State Funds"). Less than two weeks later, he contracted with carpenter/painter Mark Roberts to complete the following tasks:

1. Refinish floors (after sanded and filled) on oak stairway and reception hall.
2. Repaint linoleum in living quarters.
3. Refinish second-floor living quarters floors.
4. Paint new screens and doors and varnish old screens.
5. Paint and creosote sign posts.
6. Shellac window sills as needed.
7. Clean wallpaper on two floors in front house.
8. Clean or repaint kitchen and stairwell in living quarters.
9. Connect water storage tank.
10. Install shut off third-floor sink.
11. Repair basement drains.
12. Repair public toilet.
13. Erect flag pole.
14. Patch dress case.
15. Repair two signs.
16. Replace cracked windows.
17. Install locks and repair cellar windows.
18. Fix downspout.
19. Fix ceiling (stairway and toilet).

No price estimate was attached to this work but, again, it clearly demonstrates the ongoing fundamental maintenance required at Lawnfield.[44] Wartime shortages did not slow necessary repairs and improvements at Lawnfield.

Another undated work order (ca. 1944) listed the following needs:

1. Repair campaign house porch.
2. Repair entrance porch and porte cochere.
3. Repair pergola.
4. Check all window exteriors for repairs.
5. Repair basement window sills.
6. Replace cellar door.
7. Build low ornamental picket.
8. Build roof for wishing well.
9. Remove museum walls.
10. Install dinette and kitchen cupboards and walls.
11. Install false ceilings in living quarters.
12. Install storm windows in living quarters.
13. Lay flooring (1,100 ft.).[45]

Despite the slowdown incurred by wartime priorities, the restoration projects advanced at the Garfield house. Newspapers throughout Ohio printed articles pertaining to these improvements. For example, the *Delaware Gazette* reported wiring and heating plant improvements in March 1942. In October 1943, contracts were announced for plastering, insulation, repairs, and cleaning of several oil paintings. Another $3,000 in contracts covered the extension of the fence, a tree repair service, resurfacing the drive, and enlargement of parking facilities. The OSAHS reported in 1943 that "Time and energy have been spent chiefly on restoration and repair. Original hand-carved woodwork and furniture have been repaired and refinished."[46] A four-year restoration and improvement program at Lawnfield totaled $22,000.

Thus during World War II, a dedicated A.O. Beamer proceeded slowly with badly needed improvements at Lawnfield. Facilitated by the infusion of the state subsidies, limited restoration occurred despite the war, and during this period Beamer sought specific data about the house in order to further the restoration program. On one occasion, he asked Norton to contact the heirs about the 1880s fence near the road, specific location of the campaign office in 1880, dates when the Garfields planted trees around the main house, a rough floor plan of the original room arrangement, and background on the oil paintings left in the house. Beamer also sought information concerning where the gas line entered the building, and whether it was ever disconnected and capped.[47] Such questions indicate that the local organization conducted an internal as well as an external restoration program at Lawnfield in the early 1940s by basing such activities on a limited amount of historical research.

The Garfields, especially Abram and James, did what they could to assist the local museum people. Architect Abram Garfield wrote to Beamer regarding the gas line, suggesting it must have entered the basement under the kitchen porch--an area of the main house constructed in 1885/86 when the gas well had been drilled. He also related that the line could have entered the laundry door--the closest point to where the old gas meter stood which supplied the pressure. The surviving correspondence also indicates that Abram prepared drawings of the front fence, and later told James that "the fence posts themselves were round locust posts" and that the road post was "covered by a plain board on the front." Abram remained confused about the "covering piece of the draw gate, I mean, the flat board upon which we used to walk." Garfield also recalled what the "double acting hinges and the latch of the walk gate looked like" and suggested that perhaps remnants could be found in the "old tool shed."[48] Since the two brothers resided close to Lawnfield, they could give much valuable firsthand information to Beamer's quest in the 1940s.

Because state funds were being used to upgrade Lawnfield, the OSAHS staff periodically consulted with Beamer. Responding to an inquiry from Beamer, Erwin C. Zepp, the curator of State Memorials, who appeared to be the primary state contact, commented on various aspects of development proposals for Lawnfield. The state preservation official recommended using the old family entrance drive to reach a parking area for some 35 vehicles.[49] Other suggested changes involved removing the log cabin brought to the site in 1938, and construction of a "service unit" on the northwest corner of the property. This ancillary structure would have consisted of a "small one-story dwelling and a combination garage and storage building" to be screened from the main house. Zepp felt assured that the original entrance road could provide sufficient buffer on the west. On a less positive note, Zepp evaluated Beamer's interpretive tour ideas negatively by pointedly criticizing a scheme to encourage picnicking and active recreation on the grounds because these activities would "tend to cheapen the memorial idea."[50]

Other Wartime Projects. In January 1944, Beamer asked the State Board of Control for the release of $3,000 to purchase the barn and adjoining land from the Garfield family. These periodic requests by Beamer demonstrate the strings the state kept on its financial support of Lawnfield. Apparently the family had been using the barn as a garage, and they wanted a settlement to replace that structure. According to the 1943-44 expenditures report, the state did not release the requested $2,500 for the barn purchase. The $2,500 figure represented the price Abram Garfield had quoted to Beamer back in 1941, and by October 1943 the Lake County Chapter had offered $3,000 for "erection of the garage and in the event that material or labor shortages prevented the immediate completion of this garage, for the duration of the war, the Committee would be willing to have the family continue to use the barn until such time as it is possible to build the garage."[51]

Insulation. Large improvement projects that were accomplished in the 1943-44 period included insulation installation on the third floor for $965. Due to wartime controls on scarce commodities, the

Lake County Chapter submitted what became a successful application to the War Production Board in October 1943 to have the insulation work approved.[52] Until this time, Lawnfield had remained uninsulated. The Air-Way Insulation Company of Cleveland completed the insulation contract by January 18, 1944. It insulated "all third-floor flat ceilings with 6-inch GIMCO Rock Wool–Third-floor slopes blown full--Knee walls lined with 3-5/8-inch SEALAL batts. Batts covered with air cell board. A 6-inch fill over all second-floor exposed ceilings sidewall adjacent to main staircase blown full, and SEALAL batts 3-5/8" thick installed above both furnaces in permanent and fireproof manner. Also included landings, treads, and risers of main stairway–faces and cheeks of dormers." Another proposed task involved insulation of three two-story side walls of the present living quarters for $160. Apparently this task was not completed.

Seemingly, the insulation project reduced heat loss at Lawnfield because acting director Thelma H. Beamer (A.O. Beamer's wife, Beamer had taken another job in June 1942) sent an endorsement to the insulation company in 1945. She wrote: "The insulation of the third floor of the Home has been installed since the fall of 1943. In the living quarters of the Home (which is the rear part) there was an immediate saving of oil, less draft and a feeling of snugness in the severe winter. In the Museum which consists of about twenty-four rooms, the Home was warmer."[53]

Other wartime improvement projects included purchase of additional fire extinguishers for $136, $175 for furniture repair, $225 for new display cases, $103 for electrical repairs, $120 for cementing the cellar floor (partial), and $365 for plastering the museum. Archie Reichert, carpenter and contractor from Willoughby, Ohio, charged $91 to sand and fill the stairs and reception hall floors in late 1943. Reichert also laid new oak floors, had the stairs painted, and sanded and shellacked the living quarters floors for $162.[54] He also sanded, scraped, and finished the first floor of the front of the house for $396. Other Beamer initiated projects included "refinishing woodwork (library, reception hall-stairway)" which may have involved washing and waxing for $321, $325 to L.Y. Wendling, a Mentor plastering contractor, and another $60 for lathing and plastering the third-floor museum.[55] Since several thousand visitors flowed through the house each year, upkeep and routine maintenance consumed scarce dollars. The bills from the 1940s hint at periodic roof leaks as well as remedial plaster work. There were other instances and periodic reference to damage caused by a leaky roof.[56]

Grounds Improvements. Beamer often used innovative methods to accomplish work at Lawnfield, despite the shortage of funds. For instance in July 1941, he offered free admission to anyone who could correctly identify at least 10 tree species on the grounds. Apparently C. M. Shipman, a Willoughby naturalist, in collaboration with M. H. Horvath, a local landscape architect and nurseryman, then prepared a preliminary inventory of trees and bushes at Lawnfield which accomplished Beamer's goal. They identified such specimens as the Tree of Heaven, the Judas tree, the ginko, the smoke tree, fern leaf beech, weeping beech, and Japanese lilac among the more exotic types. The pair found six species of oaks (pin, red, burr, swamp, white, English, and pyramid), six of maple (sugar, silver, black, red, cut-leaf, and box elder) and four of elm (American, Japanese, Chinese, and mountain). Other species noted in the Lawnfield inventory included mulberry, sycamore, linden, larch, flowering dogwood, bald cypress, black locust, purple beech, pig nut, hickory, tulip tree and American beech. The inventory revealed at least 100 trees with a 6-inch diameter immediately around the main house. Among the bushes noted were acacia, spirea, syringea, hydrangea, viburnum, magnolia, lilac, honeysuckle, buttonwood, barberry, blatternut, mulberry, dwarf horse chestnut, indigo bush, and bottleneck buckeye.[57]

During the war years, major improvements were noted on the grounds: a new lawn on the parking lot island and front section of yard cost $1,055 (H.T. Thurman, Willoughby), $520 for tree trimming and shaping (Davey Tree Expert Company, Inc.), and $654 for a new black top driveway. The Northeastern Road Improvement Company of nearby Willoughby completed the driveway project in December 1944. Beamer asked the contractor to make the driveway at least 20 feet wide, but the narrowness of the gate and porte cochere made it impossible to make the drive 20 feet wide all around. (The overall area to be surfaced totaled 976.6 square yards). The Lake County Chapter widened the driveway in lieu of installing a parking lot.[58] Other projects included "extension of fence along Mentor Ave. east of present fence to new boundaries & building 2 small gates and main entrance gates as per sketch" by A.C. Frank (Gibson & Granger, Willoughby) for $90, $217 for screens, preparation of 75 new signs, and many other smaller projects which totaled $7,500.[59]

The 1945-46 expenditure of the "Additions & Betterments" appropriations for major projects included $2,480 for lawn work on 1.5 acres, feeding and spraying trees, repairing and painting street signs, house and carriage barn (HS-03) roof repair, sanding two floors, waterproofing the basement and cellar, refinishing the dining room and hall, and painting walls in the living quarters. These projects amounted to $4,308.50.[60]

The Third-Floor Display Area. In 1948, acting director Thelma H. Beamer suggested the use of the room currently designated as the boys' room for the purpose of exhibiting James R. Garfield's papers and documents. The WRHS Board of Trustees also suggested the use of the third-floor room (southwest corner), a room once used by Harry A., James R., and Joseph Stanley-Brown.

Budgetary Constraints. Despite the enthusiasm and funds supplied by the Lake County Chapter and the state of Ohio, documents from those early years of the Garfield memorial indicate that Lawnfield has periodically faced severe financial deficits. The strapped local history organization prepared a $13,745 operating budget in 1945-1946 for such identified needs as interior and exterior improvements, the campaign house, cabin, barn, grounds, and historical research. Since insufficient funds frequently delayed the organization's mission, the Lake County Chapter trimmed its budget to $6,415 by deleting major priorities, such as to the interior, campaign house, carriage barn, and research needs (see "Appendix D, Proposed Capital Expenditures on Garfield Home [1945-46]").[61] The shortfall of operating monies appeared as a recurring issue as the Lake County Chapter, the WRHS, and subsequent organizations grappled with the site's operations and management requirements.

Despite this woeful condition, by December 1948 Mrs. Beamer reported that the "Maintenance and Additions and Betterments" budgets would practically complete the program originally started in 1941 when the first state appropriation arrived. The most important items outside the regular maintenance (salary, oil, electricity, water, and telephone) involved painting the house and other buildings; repairing the roof or eaves or whatever causes for leaks in the house, plaster repair due to these leaks, and extension of the driveway to the barn.[62]

The 1950s at Lawnfield. In February 1950, the Board of Trustees of the Lake County Chapter discussed methods of fund raising to replace the terminated allocations by the OSAHS. Projected ways and means mentioned increasing admission fees, sending a petition to Lake County commissioners for assistance, and exploration of a specific grant from the Ohio legislature.[63]

Despite cutbacks by the state, progress was noted at Lawnfield. In May 1951, the house and carriage barn had received "two coats of paint in addition to extensive restoration of roofing and eavespouting for $1,113.50." Additionally, paint and labor for the front fence cost $73.91.[64] Then too, consultations between Laurence Norton and Abram Garfield resulted in the removal of the pergola across the front of the house during the winter of 1951 which had been built in 1904. The Lake County Board of Commissioners made a "generous and timely appropriation" of funds to make this and other work possible. The pergola was in a "state of ruin which made the cost of restoration prohibitive and, as it was not a part of the original [structure], its removal caused no regret." The removal was probably part of the "general repairs." This work probably also included the extensive repair of eave troughs and roofing, as well as tin work and chimneys.[65]

Another more serious resource-threatening problem surfaced when the Shanover Electric Company replaced the third-floor lighting system with new fixtures and wiring. The imperative need for this activity was evident by the discovery of bare wires in contact with charred woodwork.[66]

After Long Delays The Campaign Office Is Opened, 1951. The campaign office was finally cleared of the lumber and rubbish which filled it from floor to ceiling and painted inside and out, with restoration of the cracked glass in the wall cases. Apparently, this small building had been used as a store house for many years, and which "present management found in ruinous condition"[67] The cost was heavy and the Garfield Home Fund financed a considerable part of the work. The funds to finance this work and to maintain and operate the building were derived solely from visitor admissions and souvenir sales. The Lake County Board of Commissioners appropriation underwrote the project. (Apparently Lake County already made contributions in 1950 to the Lake County Chapter). The report summarized the projects completed with the $2,500 granted by Lake County following the request from the Lake County Chapter.[68] The Lake County Chapter formally opened the campaign office on June 24, 1951. The building had been "repaired and restored to its prior

condition." Abram Garfield, F.M. Wood (Executive Secretary of the Lake County Chapter), and Rudolph H. Garfield (great grandson) made remarks at the opening.[69]

Continued Physical Changes at Lawnfield During the 1950s. The record is unclear concerning the actual amount of physical change and maintenance at Lawnfield in the 1950s and 1960s. Apparently, no new construction took place during this period. The existing buildings were maintained to the extent possible with the limited funds procured by the Lake County Chapter and its successor, the LCHS, through normal operations and subsidies from the local government. Normal maintenance such as painting, carpentry, and yard work occurred periodically at the site.

In the early 1950s, specific maintenance and improvement projects included overhaul of the heating units in both the main house and living quarters, as well as the living quarters redecoration for $250. Tree trimming cost $200. Workmen extended the oval driveway 15 feet northward for parking space. This project involved excavating 4 inches of soil, placement of a coarse slag foundation, proper surfacing, and a row of low white posts at the edge with a ½-inch wire cable for a boundary line.[70]

The Lake County Chapter decided to plant myrtle in the front yard. Previous attempts to plant an effective lawn covering failed, and the yard remained an eye sore as the surface soil washed away. The cost of 2,000 plants and labor seemed prohibitive, but two trustees with a crew of high school and college girls planted the area at half the cost in the spring of 1953.[71]

During 1952-1953, yard and house labor cost $421, a new septic tank $450 and accompanying plumbing $273 (apparently the house was still not connected to the city sewer), and additional myrtle planting for $248.50. There were no large capital improvements that year. A year later, fence repair and painting cost $110, work on trees $125, yard work $246, and grading and seeding the backyard $59.[72]

In 1955, noteworthy expenditures went to roof repairs totaling $293, $2,548 for painting, $615 for unspecified house repairs, and $248 for unspecified yard repairs.[73] Record keeping declined dramatically in the late 1950s, evidenced by a lack of extant documents at both WRHS as well as the LCHS.

The 1960s-1970s At Lawnfield. In 196l, the House and Grounds Committee undertook four projects. The dilapidated fence that fronted the property was removed and rebuilt with new locust posts and salvaged materials, and then covered with two coats of paint. All rotted roof boards were replaced, recovered, and made water tight. Newly hung metal gutters and downspouts replaced the historic eave troughs and cornice box gutters. This was a major alteration to the historic fabric and appearance. The women's rest room walls in the museum required repair because of water damage from roof and gutter leaks, and walls were replastered and painted.[74] This also indicates that LCHS may have still been using the third-floor bathroom (room 307) into the 1960s. The fixtures in this bathroom were eventually removed. In 1962, the LCHS started to replace old plumbing with copper pipes and new fixtures. Wallpapering and repairing plaster in two bedrooms and the parlor, none of which had been redone since the house was opened, got underway in 1963.[75]

Museum Improvements. A new gallery opened in 1963 for exhibit of Lake County materials after the third floor was remodeled. The original configuration of the southern portion of the attic (constructed in 1880) was recorded in a drawing (MD-4) and photographs (HP-80 through HP-89). This work eliminated the partitions between three large bedrooms and a wide hallway. It was a project which had been requested since the 1940s. A March 23, 1963, "Summary of Proposals & Contracts for The Lake County Historical Society Remodeling, Display Equipment & Locked Cases" specified contract data for $3,500 to remodel, plaster, and install new flooring in the museum, including an $890 change order for a suspended plywood ceiling and additional wiring including recessed lights and Trol-E-Ducts (providing the cove for future cove lighting above); and a $401 change order to contractor Art Ely for carpentry for display cases including wiring, base plugs, and painting; plus $296 (less glass and hardware) for completion of the show cases.[76] Edwin M. Stitt, from Mentor, was the registered architect on the project.

As for funding the museum project, $3,500 had been collected by the Museum Committee, and an additional $1,325 was collected to construct "show cabinets." An additional $800 was required to add the glass, lights, and hardware. The LCHS hoped to have all work done and museum ready for the

public by July 4, 1963.[77] The Museum and Display Committee raised $2,700 over two years. A Ways and Means Committee book sale netted $556, some of which went to the museum.[78]

Throughout the years there was an unrequited need for funding to fulfill the dual function of operating the LCHS as well as Lawnfield. For example, in the early 1960s the LCHS petitioned the Lake County Board of Commissioners for $6,000 to continue the historical work of the society.[79] In the mid-1960s, expenses rose at Lawnfield. For instance, yard upkeep escalated from $383 in 1963 to $667 in 1965. House repairs cost $2,941 in 1963, $1,235 in 1964, and $1,360 in 1965. In 1966, painting the front and east sides of the house cost $1,200 (the entire house, campaign office, and fence were not completely painted until the summer of 1970). Also, $300 was spent for the removal of two dead elms, and $440 for general repair and upkeep inside the house.[80]

Electrical System Repairs. By 1963, Lawnfield's electrical wiring had deteriorated badly. The Garrison Electric Company of Painesville's evaluation dated April 1, 1963, stated that "Some of the older wiring in Garfield Home is so bad, it is a fire hazard. The wire insulation is so brittle and charred, it falls off in your hand. To hang one fixture in particular, we had to thread loom up through the ceiling to try and cover concealed bare spots."[81]

In 1968, architectural and consulting engineers drew plans for rewiring the first and second floors, but due to lack of funds this project languished until the fall of 1969. All inside lighting fixtures were refurbished, rewired and hung back in the original rooms by the spring of 1970. This work also included outside lighting for protection and decoration. A bid of $10,000 to $12,000 made it impossible to finish the task before the spring opening, and the project slipped again. Wiring was finally completed in the museum section in time for opening in May 1975.[82] It appears, from comparison to historic photographs, that some light fixtures either were not placed back in historic locations or had been changed during earlier rewiring, such as the reception room fixture.

Roofing Repairs. Roofing contractors made extensive repairs to the roof because water entering from roof leaks damaged many rooms and ornate woodwork. Replastering and wood and paper repair had occurred by the spring of 1969 to remedy water damage, but the 1970 LCHS minutes reveal that roof problems persisted.[83]

Grounds Enhancement. During March 1969 trees were fed, some trees cut down, and stumps removed below the ground surface. Trees were trimmed, branches removed, and some trees cabled. Outside decorative and security lighting plans suggested installation in the summer of 1969,[84] but actual installation of exterior security lighting did not occur until ca. 1975. The LCHS prepared an extensive landscaping plan. The organization hoped to see a marked improvement in the lawn, shrubs, trees, and decorative garden beds. In 1975, the Garfield Garden Club donated a considerable time to maintain and plant new borders and flower beds. New plantings of day lilies for the campaign office and log cabin occurred. Board of Trustees member Mrs. Edward Taubert planned a new improved terrace for the National Shrine marker in the oval (adjacent to the carriage porch) and supervised the landscaping. The Lake County Garden Club donated porch boxes.[85]

Improvement of the parking area and driveway occurred between 1969 and 1970. The driveway was resurfaced and the parking area enlarged to accommodate more buses and cars. The program was made possible through materials and equipment provided by Booth Paving Corporation, the Daniels Brothers, and the Osborne Corporation.[86]

Outbuildings. The barn was painted in the fall of 1971, and a second coat was applied in the spring of 1972.[87]

New Roof. Lawnfield received a new roof and rewiring in 1973 because the LCHS devised an innovative plan to raise money by selling shingles removed from the building to donors for $1.00 each. The original shingles were assumed to be oak, and were replaced in 1936 with asphalt. Local fire laws stipulated that oak could not be used, but cedar shakes could be fireproofed.[88] The National Park Service matched the $10,000 raised locally with an equivalent amount from the Historic Preservation

Grant Fund which made the new roof a reality. This is the first known NPS involvement in funding improvements at this site.*

There was little new development in the mid-1970s. In 1976 the House Committee chairman noted that the porches were deteriorating beyond repair, and the fence needed painting.[89]

Wallpaper Projects. In 1979, the Cleveland Chapter of the American Association of Interior Designers painstakingly duplicated what they thought was the original wallpaper in Garfield's bedroom to its 1880 appearance.[90] Subsequent research has revealed that the wallpaper that was copied most likely dates from 1904.

Grounds Enhancement. In December 1978, the LCHS received an estimate of $4,5000 for tree care of which Osborne Brothers, Tree Service, would donate $1,500. A similar offer went to the WRHS for $6,770 of which $2,260 would be donated.[91] A number of elaborate tree maps have been made over the years of the Lawnfield property, demonstrating that the owners and managers of the Garfield estate were concerned with its exterior landscape appearance as well as the internal historical displays.

Recent Physical Additions to Lawnfield. The LCHS created a one-room schoolhouse in 1978, adapting an old granary (building no. 007) at the north end of the property. The schoolroom was previously located on the third floor of the main house. The LCHS also moved a small cottage to the site as a Bicentennial project.

The first two floors of the main house were rearranged for the 1978 visitor season to more accurately reflect the appearance of these rooms when the Garfields lived there. The third-floor museum contained several new arrangements of period displays.[92]

Relations between the WRHS and LCHS, 1960s. The relations between the WRHS and LCHS varied over the years. Although the Lake County Chapter had been founded in 1938, its name was not changed to the LCHS until October 6, 1955. A year later the LCHS was officially incorporated as a nonprofit organization. An agreement on January 31, 1968, established clearly defined roles for the WRHS and LCHS. The WRHS agreed that it would be "responsible for all major upkeep of the house, barn, cabin, campaign house, well house, and grounds, including drives,"[93] The LCHS assumed responsibility for "supervision and the maintenance of the property; keeping a clean, orderly and attractive house and grounds, including cutting the grass...and handyman repairs."[94]

In 1975, the LCHS bought a 3.44-acre parcel adjoining the WRHS property from Eleanor B. Garfield. This addition contained the well house, tenant house, barn, granary, and other small outbuildings of an indeterminate age. The local organization then set forth to raise funds to construct a museum/library/office complex at the rear of the acreage. Once built, all administrative and research functions and non-Garfield era displays were to be removed from the main house, leaving it to be used entirely for the interpretation of Garfield's life and career. The LCHS acquisition and relocation of the cottage was consistent with the 1937 deed by which WRHS acquired Lawnfield, and whose purpose was to a establish a memorial to Garfield but also a museum to "preserve objects of historic interest especially connected with Ohio."[95]

Lake County Board of Commissioners Support, 1967-1970s. Lake County appropriated an annual subsidy to the LCHS from 1956 to 1967 when the county board announced suspension of support due to financial constraints. That year Lawnfield did not open until Memorial Day due to the delayed county stipend that amounted to $5,500. The WRHS had incorporated the Lake County Chapter as the LCHS to take advantage of a state law allowing county commissioners to give financial support to county historical societies. The LCHS operated Lawnfield under contract to the WRHS, a relationship which the two groups renewed and updated in 1968. Lake County renewed its support partially in 1969 and fully restored it in 1975, but not on an automatic basis. By 1980 Lake County funding reached approximately $26,500.[96]

*The first NPS involvement at this site was the designation of Lawnfield as a National Historic Landmark in 1964.

National Park Service, 1980-Present. Congress authorized the establishment of the James A. Garfield National Historic Site on December 28, 1980. The legislation outlines federal designation, with agreements to be made with the local historical organizations to transfer property through donation or sale, as well as cooperative agreements for continued local operation of Lawnfield including managerial and technical assistance provided by the National Park Service. The National Park Service acquired 3.4 acres from the LCHS in April 1984. In 1984-85, the National Park Service prepared a *General Management Plan* which was intended to guide visitor services, operations, and preservation activities at Lawnfield until the mid-1990s. The LCHS relocated to another Lake County site in 1986. In 1988, the title to a 4.4-acre front parcel of property, which included Lawnfield, the campaign house, and the carriage house, was transferred to the National Park Service from the WRHS through a cooperative agreement. Currently, the WRHS is managing the site with a resident curator at Lawnfield, and the National Park Service is currently preparing this report as a preliminary activity to major restoration of the building.

Main House. In preparation for the centennial celebration of Garfield's campaign and election to the presidency, Lawnfield received a much needed exterior "facelift" in June 1980. Work included repairs to the existing porches and repainting the exterior of the house. Carpentry and masonry work done in preparation for painting was done by Paul Squire, a carpenter from the WRHS. He was assisted by Eric Cardinal, curator at the site. It was anticipated that the front porch was to be restored to its 1880 appearance and it was reported that research to accomplish this was underway, however, this work was apparently not done. The reasons for this change were probably either lack of funds and/or underestimation of the complexity of the task. If any research to restore the porch was ever done, it has most likely been lost as none currently exists in the files.

All painting labor and materials were donated, a value of between $12,000 to $15,000. Sponsors for the labor were the Painting and Decorating Institute of Northeastern, Ohio, a trade association of painting contractors, and members of the International Brotherhood of Painters and Allied Trades District Council No. 6. Apprentices from the school performed the work and paint was provided by Pittsburgh Paints, Sherwin Williams, and Glidden, Inc. Accomplishing all the scraping, repairing, priming, and repainting of the house exterior took three weeks by a crew of 12 workers. One hundred and forty gallons of paint were used. Because of the large size of the house, the task was considered an exceptional challenge for the apprentices.

Few improvements projects have been accomplished since the property has been authorized as a national historic site, although planning for extensive repairs is underway. Work accomplished in 1986 (with funds supplied by WRHS) included the installation of a new forced-air gas furnace to replace the old Delco oil burner. In addition, the brick kitchen chimney (no. 6) and parlor chimney (no. 3) were removed down to the roof because of unstable conditions in 1987. The following year, all seven chimneys were rebuilt from the roof up using the salvaged original brick.

Tenant House. In 1988, both the interior and exterior of the tenant house were completely rehabilitated for use by an on-site caretaker. A relatively recent addition on the north side (made up of two salvaged buildings) was removed. The exterior concrete block exterior chimney on the north side was also removed. A new roof was installed on the house and the exterior was painted. The interior received all new mechanical systems (including new kitchen and bathrooms), electrical wiring, and new finishes.

PHYSICAL DESCRIPTION

SITE

The site is located in Mentor, Ohio, approximately 26 miles east of Cleveland on US 20, a busy four-lane thoroughfare. The irregular area of land that comprises the site is approximately 390 feet wide by 860 feet deep, encompassing the remaining 7.8 acres of the original 158.46-acre farm assembled by James A. Garfield.

BUILDINGS

The large, rambling Garfield home is set back from the front property line approximately 70 feet, almost centered in an east/westerly direction. This house has elements of Victorian Gothic style in the 1880 construction, Queen Anne in the 1885 addition, and Federal Revival in the 1904 alterations.

Entry into the house is presently through a ground level door at the rear which leads into a space converted to a gift shop/reception area. It contains 29 rooms on three floors. The first and second floors are furnished in a manner reflecting the family's historic use of the home and the furnishings on display were actually used by President Garfield and his family. A large portion of the third floor has been converted to a museum for displaying a number of Garfield related relics, documents, and mementos. Room 311 is not presently used, but in the recent past served as an orientation and meeting room by the LCHS. The remaining area of the third floor contains storage. The basement is used for mechanical equipment and storage. This building will continue to be the main resource for the interpretation of the life and times of James A. Garfield and his family, and will be restored toward that end.

Just to the northeast of the main house is a small one-story vernacular building known as the campaign house. This structure originally served as Garfield's office and library before the main house was remodeled in 1880, and then was used as headquarters during the campaign for the presidency. The building has not been changed since that time. It still contains Garfield's Congressional library and the office/campaign furnishings. This building will be preserved and continue to be used for interpretation of the presidential campaign of 1880.

Located at about the center of the property is the 1893 carriage house which Lucretia Garfield had constructed to replace the barn complex. There have been a number of additions to the building since it was built. It is presently used to display five historic carriages (two which are Garfield related). The north wing of the building is used for storage and site maintenance equipment. The rest is unused and in very poor condition. This building has been selected under the *General Management Plan* to be adaptively reused as a visitor center.

The gas holder building is attached to the carriage house on the east side. The gas holder itself is a device which regulates the pressure of natural gas from a well on the property. It is believed that this structure predates the attached carriage barn and dates from ca. 1885. The well is no longer operating and the gas holder building, as well as the device, are in poor condition. The future use of this structure is to be for interpretation.

To the northwest of the carriage house and across the "lane" is a two-story cottage known as the tenant house. It was built in 1885 to replace the tenant house across the road on the Botton lot. Historically, it served as the residence of a farm overseer and now, since it has been recently rehabilitated, serves as the residence of the site curator.

Along the east property line, about halfway between the main house and the carriage house, stands a square stone structure which was once a windmill and later a "mechanical" pump house. The wood frame top portion has been removed and a roof built over the remaining stone base. It still has some equipment left from the days of active use when it supplied the third-floor water tank in the main house for domestic use. What is left of this structure is in poor condition. Future plans call for exterior restoration back to its appearance as a windmill for interpretative use.

At the rear center of the property is a rectangular barn which is now used for storage. Its significance stems from its former use as James A. Garfield's horse barn when it was located just to the northwest of the main house from 1877 through 1893. Since it has been moved, it has had only a minor role in the continued operation of the farm during family ownership and was used for storage during historical society/government ownership. This building is in poor condition today. The plan calls for this structure to be adaptively used as a site maintenance facility with the exterior to be preserved/restored for interpretation.

Just south of the horse barn is another barn structure known as the granary. It is not known when it was moved to its present location (it is sitting on top of a temporary foundation of sewer pipe), but it is considered to have been one of the Garfield outbuildings that has survived. From its construction, it may date earlier, back to the Dickey period. Its historical use is presumed to have been for the storage of grain but this has not been substantiated. More recently it was altered and used as a "one-room schoolhouse" by the LCHS. Presently, it is unused and in fair to poor condition. Future plans call for preservation, but no specific use has been determined.

Situated to the south of the granary is a 10-foot by 14-foot wood frame structure called the chicken coop, although there have been past references to it also as a playhouse. On the east side and extending for 92 feet are the remains of a concrete block foundation and a ghost of a former shed addition to this small building. It is in very poor condition and needs immediate work if it is to survive. Future plans call for preservation but, again, no specific use has been determined.

East of the granary and north of the chicken coop foundation are the collapsed ruins of a corn crib. This structure was identified to be preserved by the plan (when it was still partially standing), but without stabilization it has continued to deteriorate. There is nothing left to preserve. It was not given a specific use in the plan, but it now presents a hazardous condition on the site. It is recommended that the remains of this structure be removed.

Northeast of the carriage house, in the middle of dense secondary growth forest, is a 6-foot by 8-foot brick foundation of a building of unknown history and use. Removal of these remains is planned to accommodate the parking lot for the visitor center.

There is one other structure on this site, located directly to the north of the tenant house. It is a small Victorian cottage that was moved to the site by the LCHS to save it from demolition. There is no association to the Garfield family. Plans call for removal of this building.

LANDSCAPE FEATURES

Site Furniture

Located under the trees just to the north of the campaign house are four picnic tables and a garbage can. There are another five picnic tables and a trash can south of the carriage house.

Wells

About 50 feet north of the main house is a large flat stone. It presumably covers an old water well. The windmill/pump house also has a well associated with it. Presumably, it is located below this structure. In addition, there historically was a gas well located on the property. It was connected to the gas holder where the pressure was regulated for use on the property.

Cisterns/Septic Systems

It is not known where the roof drains lead. There is no historical society file record of connection to the city storm drainage system. They may still lead to an underground cistern or leach field in the yard somewhere. During our site visits when there is any appreciable amount of rain, all of these

drains backup and overflow (see discussion, "Mechanical Systems"). The connection of the sewer to the city sanitary system was made in 1967 according to city records, and there is evidence in the basement that this has been accomplished. However, there still may be a septic tank and drain field on the property. The location of this field should be investigated and, if found, it should be recorded so that a decision can be made as to whether it will interfere with future site development.

Utility Poles

The tenant house had been supplied with electric service from a pole about 75 feet to the east. The service line was run on poles extending to the southeast corner of the property. While the electric service to the tenant house has been replaced with a buried cable, the empty power poles remain. They should be removed. Consideration may be given to relocating one pole to the campaign house so that dummy wires could be set up to restore the appearance of the historic telegraph line.

Signs

One is located in front of the south porch by the drive, facing east/west, painted white.

Monuments

Civil War Marker. Located adjacent to the south porch of the main house, this marker honors General James A. Garfield's Civil War record and lists his many contributions. Erected by the Ohio Historical Society in 1965, this marker is composed of a plaque made of cast aluminum mounted on a precast concrete post which is covered with a sheet metal cover. The post's thin metal cover and underlining are deteriorated. The concrete post is now being exposed to the weather but is still in good condition. Although it is not a structural problem, the deteriorated post cover is unsightly.

Flag Pole. The flag pole is located adjacent to the Civil War plaque. The metal pole is set in concrete with a granite marker in front which reads, "Presented and erected by Amvets Post 109, Mentor on the Lake, Ohio."

National Historic Landmark Monument. This monument is located in the grassy oval of the entrance drive, adjacent to the porte cochere. It commemorates the designation of the Garfield home (Lawnfield) as a registered national historic landmark by the National Park Service, Department of the Interior, 1964. A brick paver walk surrounds the monument, bordered with a hedge and flowering plants. Support for the cast aluminum plaque is precast, exposed aggregate concrete. The monument also includes a bas-relief bust of Garfield created in 1883 by Carolyn S. Brooks. It is presumably a cast of the original. This monument is in good condition, but the bas-relief is beginning to erode.

Lawnfield Plaque. This monument is located northeast of the campaign house. The plaque reads, "Lawnfield, home of James A. Garfield, 20th president of the United States. How dear, sweet and inviting the dear home beckons me away from the green fields of Mentor." This text was taken from a letter from Garfield to his wife, Lucretia. It was erected by Monument Builders of Ohio in 1985 and it is in good condition.

Consideration should be given to relocating these monuments to more appropriate locations, possibly as part of or closer to the new parking area and/or visitor center to be developed on the north part of the property. If the bas-relief on the National Historic Landmark Announcement is original then it should be relocated to a protected environment for its preservation. More specific recommendations will be made in the *Cultural Landscape Report*.

Fences and Gates

The present board fence along the front of the property is somewhat like the fence as shown in the photograph of the pre-1880 house (plate HP-1). This fence in the photograph continued in use until

the fall of 1880. If the present fence was supposed to be a restoration of a historic fence, some mistakes were made. The present fence has three wide horizontal board rails across the face and one at the top. The fence along the road (parallel with Mentor Avenue), prior to the fall of 1880, was composed of two types. One had four wide rails on the face and one on top (similar except for one board at the bottom to the present fence), but this fence existed only at the outer (east and west) edges of the property. The middle section was different and stood in front of where the house and barns were. It was, again, a board fence but had six narrower board rails across the front and one at the top, giving a much different appearance. If restoration was the objective, it is curious why the fence that actually ran in front of the house was not used as the prototype. Wide board fences (usually four boards across the front), or a similar type, were used throughout the rest of the property.

The present fence was constructed by the historical society, probably during the 1940s. Apparently they were not using historical photographs, but were relying on consultations with Abram and James R. Garfield. Some letters between James and Abram and A.O. Beamer regarding fences had been placed in the files. The Garfields' memory of exact details of fences almost 60 years earlier may have been confused.* The result may have been an amalgamation of recollections of this front fence and elsewhere on the farm.

The board fence along Mentor Avenue was replaced by the fall of 1880 by a new picket fence, as can be seen in the historic photographs (see plates HP-4 and HP-5). There were many comments made of damage and wear caused by the hoards of campaign visitors that had made the trek to Mentor to visit the candidate. Replacement of the fence may have been necessary at this time due to the wear and abuse it received. It seems though, that Garfield must have had earlier planned to replace the fence, or that a historic photograph caught this process happening, since one photograph shows the board fence with picket gates (plate HP-2). In any case, from the numerous campaign photographs and illustrations, it is clear that the picket fence was completed by fall. The pickets on this fence were square with pyramidal tops. Moldings were used on the outside face to cover the nails of the pickets to the upper and lower rails. The only fence opening showing in the photos was at the entrance drive west of the house. This fence appears to have lasted through the 1880s, probably until around the turn of the century. At that time, it was replaced by a wire fence (see plate HP-16).

Part of the wire fence installation may have included the construction of four sets of stone pillars, which still exist. Three pairs of these entry posts are now located west of the government property in front of private homes, since portions of the original land was sold off (see plate HP-33). The fourth one, just east of the house, remains on the historic site. It is possible they were constructed at the time of the building of Hollycroft in 1894, (James R. Garfields' house) just to the west of Lawnfield. That would account for the multiple entrances in one area west of the main house.

By the early 1940s, the historical society apparently made the decision to replace the wire fence with a wooden one. It was supposedly built to simulate the historic fence, as earlier described. No gates were constructed at the drive, but the fence was built so that it returned toward the house at the entry (see plate HS-36). Lamp posts were placed on both sides of the drive, attached to the fence.

It is not known when the picket gate was built for the stone posts on the east. This gate must have been built by the historical society since plate HP-35 shows the "restored" fence but no gate. Pickets on this gate are square, as they were historically, but have peaked tips instead of pyramidal ones, indicating that they are not exact representatives of the original picket fence. The wire fence remained east of the stone posts.

Plates HP-19, HP-20, and HP-21 show the east side of the house prior to the construction of paved paths, and plates HP-22 and HP-23 show that paved paths were eventually added. The construction of the east stone posts was probably related to that of the path. There is no fence at the sides and rear of the property lines where private property or institutions abut the site. Infringement of yard activities, storage, and shortcutting across the site by area residents are constant problems for site management. There is a visual incompatibility between views of open yards and the historic scene of the site.

* This is a clear example of the superiority of historic photographs over descriptions, newspaper articles, and drawings since human error is less easily incorporated into the source.

Recommendations. Restore the historic white picket fence with square pickets and pyramidal tips at the frontage along Mentor Avenue. Even though it seems clear that the stone piers were not a part the historic scene until later, it may be prudent to let the pair east of the house remain a while longer. The *Cultural Landscape Report* will comprehensively address the issues of fences, gates, paths, drives, trees, and plants. Due to administrative needs, some changes from the historic appearance at a certain date may be allowed in the final plan for the site.

In regard to administrative requirements at the site, the use of historic board fences will not solve problems with visual intrusion and trespassing. They will create no barrier to the eye for incompatible elements, nor will they stop anyone from easily climbing over. Since the property was not this size historically and the fence was at other locations, use of a nonhistoric fence that would solve other problems will be a better solution in this case. It could be some type of contemporary fencing, 6 feet tall, to block views of private yards. The fence could be lower on the east since the church parking lot does not present the same types of problems. A natural color wood stain would call less attention to itself than a light-colored painted fence, and will require less maintenance. The fence could also be screened by vegetation if that is compatible with the recommendations of the *Cultural Landscape Report*. If vegetative screening is to be used, an alternative to the wood stockade fence is a standard chain link fence painted black. This fence would be planned to be hidden by vegetation, be a dark color which would tend to disappear, require little maintenance, and last a long time.

Walks and Drives

Front Walk. The sidewalk along Mentor Avenue is standard concrete paving.

Entry Drive and Parking. The entry drive and parking, including the loop under the porte cochere, are loose, crushed stone. Between 1969 and 1970, the driveway was resurfaced with asphalt and the parking lot was enlarged to accommodate more buses and cars. Apparently, since this last asphalt overlay was installed it has deteriorated. Crushed stone has become the replacement material for these areas. Less stone has been used on the upper portion of the drive past the tenant house.

Entry Walk. The walk from the parking area to the gift shop entrance and north porch are irregular stone pavers set in the soil. Crushed stone has been used to widen both sides of the stone paver path to the gift shop due to heavy traffic.

Campaign House Walk. The walk from the gift shop entrance to the porch of the campaign house is crushed gravel.

Other Walks. All other paths including the historic "lane" are unpaved and informally treated. The lane through the yard and in the area of the carriage house and tenant house has some of the remaining maple trees bordering it. Throughout the yard the lane is unmarked, but adjacent to the carriage house the lane and the road meet.

Recommendations. Recommendations for achieving handicapped accessibility for the site are discussed under "Handicapped Accessibility." Specific recommendations for drives, walkways, and paths will be made in the *Cultural Landscape Report*.

Site Vegetation

Over the years, much of the property has been subjected to uncontrolled secondary growth and undergrowth. The planted areas surrounding the main house, although attractive and well cared for, have no relationship to the historic appearance of the house. Low ground cover blankets the area behind the fence at the front of the property and by the drive. The lawn is open in front of the house. The tile floor of the pergola is bordered with a small hedge, with geraniums in front of that and other flowering plants behind. The east lawn is open with a high canopy of scattered trees. A row of trees exists east of the campaign house which prevents a line of sight into the rear yard from the street. Bushes and perennial plants are maintained along the east porch and south foundation wall

of the library. The west side, too, has scattered trees, with well-maintained plantings adjacent to the west side of the main house. Large bushes west of the entrance drive cutoff the view to the rear of property from the street.

North of the main house and campaign house is a high canopy of mature trees with open lawn. In a line starting even with the carriage house and covering the whole northeast part of the property, there is dense second-growth scrubby forest. There are a few larger trees, but this area mostly consists of underbrush. On the east side of the carriage house is a large dump of organic matter; grass clippings, raked leaves, trimmings from bushes, and tree limbs are all dumped here. The pile has built up against the walls of the gas holder and carriage house and holds a considerable amount of moisture and new vegetation is beginning to grow out of the generated compost. The northwest quadrant again has a scattered tree cover, but the ground is high uncut grass. The vegetation gets thicker and wilder toward the property line.

Recommendations. It is suggested that, along with the exterior restoration of Lawnfield, the *Cultural Landscape Report* should include recommendations for returning the existing grounds to some semblance of their historic appearance. This by no means suggests that the large trees on the property be removed, but rather that a landscape plan be developed which would be in keeping with that existing historically, taking into account the natural maturation of plants and the need to accommodate new paths, a drive, and parking area.

Miscellaneous

A stone post with an iron ring on the top is located to the right of the entrance to the carriage house. It is believed this is a hitching post. At the left of the entrance to the carriage house is a small, square, and flat sandstone block. It is believed that this block was used as a step for entering carriages or getting on a horse. There is a stone watering trough on the west side of the carriage house. All three of these items are in good condition and should be preserved in place.

STRUCTURAL

The first site visit was performed in October of 1987. Due to ownership questions and lack of clearances, no "destructive investigation" of the main house was allowed. General observations were made, first-floor framing layout was documented (plates SD-1 through SD-3), and additional framing information on the site buildings was recorded.

Clearances were obtained in April 1989 for selective destructive investigation. A second site visit was made the week of May 24, 1989, which addressed the issues of continued building movement, recommended load limitations, and additional services required to obtain necessary information (see "Appendix E, Trip Report, May 8-12, 1989"). A scope of services to: 1) acquire soils information, 2) establish the boundary survey with topography, and 3) determine extent of wood sill deterioration and insect infestation was issued on June 15, 1989 (see "Appendix F, Scope of Work for Requested Services, July 1989").

Foundation

Most of the exterior and interior foundation walls on the 1880 portion are composed of mortared rubble stone to grade, with brick stem walls above. Columns, chimneys, and the remaining portions of the foundation walls are constructed of brick. The 1885 foundation is constructed entirely of brick. The exterior of the foundation is veneered with sandstone. There is no visual evidence of foundation movement vertically or laterally, except along the exterior foundation wall beneath room 103 (see plates SP-1 and SP-2). Signs of deterioration are evident such as loss of brick and mortar, with some possible movement. Some foundation reconstruction work will probably be required in this area.

There are several areas along the west foundation where the veneer sandstone has settled vertically or shifted outward (see plates SP-3 and SP-4). The exact cause has not yet been determined. It is

either partially caused, or worsened, by moisture seeping down the open joint as the stone separates from the substrate, and leaching and/or freezing which moves the stone out further. This is probably more of a cosmetic problem than a structural one. Reconstruction of the veneer sandstone will be required in several areas.

The lack of adequate surface and roof drainage around the building's perimeter has led to a high moisture content in the foundation walls, which accelerates the deterioration of mortar and brick and rotting of wood sill plates (SP42). There is no evidence of free-flowing ground water in the basement, but standing water was once observed in the basement when the perimeter plants were being watered.

Even though there appears to be no obvious foundation failures, the soils information requested will provide baseline information for foundation assessment and future site development.

Walls

The exterior walls of the 1880 house are constructed of balloon framing with shiplapped exterior siding. Generally, the first level is framed with 3-inch by 4-inch poplar studs, 14 to 15 inches on center, with 2-inch by 4-inch fir studs interspersed (see plates SP-5 and SP-6). Studs are lap spliced at the second level to 2-inch by 4-inch fir studs and notched around the 2-inch thick ledger board which supports the second-floor framing (see "Appendix G, Structural Calculations," figure 1). The interior face sheathing is exterior shiplapped siding, placed horizontally in rooms 104 and 103, which probably was surplus material after the house was enclosed.* The remainder of the interior sheathing is 1-inch by 10-inch or 1-inch by 12-inch on a 45° angle. The interior plaster and lath is attached to 1-inch by 2-inch furring strips which run vertically at 1-foot centers (see "Appendix G, Structural Calculations," figure 2).

The 1885 addition was balloon framed with 2-inch by 4-inch fir studs spaced at 16-inch centers. Tongue-and-groove sheathing (1-inch by 4-inch) covered by tapered lap siding was used on the exterior of the walls. Sawn lath and plaster was directly applied to the studs on the interior. This was observed in the west wall of room 117 and the south wall of room 116. The remainder of the exterior wall of the 1885 addition (library area) was constructed of brick masonry with sandstone veneer.

In all of the balloon framing observed, there were no fire stops visible between floors. One interesting framing detail observed was a knee brace east of the front entry. This is usually associated with post and beam construction, but there were no other similar elements observed. Exterior wall construction appears adequate, with suspect areas being the stud lap splice and the load transfer from floor to wall. These areas can be further investigated for adequacy during the installation of the fire stops. The exterior siding, along with the interior sheathing, constitutes a very stiff wall section if properly nailed.

The exterior walls adjacent to the main stair have moved downward significantly (see plates SP-7 and SP-8). Based on the floor slope outside the library entrance (room 218) and the door adjustments to the servants quarters (SP-25), the exterior wall has moved downward as much as 2 inches. This movement is probably caused by the rotting of the base of studs and sill plate due to water intrusion. Buckling and bowing of the exterior siding indicates that the load path has transferred from the studs to the siding. Significant wall reconstruction will be required in this area.

Another area of concern is the window located on the south wall of the library (see plates SP-9 and SP-10). There is documentation as well as physical evidence of a past roof leak from the third-floor porch area above. The visible result is a 1 to 1½-inch bow in the window mullion, which also appears to be reflected in the exterior stone work. In addition, the wall located adjacent to the window is significantly distorted. There is sufficient displacement in this area to warrant further investigation to determine if structural problems exist, both in the wall and roof structure above.

*The fact that there was excess material on the site in 1880 is mentioned in the *Historic Resource Study* on page 76.

There are vertical load paths subject to question due to apparent misalignment of foundation supports; this has possibly contributed to differential vertical movement. Additional evaluation and investigation are necessary to prepare the construction documents. Any modifications, if required, are expected to occur in the basement.

Vertical movement is obvious throughout the structure, as is demonstrated by the plaster cracking, wallpaper misalignment, and wood trim displacement (see plates SP-11 through SP-18). Most of the current wallpaper was applied in 1936, with some reapplication in the 1950s and 1960s. The wall paper was restored in Garfield's first-floor bedroom (room 103) in 1979. As stated before, subsequent research has revealed that the wallpaper that was copied most likely dates from 1904. Even at this location, the walls show movement. General relative movement appears to be downward for all walls in relationship to the chimney. Structural movement is cumulative, which is indicated by more severe cracking on the second floor.

There has been sill plate consolidation as evidenced by the curling of the oak sill plate side face (see "Appendix G, Structural Calculations," figure 3). There is visible sill plate rot at some locations on both interior and exterior walls. This suspected movement is reinforced by the apparent nonuniform downward movement of most of the walls with relationship to the masonry spines (chimneys).

Floors, First Floor

The first floor is constructed of a combination of logs, hewn beams, and surfaced lumber (see plates SD-1 through SD-3), with the majority of logs and hewn beams located in the 1880 portion of the house (see plates SP-19 through SP-23). The 1885 addition utilized surfaced lumber for most of the floor framing.

Calculations of the first-floor capacity have not yet been performed (these are generally done with construction documents), but it is obvious that there are extensive shear problems in the 1880 portion due to beam/log end notching (see plates SP-19 through SP-21). In addition, typical load transfer at the end of the hewn beams is accomplished only by the tendon in the mortise-and-tendon joint (see plate SD-3). It is expected that some beams and stringers will need companion members, and repair of numerous shear supports will be required. A major problem associated with the first floor is the extensive rotting of the oak wood sill plates (see plate SP-24), as previously discussed.

Another problem with the first-floor framing is the powder-post beetle infestation which occurred previously, and some evidence that this may be an ongoing problem. Infestation of powder-post beetles can cause a significant loss of section, if allowed to continue unchecked.

The 1885 cantilever bay window addition on the east side of the dining room (room 111) appears to deflect excessively. Upon inspection of the crawl space floor joists, it was observed that the spacing and lapping of the cantilever floor-joist extensions are probably inadequate. In addition, the underside of the cantilever is exposed to moisture from excessive splash back, which has led to deterioration.

Floors, Second Floor

There is significant deflection of the second floor at the top of the main stair, apparently due to exterior wall consolidation (see plate SP-25). The type of floor framing in this area is not currently known. The library floor appears to be in good shape and most of the structural members are exposed to view from below (see plate SP-26 and "Appendix G, Structural Calculations," figure 4). There is evidence of only one problem which occurs under the book shelves along the west wall. The floor appears to have deflected over time due to the weight of the book shelves. Structural capacity calculations have not yet been performed on the library floor, but no major problems are expected.

The most significant problem with the second-floor framing involves the beam installed in the parlor to take the place of the bearing wall which was removed during the 1885 modification (see "Appendix G, Structural Calculations," figure 5). Calculations indicate that the beam is overstressed by 50 percent (2,100 pounds per square inch [psi] from dead load only (see "Appendix G, Structural Calculations,"

figure 5). This overstress is based on published recommended allowable stresses (approximately 1,400 psi) for the assumed wood species. Even if a superior species and grade of wood is assumed, the beam would be adequate for dead load only. Expected live loads would cause overstress to the beam of approximately 400 percent or more.

The hallway framing adjacent to the beam seems a bit odd since it spans parallel to the hallway with flat 2x4's spanning perpendicular (see "Appendix G, Structural Calculations," figure 6). Additional investigation would be required to determine the exact hallway load paths. Regardless, the beam which replaced the bearing wall is grossly inadequate. Based on the information currently available, it is somewhat baffling why there has not been additional visible distress in this area (see plate SP-27). Added stiffness could be occurring from the wall section above, which is in line with the beam. Since the beam placement was a remodel, there is the possibility that some of the dead load might have been transferred to secondary load paths. For example, the second-floor wall may be partially supported from the third floor.

The second floor wall between Garfield's office (room 206) and the hall (room 205) apparently has no added floor stiffening beneath it. This probably contributed to the vertical wall crack which occurred adjacent to the main stair (see plate SP-28).

The visual deflection in the header between the reception hall (room 110) and the hall (room 102), which supports the previously described beam, has visually deflected and should be investigated and evaluated. In addition, the headers/framing over both of the pocket doors will require further investigation.

Floors, Third Floor

The library ceiling appears to have undergone some movement since it was first constructed, as evidenced by the visual sags and dips. This area is completely covered with oak trim and panels in a very ornate manner (see plates SP-29 and SP-30). Based on the accuracy of the detail work used in the library ceiling, one could reasonably conclude that the original construction was straight, true, and level. Visual openings between the detail work are not observed due to the type of jointing used. By close inspection of the oak trim, shadows of previous alignment are apparent. It is my understanding that the third-floor bedroom (room 311) has been used for public gatherings in the past (see plate SP-31). Restricting use and loading of the third floor should be accomplished, which would make it unnecessary to remove or tamper with the existing library ceiling to determine its capacity. If investigation becomes mandatory, access from above by use of a borescope may furnish the required information.

Most of the remaining third floor is used for displaying artifacts to the public (see plate SP-32). Again, since it is proposed that this area be closed to the public, restricted use and loading is recommended. Additional structural investigation may be required if this area remains open to the public.

Stairs

The central stair, which is the primary access to the second floor and the only access to the third floor, shows signs of distress (see plates SP-33 through SP-36). Movement of the exterior wall, which partially supports the stairway, appears to be the primary cause of stair distress. In addition, some of the oak trim, which is applied to structural members above and around the second-floor stairs, is deflected. Some areas of oak paneling are warped and separated from frames due to the leaking roof and walls. There is sufficient sagging and deflection in this area to warrant the removal of the oak trim to determine the adequacy of the structural members in this area.

The front stairs appear to be in good condition, but they probably would not meet full code load requirements (both step surface and handrail). This issue can be resolved when construction documents are prepared and load requirements are established for the entire structure.

The rear stair appears to be in good condition and public use is not planned.

Roof

The underside roof framing is visible in the northwest portion (room 308) of the house (see plates SP-39 and SP-40). An access hatch was cut into the attic plenum above the entry to room 301, exposing the interior framing and additional ceiling finish (see plates SP-37 and SP-38). When the third floor was remodeled in 1963, besides removing partition walls in room 302 and adding new oak flooring (4 pounds per square foot [psf]) on top of the existing flooring, ½-inch drywall (2.2 psf) with a top coat was applied over furring to the existing plastered ceiling/walls. This added weight and removal of support may have exacerbated problems with load transfer below (i.e., reception room ceiling).

There are no visible exterior or interior structural problems with the roof. Roof framing looks adequate and a structural analysis appears unwarranted.

Porches, General

All of the porches are generally in bad shape due to roof leakage, insect infestation, and insufficient ground clearance/ventilation.

East Porch

The east porch shows some areas of rot. Due to historic architectural considerations, it is recommended that the existing porch be removed and replaced with a reconstruction of the 1885/86 porch. Any problems concerning adequate support and proper ground clearance can be addressed at that time.

South (Front) Porch

A substructure investigation has not yet been conducted, but the exterior appears to be in the best shape of any of the porches. Some support work might be required, and miscellaneous deck boards may need to be replaced. The existing porch roof supports are planned to be replaced for historic architectural reasons. The replacement columns (which match the 1880 style) have a maximum width of 2 inches. This width, along with the expected height, exceeds the aspect ratio required by building code (maximum length equal or less than 50 times width). The desired historical size can be used only if this problem can be satisfactorily resolved.

Carriage Porch

The carriage porch is in an advanced stage of deterioration in many areas from rot and insect infestation. Earth partially surrounds the hardwood stringers which are infested with what appears to be powder-post beetles. The decking has rotted through in one area and shows signs of decay in other areas (see plate SP-41). Several posts which support the roof are severely deteriorated and need to either be replaced or repaired (see plate SP-8). Some other posts that are in good condition, are nonmatching replacements for original posts; these should also be replaced. The exterior wall on the east side of the porch is also in a deteriorated state. An old access hatch through the porch into the basement is located adjacent to this wall. From what can be seen, the deterioration of the porch floor is in such a state that the entire floor and wood support structure should be replaced.

Chimneys

The interior and basement portions of the chimneys appear sound and show no signs of movement. Due to the increased dead load foundation pressure from these structural elements, one would expect any vertical settlement to occur within a relatively short period of time after initial construction. The

chimney elements of the structure should remain stable, with any additional relative movement being downward if it were to occur. In the context of relative structure movement, it would be highly unlikely that the chimneys are heaving upward in relationship to the walls.

The exterior portions of the chimneys were recently reconstructed from the roof up, due to severe mortar deterioration.

Surface Drainage

The exterior grade adjacent to the house has risen over the years. This is typical of older structures where cutting of grass and the natural deposition of organic matter, over time, gradually raises the ground surface. The steps at the carriage porch illustrate this process since the bottom step is now almost flush with the existing grade. In addition, most of the basement windows are partially buried on the exterior. The perimeter grades do not allow for surface water to drain.

The ground drainage system, which accepts the roof runoff, does not work properly and overflows adjacent to the foundation wall (see plate SP-42).

The overflowing of downspout drains and plant watering, coupled with poor surface drainage, have contributed to the deterioration of the sill plates.

Live Load Requirements

The structure was originally constructed as a residence. Its use has subsequently changed to public use. The front and main stairways, hallways, porches, parlor, and library are currently accessible to large groups. Strict code interpretation requires that the structure resist a 100 psf live load in all of these areas. It is recommended that in public areas a "target" live load of 100 psf be used, with a minimum required live load resistance of 60 psf. Areas which are cordoned off from the public, such as many of the bedrooms, should be required to resist a residential live load of 40 psf.

There are areas such as the second-floor hallway (room 205) where, according to presently known information, the current live load capacity is zero.

Additional Investigation. Additional investigation (mostly with a borescope) will be required to determine the floor capacity of rooms 205, 215, and 218 (public areas). Some verification of floor framing in the cordoned-off areas will be required (rooms 208, 213, and 216).

Conclusions and Recommendations. The structure shows considerable downward wall movement in many areas. This is probably caused by increased loading, deterioration of the stud bases and sill plates, and poor load path configurations. This movement has occurred over many years and appears to be accelerating. Based on the increased frequency and magnitude of the live load, the structural deficiencies are magnified.

Based on current information and using established allowable values, the beam in the parlor ceiling is inadequate for dead load and, therefore, unsafe for live load. By extrapolating to failure (which is not recognized by the governing authorities), the second-floor hall becomes capable of carrying some live load. Since the structure has demonstrated its ability to overcome this deficiency, it is recommended that the live load requirements previously issued (see "Appendix E, Trip Report, May 8-12, 1989, Recommendations") be strictly adhered to. Further, if remedial action is not completed within one year, or if additional information is found to substantially change the physical model as now perceived, this area should be closed to the public.

The floor framing of most of the cordoned off rooms is expected to meet a live load capacity of 40 psf. However, based on other observations concerning apparent under designing of primary members, some localized problems may be expected at beams, door headers, and load transfer points.

Most of the problems with the first floor appear to involve the secondary members in shear. Due to distribution and probabilities, there is additional flexibility concerning remedial action.

Additional investigation will be required to determine if all of the public access areas meet the minimum live load requirement.

ARCHITECTURAL, EXTERIOR

Wall Surfaces, Wood

There are no exterior materials remaining from earlier configurations of the house prior to 1880. At that time the house must have been stripped of its roof, siding, and the additions on its west and north sides.

The 1880 portion of the house is clad in shiplapped siding directly on the studs. There is no sheathing or other underlayment material on the exterior side of the studs. The top of the siding has a convex taper creating a shadow when installed. Siding was replaced on the south and east sides when the 1904 porches were removed. This occurred mainly at the old porch roof line and around the parlor bay window on the south. On the east, siding replacement took place at the porch roof line just below the windows and north of the dining room bay window.

The 1885/86 addition frame is clad with a tapered siding installed over tongue-and-groove pine sheathing. At the second-floor level of this addition, the window sill profile is extended around the north and west facades as a decorative feature. Gable ends and dormers, though, are given a more decorative treatment of wood shingles.

The gable ends and dormers of the 1880 period still retain a significant amount of their original decorative vergeboard and other wooden trim. The original finial located at the highest crest of the roof also partially remains. Only a cursory investigation of these members has been made due to the difficulty in accessing them. It appears that these members are in sound condition, although they do have a large paint build-up.

Close-up investigation should be done to see if any additional information on the original size, shape, or construction of the missing ornament can be determined. Also, this investigation should better assess the condition of the remaining ornament. Minor areas of damaged and/or missing ornament exist. Some of these can be observed adjacent to where the historic gutter system was installed. It is known that this gutter system leaked prior to removal and caused water damage and rot. Roof overhangs show evidence of boards which have been replaced. The historic exposed roof sheathing has a beaded edge and most likely is tongue-and-grooved. Replacements are plain boards and wider than the originals. The decorative rafter tips also display a variety of spliced repairs which replaced rotted areas.

Recommendations. Wood trim and ornamental members will be repaired or replaced where missing or rotted. Minor damage may only require filling small holes or cracks with caulk or linseed oil putty. Where only a portion of the material is too damaged to repair, it should be replaced by means of Dutchman infill. In areas of more severe damage, the deteriorated material should be cut out and replaced with new wood; pressure treated wood should be used in these situations and the wood should be primed on all sides prior to installation. All repaired or replaced members should duplicate the original. Existing trim and historic photographs should be used to obtain needed information to create the new or repaired trim. All decorative elements should be stripped of paint to bare wood and repainted in accordance with methods called for in returning the building to its ca. 1895 paint scheme (see discussion, "Wall Surfaces, Wood Siding").

Wall Surfaces, Wood Siding

The wood siding is in good condition, except for locations of water penetration from faulty roofs, gutters, and downspouts. The worst of these areas is located at the exterior of stair no. 5 and extends

north in the adjacent u-shaped recess. This area will require major replacement of rotted wood and repair of damage created from the structure being highly saturated. Other locations should require only isolated repair or replacement. The majority of siding on the building has a heavy paint build-up. Cracking, alligatoring, and peeling of paint are all exhibited on the structure. A complete paint analysis of the building's exterior has been accomplished.[97]

Recommendations. Having completed a paint analysis of the building's exterior, it is recommended that the building be stripped to bare wood and then repainted to its 1895 paint scheme. The paint layers are thick and the cracked alligatored surface will never provide a suitable substrate for a successful paint job. Stripping also provides a method of checking all wood members for soundness. Methods of accomplishing this include hand scraping and sanding, chemical stripping, and thermal removal using either a radiant heat plate or heat gun. Testing should take place to determine which method should be used in order to see which will be most effective.

If thermal methods are used, the balloon frame wall structure should be kept in mind. Some wall cavities were checked and there is some dirt and debris collected on the bottom of each stud space. There are also spider webs with suspended dust and pine needles caught at varying levels within the stud spaces. Cleaning these spaces prior to stripping using a heat method is critical due to potential flammability of the wall material and debris in the wall cavities. This may be accomplished during the installation of fire stops. When the wall is opened up, a long vacuum hose should be inserted to clean these spaces. Another possible danger using a thermal method is overheating the sash weight boxes adjacent to the windows, especially if they are filled with debris. The weights should be removed during this work since most weight ropes are broken and the windows all need repair. In addition, it is recommended to use chemical or mechanical methods around windows rather than using thermal methods.

Hand scraping and sanding on large areas can be damaging to wood surfaces. Radiant heat plates give consistent heat flow, but the intensity is not easily controlled. Heat guns are controllable and all layers of paint can be softened and removed down to original surfaces in one pass (according to documented sources, although it has not been tested here) without mechanical damage to the wood. Chemical methods are usually effective since there are types formulated to remove various kinds of paint on different substrates. But the chemicals can be expensive and they have to be carefully controlled so as not to pollute the grounds surrounding the house. This may involve constructing catch basins at the base of the wall being stripped to catch the chemicals being washed off, or using a containment type method that uses fibrous laminated cloth to peel the loosened paint.

A variety of methods may be required as different building conditions are encountered. Paint removal by open flame torch should not be attempted on this, or any, historic structure due to the high risk of flammability. The open flame method may also scorch the wood surface.

Another hazard that will be present with any type of removal is lead that is present in the paint. Preventing lead particles from getting into the air, onto the surrounding area, or into the workers is something to be considered with each type of removal method.

Wall Surfaces, Masonry

The walls of the library addition are an uncoursed random ashlar sandstone construction. The walls extend up two stories, with the gabled and dormered third story clad in wood frame walls. The stone walls are in generally good condition, but some spalling of the surface layers and erosion are taking place at some localized areas. All of the areas seem to be in conjunction with the windows: at the lower sides, on the sills of the windows, and on the stones just below the sills (see plates CP-37 and CP-38). It is possible that these stones are poorer quality, possibly coming from a different area of the quarry. The consistent pattern of affecting stones near the windows, and on various shapes and types of stones in a local area of the building, seem to point to a different cause. It may be related to something in the construction of the window, a window cleaning solution, or a treatment used on the metal grills. The pair of south library windows exhibit some distortion with bowing at the center stone mullion between the windows. Frames for the windows no longer fit squarely in the openings. There are indications that a severe leak through the porch above into this wall caused the damage.

Even though the roof and wall surface were eventually repaired, the extent of possible hidden damage not repaired may cause continuing problems.

The stone walls of the north side cellar entrance are all loose due to deteriorated and eroded mortar.

The foundation walls of the 1880 portion of the house, as well as the 1885/86 frame and masonry addition, all have coursed ashlar stone facings. They project out from the wall approximately 2 inches with a cut sloping top. Most of the stone on the 1885/86 addition is still in good condition, with the exception of the area by the main stair and north in the u-shaped recess. The foundation veneer stone is separated from the brick wall in this area, as it is on virtually all of the 1880 foundation walls (see plates CP-39 and CP-40). Brick was the exposed finish of the foundation wall in 1880. Stone veneer was added in 1885/86 to improve the appearance of the house and to make it blend with the new construction.

The original pointing of the stone masonry, both in the library addition and foundation walls, had beaded joints. Very little of the original pointing remains, as much of it has.been repointed in various other styles and colors of mortar. The stone masonry walls and foundation all need repointing at this time, as there is mortar eroded and pieces missing in many places. Brick masonry chimneys above the roof were all in very poor condition with missing mortar and some broken and spalled bricks. In the summer of 1988, all seven chimneys were disassembled and rebuilt (this included the two chimneys mentioned earlier).

Recommendations. An analysis of the mortar has been prepared by the North Atlantic Historic Preservation Center documenting the mortar type, the percentages of materials by weight, parts per volume, sand type and color, and approximate date of origin. This will enable a close match to the historic repointing. The sand samples have been given to the park for use in mortar matching.

In general, all of the stone masonry walls and foundations need repointing. The mortar should be preserved where original pointing still exists in good condition. The original mortar locations should be recorded so that inadvertent damage will not occur in the future. All later pointing should be removed and repointed along with the deteriorated areas, as it is not a good match to the historic appearance.

Steps should be taken to slow the deterioration of the scaling and eroding stone at the first-floor windows of the memorial addition. More analysis and testing needs to be done to see if a cause other than natural weathering of inferior stone can be found. If no other cause can be determined then a consolidant should be tested for use to preserve these deteriorating stones. Perhaps initial experimentation may take place on the gas holder since it, too, is having erosion problems. The severely eroded stone sill adjacent to the gift shop entrance should be replaced.

The south library wall adjacent to the windows needs to be investigated to determine if there are continuing problems with stone movement in this area. Also, the loose stone walls of the north cellar entrance should be disassembled and rebuilt using the original stone.

Wall Openings, Wood Windows and Window Hardware

There are no windows dating from the pre-1880 house surviving in their original locations. The oldest windows in the house today are the four six/six-light sash, double-hung windows located on the west elevation of the second floor in rooms 203, 205, and 206. These windows, although similar in size and construction to the 1880 windows, have more paint layers which correspond to a time period prior to 1880. It appears that these windows have been salvaged from previous use, either on the earlier house or elsewhere. There is a possibility that these windows were saved from the family room added to the Dickey house in 1877, which was partially demolished to make way for the 1880 addition. The frugal overseer Robison may have seen fit to reuse these three-year old windows. Their placement hidden from all street views, on the second floor of the rear facade, seem to bear this out.

The predominant window type used in the 1880 construction was a simple two/two-light sash, double-hung window. These occur on all elevations of the first, second, and third floors in 1880 with the

exceptions noted above, the first-floor main stair (W:102), and dormer windows on the third floor (W:301 - 303 and W:317). These latter exceptions were one/one-light sash windows.

In the construction of the 1885/86 addition, a variety of different types of windows were used to accomplish the design objectives of the architects. In addition, the architects removed a number of the 1880 windows, some because of changes in the plan, some to catch a view, and some to change the aesthetics of the facade or a room. It is much harder to categorize these windows as to type and location than with the earlier windows. This variety of types and appearance was characteristic of the Queen Anne style.

The first floor of the stone library addition generally has flat-arched, double-hung windows with fixed iron guards (W:109-116). The only other arched windows are two round-headed, double-hung windows, and one blind window on the second floor of the stone addition opening into the vault (W:218). These vault windows have hinged solid metal shutters on the inside. Second-floor memorial library windows are various sized double-hung windows, mostly in large bay windows. Also, there are three fixed sash windows in this room (W:215-216). The third-floor east facing gable of the addition has four double-hung windows with many small divided lights in the upper sash (W:309-311). The north facing third-floor dormer has two three-light casement windows, either of which can be used for access to the porch (W:312-313). The south facing dormer has one central casement window flanked by a pair of double-hung windows (W:306-308). A pair of second-floor hallway windows by the library entrance are double-hung with stained glass in the upper sash (W:225). Five first-floor windows by the main stair and three into the rest room are single-hung windows (W:122-125). The five windows by the main stair have diamond-pane lights. Diamond-pane lights are also used in the sidelights of the carriage porch entrance (D:106). The remaining windows of the 1885/86 addition are two/two-light, double-hung on the first and second floors and one/one-light, double-hung on the third floor.

A number of 1880 windows were replaced during 1885/86 also. A window in the dining room was removed and replaced by a large decorative bay window (W:108) with fixed transoms of stained glass over the three double-hung windows. The outer top sashes of these windows also have a rounded corner of stained glass. Room 216 kept one of its 1880 windows (W:210), while the other was altered into a pair of one/one-light, double-hung windows (W:211). One other window altered in 1885/86 was the third-floor gable window on the south elevation (W:302).

Additional window changes occurred ca. 1903/04. At that time, the 1880 window into the second-floor bathroom on the east side was replaced by a pair of single-hung windows with small lights bordering the sash (W:209). This change occurred in connection with interior partitions that were moved at this time. Also, the historic south and east porches were removed at this time. Along with this work, the 1880 windows and a door were removed from the parlor (room 106) and replaced with a bay window. Other changes included an additional window installed in the side of the dormer wall in room 310. The trim on this casement window does not match the trim on the four double-hung windows in this room. It is not known why this window was added since it appears that the room already had an adequate number of windows. The last known window change took place on the third-floor west side into rooms 307 and 308, ca. 1900-1920. A 1885/86 divided light, single-sash (probably a hopper type) window was replaced by two double-hung windows (W:317-318). This earlier window sash might still exist, as one of that approximate description is resting on the ceiling joists in the attic above. The window was changed to subdivide an open attic for the installation of a bathroom.

In general, window sashes and frames on the first through third floors are in fair condition. The sashes, frames, and sills appear to be sound (little rot was seen), although all exhibit a thick build-up of exterior paint. The interior paint is usually dirty, chipped, and peeling. The interior natural finishes are mostly deteriorated and weathered, probably due to ultraviolet light and moisture. Stripping and refinishing of the natural woodwork was done in some rooms by the historical society in the early years (late 1930s and 1940s). Some of this work may have been done improperly or has since failed again. There are numerous broken panes of glass and most sashes have dry, cracked putty. About 70 percent of the sash weight ropes are broken on the double-hung windows. The windows are not weatherstripped. The remaining second-floor 1880 windows have an extra molding that was installed at the lower sash, either to seal the lower sash tighter or as part of a track to hold a screen. Some windows also have spring clips mounted on the exterior trim, probably once used to

retain storm windows or screens. Most windows still have historic looking hardware but some of it does not match other pieces in the same room, probably indicating some replacements have been made. Some of the windows do not close properly or lock with their hardware. Iron guards on the first-floor stone addition are rusted and have only flecks of paint left on them.

There are 13 windows and/or window openings in the basement of the main house. All but one of these are hopper windows with a similar configuration. Nine windows are approximately 16 inches high by 35 inches wide with three lites across. Window W:003 is approximately 16 inches high by 43 inches wide and has five lites across. Window W:012 is approximately 18½ inches high by 41½ inches wide and has four lites across. Window W:013 is approximately 18½ inches high by 41½ inches wide and has three lites across. The discrepancy in exact dimensioning is due to unevenly parged walls which do not allow for an exact reference point to measure to. Many of the hopper windows are inoperable due to the exterior grade level rising up over the window opening. At these locations, the wood is often rotted. Some of these windows are missing hardware or the hardware is no longer functional. The wood on W:001 exhibits no rot, however,it appears worn or "chewed on" (possibly damage by a dog). Window W:005 is actually a window opening which has been brick infilled. This window is located between rooms 007 and 121.

The basement windows all had iron guards over them (at least the ones on the west side) that were most likely installed as part of the 1885/86 work. They show clearly on plate HP-31 taken ca. 1938, but by the time plate HP-39 was taken, ca. 1940, they were removed. One window, W:008 still has its iron bars.

Recommendations. The following window will be replaced to create the historic appearance to the 1885/86 period.

> Remove W:103 including the entire projecting bay. Replace to match design of 1880 windows. Windows in the parlor had a wood panel below the sill to the floor, such as still remains on W:105 (see plate PR-6). Trim to be type T1 (see plate EC-15).

All remaining windows should be completely rehabilitated to insure that all treatment will restore the woodwork to the best possible condition to provide maximum future durability and to recreate its proper historic appearance and function. Each sash should be removed to allow for thorough treatment of each window. Where windows are removed for treatment or replacement, cover the openings to protect the interior in a manner appropriate for seasonal weather conditions. Remove interior moldings or exterior spring clips that once retained storm windows or screens. Strip each window of its present finish, and carefully examine for any rotten elements. New woodwork replaced shall match the removed material in design, size, and profile. Broken glazing shall be replaced, all panes reglazed, and all exterior window surfaces treated with a preservative and refinished according to the approved historic finish schedule. Installation will include replacement of all sash ropes and ensuring that the window operates easily and properly. Iron window guards on the stone addition, first-floor windows, should be sandblasted and repainted.

The first need in restoring the basement windows to a functional condition is to regrade the exterior such that it no longer covers a portion of the basement windows. If this is not possible, window wells should be constructed. This should only be done when the windows are located underneath one of the porches so that the window well would be hidden from view. Following this, all rotted wood should be replaced with sound wood. All wood should be stripped and repainted. Hardware should be repaired or replaced. All basement windows should be outfitted with lockable hardware. Iron guards matching the one remaining on W:008 should be installed on all the exposed basement windows.

Wall Openings, Shutters

Except for the attic dormer windows, all of the 1880 windows originally had shutters. Where these windows were altered in 1885/86 or 1903, the shutters were not replaced as part of the new design. Many, but not all, of the windows in the wood frame portion of the 1885/86 addition also originally had shutters. For locations of where shutters are missing today and should be replaced, see plates EC-7 through EC-10 and PR-1 through PR-2.

Although the shutters that are on the building today look just like the ones in the historic photographs, they do not have the 1880 or 1885/86 paint layers on them. They are apparently replacements installed in 1904 (which is the first layer of paint that was recorded on them). There is no discernible difference between the shutters that are on the building and the historic photographs. All of the shutters are the adjustable louver type.

There is a large stockpile of shutters in the basement. These are most probably the ones that have been removed from the house over the years. All the shutters appear to be in fairly good condition but there is a very thick build up of paint on them.

Shutter hinges still in place on the building include a variety of types, but all of them appear to be historic. They include various types of cast-iron, self-locking hinge hardware. With all the changes that took place, it is difficult to tell which might be original and which ones are later replacements. Shutter hinges are caked with multiple layers of paint. Most appear to be the self locking type so, if they work properly, the present practice of nailing the shutters open would be unnecessary.

Recommendations. Replace all missing shutters according to the drawings. All of the shutters and their hardware should be stripped of paint and refinished.

Wall Openings, Aluminum Storm Windows

There are five aluminum storm windows on the main house. These are all on the second floor of the servant's wing of the house. Two are located on the north facade (W:219 and W:220) and three are along the west (W:221, W:222, and W:223). The appearance of these storm windows from the exterior is highly obtrusive. This is both due to their material, the masking of the historic wooden windows, and the reflectivity of the storm window glazing.

The rest of the windows do not have storm windows or weatherstripping. The fit of the windows is not that tight which allows for air infiltration.

Recommendations. It will still be necessary to have storm windows on the house even though it is no longer inhabited. Mechanical recommendations include introducing air conditioning and controlling humidity. In order to make most efficient use of energy resources, the installation of new storm windows is recommended. They should be designed or located in a way that they are not visible from the exterior. This can be done by installing interior mounted storm windows. This should not have a negative visual impact as many of the windows are obscured by sheer window curtains on the interior. Exterior storm windows, if they are undivided, create a reflective surface that hides the window and changes its appearance. The use of new divided exterior storm windows adds a completely new element to the window, thus changing its appearance.

A simple system, such as Spring Tite windows (distributed by National Energy Corporation, Westerly, Rhode Island), is recommended to increase the efficiency of the windows without compromising the fabric. This type of vinyl frame storm window fits tight to the existing wood frame of the window without any additional installation involving screws nails or adhesives. Installation is simple using the internal spring mechanism to form a tight seal. The mechanism accommodates rectangular windows up to 1¼ inch out of square, which can be a problem with historic structures. The use of a UV blocking glass or a film on the storm window can provide a way to protect the furnishings without applying films directly to the historic windows.

Wall Openings, Doors and Door Hardware

All the entrances except the cellar have screen doors. They most likely all date from 1943. The screen doors are generally in good condition.

The front doors (south elevation) are the original doors dating back to 1880. These tall doors, with a tall glass panel on top and a small wood panel below, are generally in good condition. There is a thick build-up of paint on the exterior sides of the doors. The interior sides have been stripped of

their original varnished and stained finish, and the newer varnish finish (ca. 1940) has failed. See the woodwork and trim section for more information on the original finish. The doors still have their original hardware (see discussion, "Room Descriptions, 101, Front Entrance Vestibule"), although it has been supplemented with brackets into which a 2-inch by 4-inch board is wedged to secure the doors.

The five other entrances were part of the 1885/86 addition work. This includes the carriage porch, dining room, north porch, gift shop, and cellar entrances.

The carriage porch door is a six-panel door flanked at both sides with sidelights. Both sides of the door are painted white and it is in good condition. It still has its original locking case type latch. It has been supplemented by a surface bolt, a horizontal rim lock, and a modern Kwikset deadbolt. The exterior side of the door still has a very large old looking (maybe original) knocker.

The dining room door is the most decorative in the house. It has four small panels on the bottom and a decorative stained and painted glass panel above. The wooden parts of the door are painted white on the exterior and varnished on the interior. This door is in good condition. Hardware includes its original mortise lock and a surface bolt.

The north porch door is a typical four-panel door, the most common type found in this house. The exterior paint is built-up and the interior varnish has crazed and darkened. Apparently this door has had a great amount of usage over the years. Only one of the three original steeple hinges remains. The other two hinges were replaced by ball-tipped hinges at an unknown date. The original mortise lockset has been replaced by a more modern one with a modern type cylinder, possibly in 1936. One of the historic flat metal knobs was reused on the exterior. The interior knob most likely came with the lockset. Other pieces of hardware have also been added including a twist type bolt, a modern slide bolt, and a chain receiver on the door.

The gift shop door is a typical four-panel door except it has an arched head, as all the first-floor stone addition openings have. It is painted white on both sides. There is a brace on the interior side of the door. This door, too, must have received a lot of use over the years, as the joints from the styles to the rails are apparently loose and the brace is there to strengthen it. Only the center hinge has a piece of its original decorative steeple hinge. The top and bottom hinges have been replaced by ball-tipped hinges at an unknown date. The original mortise lockset remains, although it has white porcelain knobs on it today. It probably had black ones originally. (White seems to have been used in the 1880 portion of the house and black in the 1885 addition.) Other pieces of hardware that have been added at a later date are a modern slide bolt and a horizontal rim lock.

The cellar entrance doors actually consist of two sets of doors. One is located at the sloped exterior cellar entrance, and the second set is located at the basement wall at the bottom of the steps. The exterior doors are made of 1-inch by 4-inch v-groove, tongue-and-groove boards. Doors are painted. Plate hinges are in place, possibly historic ones, but the doors themselves were replaced in 1941. These doors are in very poor condition. The interior doors are diagonal v-groove, tongue-and-groove boards with strap hinges. The setting mortar for the cap stones on the walls supporting the cellar doors has deteriorated and the stones appear to be loose (see discussion, "Masonry").

Recommendations. The doors are generally in good condition. They all need to be refinished according to the schedule of 1885/86 finishes. All extraneous hardware should be removed. Proper hardware for its year of original installation and location should be utilized. It has been noted that it has been changed or altered. New hardware where it is needed should be harmonious, but not confused with the historic hardware. Replace the exterior cellar entrance doors with new secure rot-resistant doors of the same appearance. Rehabilitate the interior cellar doors.

Roof Surfaces, Wood

The original roof of the main house as it was built in 1880 was wood shingle. All of the horizontal roof ridges had metal covers, including the dormers. This roof was painted red which must have had a bold and rich appearance. There are no remains of this original roof today, but there are references to it in campaign literature and a letter from Lucretia Garfield to Garfield (see discussion, "Recommended Treatments" for probable color match). The wood shingles are also clearly visible in

a few of the historical photographs. The roof color fooled at least one campaign observer who apparently mistook the painted shingle roof for clay roofing tile in a newspaper description of the house.

It is suspected that the roof was repainted in 1885 when the library addition was built. The doors and window sash were painted the same or a similar red color to accent the house, as had been done in the 1880 color scheme. It seems highly unlikely that the new roof would be left unpainted with the rest of the roofs and trim painted red, or that the original roof would have been replaced, since it was only five years old. Therefore, the entire roof was most likely repainted at this time, so that no difference would be seen between the new and existing roofs.

By 1895, a change in the color scheme was made. The red doors and window sash were now painted dark green. The red "trimmings," which Joseph Stanley-Brown commented were "too bold" in a letter to Lucretia in June of 1885, were now muted to a more stately appearance. There is no record or reference to the roof ever being painted again, either the red or another color. Since all photographs are in black and white, one cannot tell. If the roof was allowed to fade it still probably had some reddish tint to it, even if it hadn't been painted in 10 years.

A new asphalt shingle roof was installed on the house in 1936. It is not unreasonable for a high quality wood shingle roof to last 40 years or more. This one appears to have lasted for 56 to 61 years, since no other recorded roof replacement is known. The roof probably needed replacement during the time when little money was put into the house by the family and therefore had to wait until the historical society finally took possession of the house. When the 1936 roof was installed, there was no attempt to match the appearance of the old roof.

By 1972, Lawnfield again needed a new roof. It was recognized this time that the original roof was wood shingle. Additionally, there was speculation that the original roof was oak, since that would have been more locally available when the house was built. Because the local code did not approve of this species of wood for fireproofing, cedar shingles were substituted. The new roof was finally installed in 1973. While this roof closely resembles the appearance of the original shingles, the metal ridge covers were not replaced.

At present, there exists some warping, cupping, and splitting of the shingles. Most of this exists on the south exposure where the roof experiences rapid changes in conditions. On the north side, especially where protected (such as north sides of dormers, chimneys, etc.), the shingles stay excessively wet, supporting the growth of moss.

Recommendations. At this time, it appears that the damage is not extensive enough to warrant replacement. Attention should instead be directed at repair and replacement of only badly deteriorated or nonsecure shingles, and treating the roof to eliminate and further deter the growth of fungus on the damp wood. Forest Products Laboratory of the USDA, Forest Service, recommends the following treatment to kill mold and mildew and temporarily clean large wood surfaces. Mix a solution of 3 ounces trisodium phosphate (TSP), 1 ounce detergent (e.g., Tide), 1 quart 5 percent sodium hypochlorite (e.g., Clorox), and 3 quarts warm water. The solution should be applied undiluted, and the surface scrubbed with a soft brush. When the surface is clean, it should be rinsed thoroughly with fresh water. Care should be taken not to spray vegetation. If it does happen, rinse plants thoroughly with fresh water. This application should be done prior to the painting/staining of the shingles scheduled to be done as part of the building's exterior historic restoration. Following cleaning of the roof, the wood shingles should be painted with an oil-based solid color stain which has water-repellent and mildew-resistant qualities, and meets the Federal EPA Standards. The color of the stain should match the "Turkish red" color which was historic to the house. A likely sample of this color was found on a shingle of the carriage house during the 1987 paint analysis by the North Atlantic Historic Preservation Center (Munsell 7.5R 3/6). Metal ridge covers matching the original design and locations should be installed.

Roof Surfaces, Built-Up/Metal

There are six flat roofs on the main house. These include the roofs over the port cochere, 1885/86 main stairway, front porch, east porch, and the floors of the two third-floor balconies. Although little

documentation exists as to the historic roofing materials at these locations, there are several items which suggest that these roofs were historically either tinplate or, more likely, terneplate roofs.

On the Lawnfield property, exposed metal roofs still exist over the bow window located in the memorial library and over the gas holder attached to the carriage house. There also appears to be a metal roof on the flat portion of the carriage porch which is now covered with tar and pitch. This may be the original roof of this porch. During demolition, careful investigation should take place to find the extent of this roof and to recover details for replacement. Metal roofs may still exist below the existing roofs on the main stair and third-floor porches; this should also be investigated. Since the south and east porches were replaced in 1904, it is not as likely that the roofing material used for the new porches was metal roofing (and is not critically needed if the earlier porches are reconstructed as recommended). But, if some determination as to the original roofing on these two porches can be made then that, too, should be recorded during demolition.

Tinplate roofs are made of thin sheets of iron or steel plated with tin, while terneplate roofs are made of sheets of iron or steel plated with a composite of lead and tin. Terneplate roofs were common during this time period as they were and are a lightweight, noncombustible, and watertight roof which lasts longer than many other roofing materials if properly installed and maintained. Terneplate was also considered a low cost roofing material in comparison to other metal roofs, including tinplate. During the mid-1870s, a tinplate industry was started in Ohio and Pennsylvania. However, it did not last long, as the price of tinplate dropped worldwide in 1875 which forced the industry out of business in America until 1890 when the McKinley Bill put a tariff on imported tinplate.

The standard size of terneplate plates increased over the years with improvements in technology. During the early 19th century, the standard plates were 10 inches by 14 inches. By the 1830s, 20-inch by 14-inch plates became available. By the 1870s, the available size increased to 20-inch by 28-inch plates. The metal roofs, which are on flat or slightly sloping surfaces, are constructed with flat seams laid with cleats and soldered together along the seams. The solder was usually either 1 pound lead and 1 pound tin or ½ pound lead and 1 pound tin.

The finish coat on terneplate roofs was usually "tinner's red" which had a red or reddish-brown color. Today, the finish coat on these roofs can either be metallic brown, Venetian red, red iron oxide, or red lead (Munsell 7.5R 3/8 to 7.5R 3/4). Any of these red finishes will blend well with the turkish red color of the wood shingle roof over the main portion of the house.

Recommendations. With the configuration of the house and views provided through various windows, these roofs are easily viewed from within and, in some cases, outside of the house. Due to this, along with the performance and life span which can be achieved from a metal roof, it is recommended that the six flat roofs be restored from existing built-up roofing material to the more appropriate terneplate roofing material.

Alternatives to the terneplate include lead-coated copper or terneplate stainless steel roofs. (Note the possibility of using aluminum coated with 60 percent tin and 40 percent lead as at the University of Virginia, and also the use of a membrane of single-ply uncured neoprene as a secondary line of protection.) Each of these have their own advantages and disadvantages. Both of these alternatives are initially more expensive, however, they last longer without maintenance.

Since both the terneplate stainless steel roof and the lead-coated copper roof will have to be painted to match the color of the historic terneplate roof, the only advantage is that of reducing potential damage as a result of untimely maintenance. If the lead-coated copper is used, a galvanic reaction will occur if it is damaged as the lead and copper would both be exposed to rain and would act as an electrolyte. If terneplate stainless steel is used as a substitute, it often proves difficult to form and solder, and the desired appearance may not be achieved. The material is also more difficult to cut and requires special metalworking tools.

With any metal roof, attention needs to be paid to compatible noncorrosive material selection. Tinplate and terneplate roofs are corroded by copper, asphaltic, and bituminous roofing compounds, as well as paints containing acids, bitumen, asphalt, or aluminum. Due to this reaction, it is important that both the gutter and leader material be compatible with the roofing material. Tinplate cleats, along with galvanized iron or steel nails, should be used to attach the tinplate sheets to each other and the

roof sheathing. Copper alloy cleats and/or nails will corrode the roof. When returning the roof to its historic appearance, care should be taken to ensure that the seams are both properly sealed and retain their flat and smooth appearance.

Tinplate or terneplate metal should be painted with a shop coat of two coats of linseed oil/red lead and iron oxide primer, or linseed oil/iron oxide primer. Prior to installation, the sheets should be painted with an oil-base finish paint, particularly on the bottom side. Following this, a finish coat of metallic brown (iron oxide), venetian red (ferric oxide, calcium carbonate, and ferrous sulphate), red iron oxide (ferric oxide), or red lead (tetroxide of lead) should be applied. No graphite or asphaltic base paints should be used, nor any dryers or turpentine. Before applying the finish coat, the metal either needs to be cleaned of any residue or 30 days should be allowed to pass. A second coat should be applied two weeks after the initial finish coat. The next painting of the roof should take place one year later, with following coats to be done once every three years to maintain the roof.

Lightning Protection

Historically, lightning rods (now called air terminals) were spaced along the ridges of roofs and/or mounted on chimneys. These terminals were connected by a large gauge solid copper wire or rod conductors running along the ridge. This conductor was electrically and thermally insulated from the ridge by stand-offs made of cast iron with glass ring insulators to support the conductor. On opposite sides of the building, down conductors (also on stand-offs) connected the ridge conductor to ground rods. The ground rods were driven down to permanently moist soil (but not necessarily to the water table).

The original lightning protection system on the 1880 house can be seen on a rendering of the house done by L.C. Corwine (see plate HP-8). It is the only evidence of this early system which consisted of two chimney-mounted rods and one rod mounted to the main finial at the highest roof peak. This rendering also shows an average of two rods on each ridge of the various barns and outbuildings. There are no known photographs which clearly show that these lightning rods ever existed as the photographs are mostly "washed out" above the roof line. The next generation of lightning protection shows up in photographs of the house after the 1885/86 addition (see plate HP-21 for locations). The photographs do not show any rods on the chimneys, but do show one rod on the main finial and additional rods on the various ridge lines. On the west elevation (plate HP-31), a down conductor can be seen running the height of the house between windows W:233 and W:234. This down conductor runs over the end of the hipped gable and onto the roof. All physical evidence of any lightning protection system has been removed.

Recommendations. As part of the exterior restoration of the house, the lightning protection system should be reinstalled. This will consist of installing air terminals along all ridges and all chimneys. There should be at least two down conductors, but four may be best. The installation of the air terminal on the east gable of the memorial library wing should also supply a 60° zone of coverage to the Weeping Beech tree to the east of the wing. One source of historic air terminals which may be similar to those used on Garfield's house is:

Period Lightning Rod systems
Victorian Reproduction Enterprises Inc.
1601 Park Avenue South
Dept. OHJ
Minneapolis, MN 55404
(612) 338-3636

Gutters and Downspouts

Historically, there were two types of gutters on the house. The first type is similar to a box gutter, however, it is integral with the slope and fabric of the roof. Documentation of work done on the house during the 1880 construction refers to these as "gutter eave troughs." This gutter type was located only on the two-and-one-half-story 1880 house. There is little physical evidence left of these

original gutters due to reroofing and the replacement of the gutter system with the existing gutters, ca. 1961. Most of the information on their configuration exists in the historic photographs.

The location of the original leader roof penetrations can still be observed by the wooden infill repairs under the eaves which were probably accomplished when the gutter system was replaced. While there is minimal physical data, it does give some location and dimension information which could otherwise only be estimated from the photographs. The original eave troughs were basically a metal trough which conformed to the roof, the upper end being tucked under a row of wood shingles and the down-slope end bent upward at a 90° angle and over the wooden supports spaced at intervals equal to the roof rafters (see plates HP-13 and PR-3). These troughs were located over the eaves, allowing leaders to penetrate the roof from the troughs to the downspouts. It was probably the deteriorated condition of this element which led to leakage and water penetration into the adjacent wood sheathing. In the reproduction of this element, care needs to be taken to ensure a watertight connection and a continuous slope to the downspout.

The second type of gutter was located around both the wood frame and masonry walls of the 1885/86 addition. This was a box gutter which sat on the down-slope edge of the roof (see plates HP-21 and PR-3). This placement gave the building the appearance of having a substantial cornice.

The current moisture induced problems are partially the result of unsuccessful removal of rainwater from the roofs. A majority of the downspouts are blocked and gutters overflow due to the leaves, dirt, and other debris which fill them. Many of the gutters have also rusted through and leak, allowing water to fall directly onto wooden surfaces. The height, quantity, and close proximity of the deciduous trees surrounding the house necessitate that cleaning the gutters should be a high priority maintenance item which may be required as often as once a month during the fall season.

Recommendations. The gutters and downspouts should all be replaced and returned to their historic appearance as part of the building's exterior restoration. Screens should be installed at the top opening of all downspouts to prevent debris from entering. In addition to this work, all downspout drains should be flushed out and repaired or replaced. (See discussion, "Plumbing, Waste/Sanitary" for recommendations on downspout drains). All locations where downspouts or leaders penetrate the roof should be inspected for rot. Many of these areas appear rotten and should be replaced with sound wood (see discussion "Wall Surfaces, Wood").

Chimneys

There were four brick chimneys (labeled 1 through 4 on floor plans, EC-3 through EC-6) built in the 1880 construction. Chimneys from the Dickey era were evidently demolished at this time. The design of the 1880 chimneys included a shoulder above where the masonry projects through the roof, a belt course, and a decorative corbeled top. Chimneys 1 and 2 were set down into the existing building, and the cut floor opening was then creatively resupported off the new masonry (see plate SD-3). The exterior design of the 1880 chimneys was copied on the three later chimneys (labeled 5, 6 and 7) constructed in 1885/86.

Due to the size and shape of all of the fireplaces and remnants of coal and gas appliances, it is unlikely that wood was ever burned in them. An early illustration and a photograph show coal being burned in the sitting room fireplace (HP-55). All of the chimneys either are or have been connected to up to four or more wood, coal, or gas burning appliances. In order to accommodate the various appliances on different floors and make adjustments in location for aesthetics, it is plausible that a number of offsets occur in the flues. There does not appear to be any settlement or distress to any of the chimney foundations. However, there is some differential movement between the masonry chimney structure, the mantel, and the frame walls above. For more details, see the discussion, "Structural."

Chimney 1, in 1880 on the first floor, had a coal stove connected to it which was located in the front hallway (room 102) under the stairs, as shown in plate HP-53. It is not known when this stove was removed. Central heat was not added to the front portion of the house until 1941. The fireplace in the Garfield first-floor bedroom (room 103) on the opposite side of chimney 1 was most likely another coal stove. The existing fireplace mantel in this room is the original 1880 fireplace mantel from the

parlor (room 106) which was moved to this location in 1904 (see "Woodwork and Trim, Mantels," second paragraph for more information). There is a coal stove upstairs, in room 201, which is no longer connected to the chimney. There was probably another stove connected to this chimney on the third floor, since this space was a bedroom. A capped hole in the bare masonry is visible (room 301).

Chimney 2 is located between rooms 106 and 107 on the first floor. The fireplace of room 107 appears to be original to the 1880 house. The parlor fireplace (room 106) was altered in 1904, as well as both second-floor fireplaces. The fireplace of room 208 has no discernible connection to chimney 2. Apparently, it was disconnected from the chimney to form the closets and rooms 210 and 211 just to the rear of the fireplace. This may have been done in association with other alterations to rooms 213 and 214, most likely in 1904 (see "Woodwork and Trim, Mantels," third paragraph for more information).

Chimney 3 has the fireplace of the reception room (room 110) connected to it, and an upstairs fireplace in the office (room 206). While the chimney probably dates to 1880, both of these fireplaces date from 1885/86. The present reception hall is located where the kitchen was in the 1880 house. The kitchen stove was probably connected to this stack. In an early illustration (plate HP-63), the upstairs library was depicted without a fireplace, but shows a small coal stove instead. Chimney 3 is used today for exhaust of the gases from the gas forced-air furnace in the basement.

Chimney 4, serving the original 1880 dining room fireplace, appears to be built over the top of a cistern or an unexcavated mound of concrete stabilized earth. Further investigation needs to be made into its foundation. There are no connections to fireplaces on the second or third floors today, but may have been connected to a fireplace and/or a stove in 1880.

Chimney 5 only serves one fireplace on the north wall of bedroom 216. Among the exterior views depicted in the historic photographs none show this corner of the house in the 1880-1885/86 time period, therefore, information concerning this area is somewhat speculative. Chimney 5 is believed to have been built in 1885. Prior to this time room 216 was smaller and could not have had a chimney in this location. In 1880, a fireplace (or stove) in this room would have been connected to chimney 4 on the opposite wall. The design of the present mantel closely matches the other 1880 mantels in style, craftsmanship and materials used. This mantel many have been relocated from the opposite wall.

Chimney 6 once had the 1885/86 kitchen stove connected to it. The stove was presumably still in operation as late as the late 1930s. The kitchen was still in its same location under the first curator, Mrs. Ivan Sutliff. Room 006, in the basement below the kitchen, indicates the previous connection of a basement gas heater out in the hallway. If there were stoves in the second-floor bedrooms of the 1885/86 servants quarters, they probably connected to flues in this chimney. By February 1987, this chimney stack above the roof was in a perilous leaning condition. Gases cool as they rise and condense on the windward side of the flue. This results in liquid expanding the inside refractory lining and mortar of the stack more on one side than the other, thus upsetting its stability. Due to the cracking and extreme leaning condition of the chimney, it was dismantled to the roof.

Chimney 7 is connected to the memorial library fireplace, as well as the two bedrooms on the third floor. This was part of the 1885/86 addition and no known changes have been made to any of the fireplaces. Chimney 7 is also used for ventilation of flue gases from the gas-fired hot-water boiler on the ground floor. This boiler was installed in 1885/86 as a gas-fired steam boiler system powered from a gas well on the property.

Recommendations. The work of rebuilding the chimneys above the roof was completed in 1988, but chimneys are still all unlined and uncapped.

All of the chimney flues serving fireplaces are no longer being used for fires. It is recommended that these flues be capped to prevent further deterioration from moisture, or to keep animals and insects from invading the flues. The caps should be constructed so that they are not apparent from the ground.

Chimneys 3 and 7 presently used for ventilation of gas-fired appliances should be lined. Where there is more than one flue in a single chimney stack, each flue must be completely separated by at least

the width of a brick. Holes or gaps in deteriorated masonry separating one flue from another will interfere with the draft of each. In addition to the possibility of toxic gases finding their way back into the building, they could cause back puffing of the furnace flue, forcing flammable exhaust gases back into the furnace, creating an explosion.

Various types of liners are available for retrofitting masonry chimneys. These include clay, metal, and poured cement liners. Steel liners are generally sectionalized and screwed or riveted together. They can be installed easily from the top, but only in straight flues. Many bends occur in the Lawnfield chimneys so that downstairs flues can bypass upstairs fireplaces. Since the flues of Lawnfield are offset and very tall, other methods and materials must be investigated for relining the chimneys.

In offset chimneys, clay or steel liners may be installed by breaking an opening through the chimney at each floor level. This can be done either on the exterior or, if the chimney is located on the interior wall, through the plaster wall and brick of the flue. Since many bends occur in the flues at Lawnfield, it is possible that the downstairs flues may bypass upstairs fireplaces. When this is the case, access can be gained to these "bends" through the upstairs sides of the firebox. The liner is then cut and fit so that it can be slid up and down inside the flue until proper placement is accomplished.

Other options include poured cement liners pumped around a flexible, inflatable form which is removed after the cement has cured. In practice, the procedure is more complicated. Again, in chimneys with offsets, it may be necessary to cut a hole in the side of the chimney in order to position the form properly. A disadvantage of this method is that there is no reversibility. Once the cement is poured, there is no separating it from the bricks of the chimney. Steel and even clay liners, with some difficulty, can be removed if necessary.

The recommended solution utilizes a newer type product. It is a flexible stainless steel liner which overcomes the difficulties of installation in curved or offset chimneys. The flexible pipe is guided down the chimney with ropes. To cut down on the transmission of heat from the liner, the surrounding area should be filled with an insulating material such as vermiculite or mica chips. A disadvantage of this pipe is that it is thinner than rigid pipe. This type of liner should work well as a vent exhaust for a gas boiler or furnace.

Porches, General

Four porches exist around the house: one located on the south facade, one on the east facade, one on the north facade, and one on the west facade. The existing south and east porches were remodeled in 1904. There is documentary evidence that the earlier porches were deteriorated and removed.[98] In the replacement porches, no attempt was made to copy the original 1880 design. Instead, they followed the then currently popular Colonial style. The porches were used as architectural entities, the elements of which altered the style of the house. The street appearance of the house from its most significant period was negatively affected.

Moisture induced problems are inherent to porches unless they are carefully designed and maintained to prevent such problems. All four porches on the Garfield house exhibit some prime examples of moisture problems. The porch decks have rotted in some areas, there is evidence of insect damage, roofs have leaked and then been patched using methods which have ultimately trapped water within the roof structure, embedded downspouts have clogged and backed up with debris preventing proper roof drainage, and the overgrown vegetation has come too close to the porch foundations.

Recommendations. As part of the exterior restoration of the house, it is recommended to return the south and east porches to their earlier appearance. The south porch is most important to achieving a street appearance of the house to the James A. Garfield era (1880-81).* This porch graced the front of the house through 1904, although it was altered slightly. It was from this front porch that many

*The period when John A. Garfield lived in the house and during which time the presidential campaign was held.

campaign speeches were made and visitors entertained. The restored east porch is needed to put the house back to a unified appearance with the 1880 and 1885/86 periods.

The problems of the existing south and east porches will be eliminated when they are removed and the new ones are reconstructed. If this work is delayed extensively, interim corrective solutions will have to be addressed. The west and north porches will be repaired and repainted to their existing configuration. This will require the replacement of some missing elements and some which have been replaced incorrectly, and rebuilding the porch floors. This work should be done concurrent with other exterior repairs in order to prevent further damage and the risk of losing more of the building's original fabric.

South Porch

The first porch on the south (front) elevation of the two-and-one-half-story Garfield house was built in 1880 along with the major construction work taking place. It ran along the full length of the south facade and was made up of eight gently arched bays. The porch supports were compiled of groupings of slender square posts connected together at midspan by wooden diamond shaped members. The porch could be reached by two sets of steps, one off the west end of the porch and the other at midspan directly in front of the main door of the house. Lattice work enclosed the underside of the porch on the west half where the slope was greater, leaving a larger opening. This porch was slightly altered in 1885/86 when another bay was added on the east end; its purpose was to screen the new east side porch, which had a different style.

The 1880 porch was removed in 1904 and replaced with a smaller porch having a Colonial style. The covered portion of the porch extended from the southwest corner of the house to just beyond the vestibule. The remainder of the south facade had a columned arbor in front of it. This smaller porch may have generated other alterations that were made to the exterior (south) wall of the parlor (room 106) and the interior of this room or, possibly, interior changes affected the exterior alterations. The original direct parlor entry from the front porch was removed, therefore, the porch no longer needed to be as long to serve that door. Two adjacent windows were removed, as well, and replaced by a bay window.

During the winter of 1951 this columned arbor was removed leaving only the tile "floor" upon which it stood. It is this Colonial style porch, without the arbor, that remains today. The porch roof is currently a built-up roof. It is in fair to poor condition with air pockets beneath the surface and some damage around the perimeter, especially at the entryway. This has allowed water to seep beneath the roof surface and rot the wood underneath. Bees have built their nests in the openings at these locations.

Recommendations. The south porch roof needs to be made watertight if funds for its restoration are not available in the near future. To do this, the roof should be cleaned of any debris, the damaged areas of the roof located, and roofing cement patches applied to the appropriate locations. It is important to remember that this is only a temporary solution until restoration takes place. Along with this measure, the embedded downspouts and leaders should be unblocked and screened to allow for the proper drainage of roof water. Wooden trim which has been rotted away should be replaced with new wood. The tile floor has sunk in several places. These tiles should be taken up, the soil underneath compacted and filled, and the tiles reset so that water drains away from the building. Care should also be taken to avoid overwatering the flower beds immediately to the front of the porch so that water is not allowed to collect against the building; this appears to have been one of the main sources of ground saturation against the building in the recent past.

East Porch

An 1882 newspaper article states that a porch was added on the east side of the house. It is believed that if a porch was added at that time then it was later obliterated with no recorded appearance. In 1885/86, an east porch was added which was well integrated with the modified design of the dining room. This porch is shown in plates HP-19 through HP-25.

It had a pitched shingled roof, turned columns, decorative cornice, and a raised wooden floor which became an extension of the front porch decking. The overall character of the porch reinforced the Queen Anne appearance of the other 1885/86 construction work. The porch roof extended to the north to cover the dining room bay extension which still remains. The porch had the same footprint of the existing east porch and it is possible that some of the decking and below deck structure dates back to the original east porch. Photographs show that this porch also was outfitted with wooden supports and wire framework immediately in front of it on which ivy grew.

It is this 1885/86 porch that is to be restored as part of the structure's exterior preservation. The existing east porch was constructed in 1904 when the south porch was altered. The roof is now flat and the columns are of the Colonial style. A porch enclosure, which became an extension off of the dining room, was also added at that time. Due to the amount and location of vegetation in this area, there is little chance for damp wood to dry out. Part of this is due to the large trees surrounding the house, but there is little that can or should be done about the trees.

There is some evidence of termite infestation on the porch floorboards. It appears that this is not a current problem, but rather a past problem. There is also rot within the floorboards and column bases. Some nosing and trim are missing.

Recommendations. It is recommended to restore the east porch back to its 1885/86 appearance. When the porch is reconstructed, care should be taken that the porch decking and stairs are properly sloped away from the house. The grade needs to be lowered underneath the porch. Currently, the grade comes up above the basement windows and has rotted the window sash and frame. The underside of the porch needs to be adequately ventilated and the support columns and underframing should be constructed of pressure treated wood. If funds for the restoration are not available then the east porch, as recommended for the south porch, needs to be made watertight and have all rotted wood replaced. The same procedures need to be followed on both porches.

The smaller shrubs and brush which run parallel to the east porch should be cleared. The east side of the house was historically an open lawn with some controlled planting of trees and shrubs.

North Porch

The north porch was built with the 1885/86 addition. It was the entrance to the servants wing of the house. The porch is small in size and is little more than a covered stoop to keep one dry upon entering and leaving the house. The porch has a shed roof with two simple ornamented posts or columns. Below the entablature are wooden arch infills which give it an appearance similar to the unaltered west porch. A simple rail of square 1-inch by 1-inch balusters encloses the porch on two and one-half sides. Below the decking, lattice screens close off the underside of the porch. It was once screened similarly to the west porch (see plate HP-26). It is believed the screen was part of the original construction in 1885, but later removed around 1904.

Currently, this porch is in poor condition. Its gutter is bent and misshapen, the decking sags and is rotted, as are the columns and railing. The railing has a large amount of paint build-up. Its balusters no longer meet the bottom rail in places. Nosing and face trim are missing so that one column now partially sits over open air.

Recommendations. The rotted wood on this porch will have to be replaced. As part of the general work that needs to be done on the house, the paint should be stripped and the gutter replaced. The underside of the porch should be investigated for deteriorated wood. If any is found, it should be replaced with pressure treated wood. Missing or damaged trim should be replaced or repaired. This work needs to be done integrally with the repairs to the adjacent basement access door which is also in poor condition.

West Porch

The west porch, or port cochere (also called carriage porch), has not been extensively altered since its construction in 1885/86 along with the memorial library addition. It fills the back portion of the house where the old woodshed once was. A portion of this porch was set off at an angle to allow for sheltering persons entering or leaving carriages. On some early photographs, it was screened and used also as a sitting porch (see plates HP-26 through HP-29). This enclosure feature was a design suggestion made by Joseph Stanley-Brown in a letter to Lucretia. It is believed the screening was part of the original construction and was removed around 1904, either due to rot or because of changing use of the porch (no longer used as a sitting porch). Plate HP-30 shows the west porch with screening removed. Also, shortly after the house became a museum, a number of support posts, brackets, and part of the railing were also replaced. There was no real attempt to match the original design.

Today the roof of this porch is in poor and leaking condition, as described in the general conditions. It also has a number of rotted areas in the support posts, handrails, roof sheathing, floorboards, and joists. Part of the handrail is missing entirely. There are major structural problems due to rot and insect damage.

Recommendations. The west porch requires a new flat roof and flashing, which has been previously recommended to be metal. The sloped wood shingle portion of the roof is in fair condition and does not require replacement at this time, unless there is so much rot in the cornice or sheathing that replacement of these items requires removing the roofing shingles. The entire floor structure should be replaced (see discussion, "Structural"). All rotted or missing wooden elements should be replaced. The wood columns, brackets, and handrail that are not of the original design should be replaced (see plates EC-4 and EC-5). Drawings indicate which elements are obviously rotted, which are known to be missing, and those that have been replaced incorrectly.

Porches, Lighting Fixtures

The pair of wall-mounted light fixtures on either side of the double doors on the front porch do not show in any of the historic photographs prior to the 1885/86 work, and that area is obscured in all later photographs. They appear to be quite old and may date to the 1885/86 work. No bulbs were observed which could indicate that they may be unconverted gas fixtures. (This will have to be investigated at a later date.) Their overall condition is poor, with quite a bit of rust on all the metal surfaces. They have beveled glass on two sides and an access door (possibly to light the lamp) on the other.

The present carriage porch light fixture also does not appear in any of the historic photographs. A photograph of the carriage porch taken ca. 1900 shows a different fixture at almost the same location. The fixture in the photo appears to be mounted on the window trim, not on the wall as the present one is. It is not known when this fixture was installed, but it does have an older appearance, possibly installed after the porch enclosure was removed.

The light fixture on the north porch is believed to have been installed in 1941, according to an invoice for electrical work where other work was done in the immediate area.

Recommendations. More research should be done to date the light fixtures on the front porch and carriage porch. If the fixtures were removed, then a sample of paint should be taken underneath where the fixtures were mounted and compared to the exterior paint analysis where the paint layers have been dated.

In general, the house will need lights at the entrances. Therefore, unless they can be shown to be out of character with the restoration (even though they may not have had those fixtures in those exact locations during the historic time period), it is recommended that the present lights remain at their respective locations.

All of the fixtures will need to be removed, stripped of paint, cleaned, refinished, and rewired.

Porches, Miscellaneous Hardware

A doorbell that appears to be historic is mounted on the south side of the front door (see plate CP-51). The mounting base appears to be made of cast iron with a floral motif. The bell is caked with paint. It was mentioned that a doorbell was installed in 1880 with the construction of the house. It is not known if this is the same doorbell that was described. A doorbell is visible in plate HP-13.

In plate HP-13 a hammock is seen on the front porch. One of the rings used to hold up the hammock is seen in plate HP-15 at the top right of the picture. This ring is still in place on the wall of the front porch.

A decorative metal bracket is mounted on the trim inside the carriage porch at the west side of the door. The author has been informed that this is a letter holder, a devise to hold an outgoing letter for the postman. It was not there when the photo HP-29 was taken. Again, like the adjacent light fixture, perhaps it was installed when the porch enclosure was removed.

Recommendations. Dating these items might be accomplished using the technique described above in lighting fixtures. In any case, it is recommended to retain these hardware items as interesting curiosities. They should be stripped, cleaned, and repainted.

ARCHITECTURAL, INTERIOR

Profiles of moldings are illustrated on plates EC-15 and 16. General room recommendations follow this section.

101, Front Entrance Vestibule

Floor
- oak alternating width T&G (tongue-and-groove), 2½" and 3", run NS (north/south)

Walls
- wallpaper over plaster

Ceiling
- wallpaper over plaster

Moldings
- base type B1
- chair rail type R1
- cornice type C1

Doors
- 2 pairs, with large glass panel and small wood panel, trim type T1, plain corner blocks, exterior door has threshold, interior door no threshold

Hardware
- exterior door, plain steeple hinges, mortise lock with deadbolt and flat metal knob, top and bottom mortised slide bolts, horizontal surface bolt, brackets for 2 x 4 brace
- interior door, plain steeple hinges, mortise lock with decorative latch plate and flat metal knob, decorative mortise top and bottom slide bolts

Lighting
- 1940s wall sconce; shade missing, now used as outlet

Recommendations
- remove nonhistoric light fixture, replace with recessed can light

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Key for the codes:
B=baseboard
C=cornice
H=hook strip
M=molding
R=chair rail or wainscot
T=window/door trim

- replace inappropriate door hardware and crossbar

102, Hall

Floor
- oak alternating width T&G, 2½" and 3", run NS

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster, cracks in plaster by both ends of stairs

Moldings
- base type B1, pine
- cornice type C2, oak, does not appear to be original

Windows
- north, pair of casements, diamond pane sash, wood trim type T1, plain corner blocks
- south, 1/1-double-hung, wood trim type T1, plain corner blocks

Doors
- see rooms 101, 103, 106
- trim (see window)

Heating
- supply air center east side
- return air NE (northeast) corner

Lighting
- converted gas chandelier, 3-arm, ceiling

Electrical
- 1 fourplex outlet
- 2 duplex outlets
- 1 telephone outlet, surface wiring around door to stair hall

Features
- oak staircase 1880, pine treads and landing

Recommendations
- replace cornice with historic type (C1)
- remove telephone outlet

103, James A. Garfield Bedroom

Floor
- oak random width T&G, 2½" to 3½", run NS
- platform at door 3'3" x 4'6", oak 2¼" run EW (east/west)

Walls
- wallpaper on plaster, paper reproduced in 1979

Ceiling
- wallpaper on plaster

Moldings
- base type B2 painted
- picture mold 1'10" from ceiling type M1 painted, embossed pattern

Windows
- 3 2/2-double-hung, wood trim type T2 painted, mitered corners

Doors
- east door, 4-panel, room side painted, wood trim type T2 , mitered corners
- closet door, removed, wood trim type T2, painted, mitered corners

Hardware
- room door, steeple hinges, mortise lock with plain flat metal knob to hall, white porcelain interior

Fireplace
- 1880 mantel, arched brick fireplace opening, brick hearth, cherry; this mantel was moved from parlor in 1904, has ghost outline of original shelves over top

Heating
- supply air south of fireplace

Lighting
- converted gas chandelier, 3-arm, ceiling

Electrical
- 2 duplex outlets

Recommendations
- remove fireplace, replace with stove

104, Closet

Floor
- pine T&G, 5½" wide on half of floor, 2½" and 3½" other half, 19½" x 20" patch

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Molding
- base type B3, painted
- hook strip type H1

Windows
- fake window on exterior of closet wall, shutter closed, does not show in closet

Doors
- door removed, trim type T3 painted

Hardware
- plain steeple hinge

Heating
- duct riser in NE corner of closet wrapped in asbestos

Features
- coat hooks on 3 walls
- shelf

Recommendations
- remove asbestos, insulate duct
- replace closet door

105, Carriage Porch Vestibule

Floor
- linoleum tile over wood floor

Walls
- upper wall burlap wall covering over plaster
- lower wall beaded edge wood wainscot, painted, suspected to date back to 1880 bathroom

Ceiling
- wallpaper on plaster

Moldings
- no base
- cornice type C3 painted, maybe gilded, embossed pattern
- hook strip type H2, painted
- wainscot cap type R2

Windows
- diamond pane sash sidelights at both sides of exterior entry door, glazing has yellow coating, trim type T4, painted, scored corner blocks

Doors
- 6-panel wood door, trim (see window)

Hardware
- steeple hinges, original locking norfolk type mortise latch, later added rim lock, surface bolt, modern Kwikset deadbolt

Heating
- supply air SE (southeast) corner

Lighting
- converted gas pendant fixture, may not be original (possibly installed in 1944)

Electrical
- 5 light switches

Features
- bench on west wall

Recommendations
- replace flooring
- remove inappropriate door hardware

106, Parlor

Floor
- oak random width T&G, 2½" to 3½", run EW

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B1, painted
- cornice type C4, painted

Windows
- bay window, center sash, 1/1-double-hung, side sash (each side) casement, paneled ceiling

each side and below sill, wood trim type T5, painted, mitered corners

Doors
- west door, 4-panel, wood trim type T5, room side painted, mitered corners
- north, pair of pocket doors, 6-panel, wood trim type T5, room side painted, room 110 side pine, mitered corners

Hardware
- west door, plain steeple hinges, mortised lock, flat metal knob to hall, white porcelain knob to room, wood door stop
- north door, sliding door hardware

Firepiace
- 1904 mantel, Federal Revival style, removed 1880 mantel and enlarged fireplace, plain glazed tile hearth and the area surrounding the firebox (tile surround), appears to be a woodburner

Heating
- supply air nw corner, at same location is a 1'5" x 1'8½" floor patch

Lighting
- double wall sconce both sides of pocket door, 1944
- 1885/86 gas ceiling chandelier has been removed, probably in 1904
- an illustration and oil painting show the 1880 appearance with an oil light

Electrical
- 2 duplex outlets
- thermostat for front furnaces
- summer fan switch with light

Recommendations
- see PR-6 for interior elevations
- restore south exterior wall back to 1880 appearance (2 windows, 1 door), trim T1 with plain corner blocks, windows to have panels below sill to floor as room 107
- remove existing 1904 fireplace and restore 1880 fireplace with shelves above and adjacent bookcases
- restore door trim T1 with plain corner blocks and picture mold type M2
- restore original gaslight fixture (1885)
- remove 1944 light fixtures
- add additional recessed can spotlight, if required

107, Mother's Bedroom

Floor
- oak T&G, 3½" wide, run EW, dark stain

Walls
- wallpaper over plaster

Ceiling
- wallpaper over plaster

Moldings
- base type B1, painted
- cornice type C5, painted

Windows
- 3 2/2-double-hung, wooden panel from below sill to floor, wood trim type T1, painted, plain corner blocks

Doors
- west door, 4-panel, wood trim type T1 painted, plain corner blocks, threshold

Hardware
- west door, steeple hinges, mortise lock with porcelain knob

Fireplace
- 1880 mantel, cherry, glazed tile facing and hearth, mirrored top

Heating
- supply air NW corner
- return air SE corner, decorative cast type floor register

Lighting
- converted gas wall chandelier, 3-arm
- wall sconce, 1944

Electrical
- 2 duplex outlets

Recommendations
- remove 1944 light fixture, replace

108, Mother's Sitting Room

Floor
- oak random width T&G, 2½" to 3½", run EW

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B2, painted
- cornice type C5, painted

Windows
- 2/2-double-hung, wood trim, type T2, painted, mitered corners

Doors
- west and south doors, door removed, trim type T2 painted, mitered corners
- closet door, 4-panel, trim type T2 painted, mitered corners

Hardware
- west and south doors, plain steeple hinges
- closet door, plain steeple hinges, mortise lock with white porcelain knob

Heating
- supply air SE corner

Lighting
- converted gas, swinging wall sconce
- double light wall sconce, 1944

Electrical
- 1 duplex outlet

Features
- wood riser cover at NW corner, installed 1880, for supply and drain piping for former bathroom above, piping visible in basement, baseboard ends at cover, cornice wraps over it
- wood riser cover at NE corner is for 1942 heat duct

Recommendations
- remove 1944 light fixture, replace

109, Closet

Floor
- pine T&G 4¼" to 7" random width, run NS, surface ½" lower than oak floor in room 108

Walls
- wallpaper over plaster

Ceiling
- wallpaper over plaster

Moldings
- base B3, painted
- hook strip H1, hooks 3 walls

Doors
- see 108, trim type T3, painted,

Hardware
- steeple hinges, mortise lock with white porcelain knob

Heating
- asbestos covered duct risers NE and SW (southwest)

Features
- 2 shelves, altered for installation of duct riser

Recommendations
- remove asbestos, insulate duct

110, Reception Room

Floor
- oak alternating width T&G, 2" and 2½", run NS

Walls
- upper wall, wallpaper over plaster
- lower wall (except in vicinity of stair) burlap wall covering on plaster, good condition
- lower wall (in vicinity of stair) oak paneled wainscot, water damaged panels warped on north wall

Ceiling
- wallpaper over plaster, bad condition, major cracking and peeling wallpaper

Moldings
- base type B4
- chair rail type R3
- cornice type C6

Windows
- west, pair of single-hung diamond pane sash
- north, small pair and larger single, 1/1-single-hung window, trim type T6, oak

Doors
- south pair of 6-panel pine pocket doors, oak trim type T6
- west, pair of 4-panel pine pocket doors, oak trim type T6

Hardware
- doors, pocket door hardware

Fireplace
- 1885/86 carved oak decorative mantel, arched brick opening, glazed tile hearth, ash pit, gas logs, gas disconnected

Heating
- supply air at middle of west and east sides
- return air east of fireplace, east of return is a 3'3" x 3'3" floor patch

Lighting
- converted gas ceiling chandelier, 4-arm
- historic photo shows the fixture that is now in the dining room was once in this room
- double wall sconce on stairway

Electrical
- 2 duplex outlets

Features
- oak stairway

Recommendations
- switch gaslight fixture with one in dining room (room 111)

111, Dining Room

Floor
- pine random width T&G, 2¼" to 3", run NS

Walls
- wallpaper over plaster

Ceiling
- wallpaper over plaster

Moldings
- base type B1, pine
- chair rail type R1, pine
- cornice type C2 oak, probably not original

Windows
- arched opening for decorative bay window, 3 1/1-double-hung windows, side windows have rounded stained glass outside corners, stained glass transom panel over each window, wood bench with paneled front, trim type T7 with crest, elongated corner blocks

Doors
- west, pair of pocket doors, pine 4-panel, trim type T1, pine, plain corner blocks
- east, decorative stained and painted glass panel above, 4 small wood panels below, trim type T1, pine, plain corner blocks
- north, double swinging door, pine 4-panel, trim type T1, pine plain corner blocks

Hardware
- east door, steeple hinges, mortise lock with flat metal knob, sliding surface bolt
- west door, pocket door hardware
- north door, double acting hinges, push plate

Fireplace
- 1880 mantel, with decorative hand painted tiles surrounding fireplace opening, mirror over mantel shelf (not built-in, made to be hung on wall) and open plate shelves above the mirror (most likely predates the mantel)

Heating
- supply air NW corner and south of bay window
- return air middle of east side
- 3 floor patches NE corner of room, 1'5" x 2'2½", 1'7" x 2'0", 1'3½" x 1'5½"

Lighting
- converted gas ceiling chandelier, 6-arm, this fixture was in room 110

Features
- base cabinets with china shelves above both sides of fireplace, base cabinets have paneled doors and drawers, china shelves east side has glass doors, west side shelves open

Recommendations
- replace cornice with historic type (C1)
- switch gaslight fixture with reception room (room 110)

112, Hall

Floor
- black and white 9" x 9" asphalt type floor tile over plywood over wood floor

Walls
- wallpaper on plaster

Ceiling
- east to ceiling beam, painted beaded board, 7'6" floor to ceiling
- west, painted plaster, 6'10" floor to ceiling

Moldings
- base type B5, pine

Doors
- north, 4-panel pine, short, trim type T8, pine, scored corner blocks

Hardware
- north, decorative steeple hinges, mortise lock with metal knob inside room, black porcelain knob toward kit, rim lock
- south, decorative steeple hinges, mortise lock with black porcelain knob, 2 old closer types, both disconnected

Lighting
- wall sconce

Electrical
- cover plate by wall sconce
- doorbell button on west corner block of north door

Features
- 6 station call button panel

Recommendations
- replace floor
- remove north door rim lock
- replace black porcelain door knob on north door

113, Lavatory

Floor
- black and white 9" x 9" asphalt type tile over plywood over wood floor

Walls
- upper wall, wallpaper on plaster
- lower wall, wood wainscot, pine

Ceiling
- paint on plaster

Moldings
- wainscot cap type R4, pine

Windows
- single hung, trim type T8, pine, scored corner blocks

Doors
- 4-panel, pine, trim type T8, scored corner blocks, door swing has been reversed

Hardware
- decorative steeple hinges, mortise lock with black porcelain knob to hall and nickel knob to interior, recessed slide bolt removed

Heating
- ventilator shaft with decorative grille register just below ceiling on north wall, east corner

Lighting
- white porcelain wall fixture

Plumbing
- marble top lavatory with china sink, drain piping looks original to sink, underneath lavatory is an inscription "Smith & Oby 2628 2-11-'14"
- a ghost profile is visible on west wall, north of window, 21" high, maybe there was once a tub.
- most likely there were earlier plumbing fixtures in the bathroom, see plate BC-3 for conjectural arrangement

Recommendations
- replace floor

114, Toilet

Floor
- black and white 9" x 9" asphalt type tile over plywood, over wood floor

Walls
- upper wall, wallpaper on plaster
- lower wall, wood wainscot, pine, except glazed ceramic tile by toilet

Ceiling
- painted plaster

Moldings
- cap of wainscot, type R4, except R5 at tile

Windows
- 2 single-hung, trim type T9, pine, scored corner blocks

Doors
- wood swinging door to screen toilet (nonhistoric), original doorway trim type T9, pine, scored corner blocks

Hardware
- double swinging hinges

Heating
- supply air in SE corner

Lighting
- none now, capped gas pipe by toilet, fixture removed

Plumbing
- toilet bowl "Yazoo" by W. Wolff Manufacturing Company
- tank, older wall-hung type but not original

Features
- 3-drawer built-in pine bureau

Recommendations
- replace floor
- remove nonhistoric doors
- need light fixture

115, Hall

Floor
- carpet over wood

Walls
- upper wall, inexpensive wood paneling over plywood
- lower wall, wood wainscot, pine

Ceiling
- v-groove, T&G knotty pine wood paneling

Moldings
- base, type B5, pine
- cap of wainscot, type R4, pine

Doors
- 2 east doors and south door trim type T8, pine, corner blocks
- west nonhistoric door, 1984, v-groove boards

Hardware
- west, strap hinge, Kwikset cylindrical lockset

Lighting
- 4' 2-tube fluorescent

Electrical
- 1 duplex outlet
- conduit exposed to light fixture

Recommendations
- remove nonhistoric east wall
- restore to original, if possible, and as recommended by historic furnishings plan

116, Living Room (Original Kitchen)

Floor
- carpet over wood

Walls
- upper wall north south and west, inexpensive wood paneling over plaster
- lower wall north, south, and west; wood wainscot, except chimney somewhat different wainscot
- east wall, cheap paneling on wood studs

Ceiling
- v-groove knotty pine, ceiling dropped, upper ceiling plaster

Moldings
- base type B8, pine
- wainscot cap type R4, pine

Windows
- west, 2 2/2-double-hung, trim type T8, pine, top trim not visible above ceiling
- south, 1 1/1-double-hung, trim type T8

Doors
- basement door, 4-panel, trim type T8, pine, corner blocks
- north door, door removed, trim type T8, pine, corner blocks

Hardware
- basement, decorative steeple hinges, mortise lock with black porcelain knob, slide bolt

Heating
- 2 radiators, 15 fin, 5 tube, under windows
- 1942 steam piping above wood ceiling

Lighting
- swagged ceiling fixture plugged in outlet (nonhistoric)

Electrical
- 5 duplex outlets

Recommendations
- restore to original kitchen, if possible, and as recommended by historic furnishing plan

117, Kitchen

Floor
- carpet over wood floor

Walls
- painted plaster except as below, plaster cracked and paint peeling
- east wall and south wall door infill, painted plywood

Ceiling
- painted wallpaper on plaster, plaster cracked, wallpaper peeling

Moldings
- base type B5, painted, altered north and south walls

Windows
- 2/2-double-hung, trim type T8, painted, corner blocks

Doors
- nonhistoric, double swinging, half doors, removed

Hardware
- door hardware removed
- modern sash lock

Heating
- 1 radiator, 5 tube, 12 fin, 2'11" high, installed 1942
- 1942 steam piping on ceiling

Lighting
- electric ceiling light

Electrical
- 2 duplex outlets
- 1 220-volt outlet, south wall
- wall switch for ceiling light

Plumbing
- kitchen sink, porcelain on cast iron, with integral drainboard, below enclosed with cabinet

Features
- 1885/86 tall kitchen cabinet with enclosed fixed shelving on top, 6 drawers on bottom

Recommendations
- remove east wall and restore to original hall/pantry, if possible, as and recommended by historic furnishings plan

118, Vestibule

Floor
- carpet over wood

Walls
- wallpaper on plaster except west
- west, oak board and batten infill wall, perforated screen at top

Ceiling
- painted plaster, cracks and water damage

Moldings
- base type B5, pine stained dark

Windows
- 2/2-double-hung, trim type T8, pine stained dark, corner blocks

Doors
- north door, 4-panel, trim type T8, pine stained dark
- screen door north, shorter than entrance door with fixed transom over top

Hardware
- north door, 1 decorative steeple hinge, 2 ball-tipped hinges (replacements), mortise lock (brand Lockwood) with modern cylinder, exterior flat metal knob, interior metal knob, twist type bolt, modern slide bolt, chain receiver on door

Heating
- 1 radiator, 5 tube, 12 fin, 2'11" high

Lighting
- electric ceiling fixture

Electrical
- 1 duplex outlet
- 6 wall switches (controls most lights in house)
- battery smoke detector

Features
- pine staircase with oak top hand rail

Recommendations
- remove inappropriate hardware
- restore to original hall/pantry, if possible, and as recommended by historic furnishings plan

119, Laundry

Floor
- concrete

Walls
- painted brick

Ceiling
- painted plaster

Windows
- 2/2-double-hung, painted, iron bars on exterior

Doors
- 4-panel, trim type T12, painted

Hardware
- decorative steeple hinges, mortise lock with black porcelain knob interior, white porcelain knob exterior

Heating
- remains of old unused steam piping
- 1942 steam piping

Lighting
- ceiling light

Electrical
- 2 duplex outlets
- 2 220-volt outlets

Plumbing
- "cast stone" wash tub with cast-iron legs and oak rim

Recommendations
- do not remove wash tub

120, Office (Butlers Pantry)

Floor
- carpet over wood

Walls
- painted plaster, except tile wainscot on east
- tile wainscot, white glazed tile, base yellow/orange glazed tile

Ceiling
- beaded board T&G, boxed beams

Moldings
- base type B5, pine

Windows
- 2/2-double-hung, trim type T8, pine with dark stain, corner blocks

Doors
- glazed panel and 2 wood panels, trim type T8, pine with dark stain, corner blocks

Hardware
- double swinging hinges but stop installed, push plate, modern cylindrical lockset

Heating
- 1 radiator, 6 tube, 16 fin

Lighting
- 3 double bullet lights on ceiling

Electrical
- 2 light switches
- wire mold to conduit
- telephone outlet

Features
- wall cabinets, north wall; glass doors with shelves above and drawers below (match closely with design of cabinet in room 117)

Recommendations
- remove lights, replace with more appropriate lighting
- remove telephone
- restore historic sink on east wall
- remove lock and stop on door
- restore floor

121, Gift Shop

Floor
- painted concrete

Walls
- painted brick

Ceiling
- beaded edge T&G, dark stained pine
- exposed solid and laminated beams stained dark

Windows
- 3 2/2-double-hung, 1 1/2-double-hung, trim type T12, painted

Doors
- north door, 4-panel, arched head, trim type T12, painted

Hardware
- north door, center hinge remains of decorative steeple hinge, top and bottom plain ball-tipped hinges, mortise lock with white porcelain knobs, modern slide bolt, rim lock (Ilco)

Lighting
- 8 2-tube 4' fluorescent lights
- 1 incandescent light

Electrical
- 4 duplex outlets
- exposed conduit on ceiling and walls

Recommendations
- construct ramp

122, Toilet

Floor
- black and white, 9" x 9", asphalt type tile over wood over concrete

Walls
- west and north painted brick
- east and south painted fiberboard over beaded edge T&G board

Ceiling
- dark stained pine beaded edge T&G board

Doors
- beaded board exterior and fiberboard interior

Hardware
- mortise lock with black porcelain knobs

Lighting
- ceiling light

Electrical
- 1 switch (for light)

Plumbing
- toilet and lavatory
- exposed supply, drain and vent piping

Recommendations
- retrofit for handicapped

123, Boiler Room

Floor
- probably concrete
- surface below level of gift shop

Walls
- west painted brick
- north beaded board
- east asbestos board with perforated metal screen above

Ceiling
- gypsum board with insulation over beaded edge ceiling above

Doors
- fiberboard

Hardware
- sliding door hardware

Heating
- oil-fired boiler converted to gas, insulated with friable asbestos insulation
- labeled "American and Standard Sanitary steam, oil fired, boiler"

Recommendations
- provide asbestos abatement
- see discussion, "Mechanical Systems"

201, Bedroom

Floor
- pine random width T&G, 2½" to 4", run NS, floor damaged from gate, this is believed to be the original 1880 flooring

Walls
- wallpaper over plaster

Ceiling
- wallpaper over plaster, moisture problem above window

Moldings
- base type B6, painted
- picture mold type M2, painted

Windows
- 3 2/2-double-hung, trim type T2, painted, mitered corners

Doors
- east door, 4-panel, trim type T2, painted, mitered corners

Hardware
- east door, plain 3-knuckle hinge, mortise lock with white porcelain knobs

Fireplace
- no mantel, but an unconnected cast-iron coal stove remains

Heating
- supply air south of chimney

Lighting
- converted gas swinging wall fixture
- wall sconce, 1944

Electrical
- 1 duplex outlet

Recommendations
- remove light, replace

202, Closet

Floor
- pine random width T&G, 2½" to 4", run NS

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B3, painted
- hook strip type H1

Doors
- removed, trim type T3, painted, corners butted

Hardware
- half of plain 3-knuckle hinge and strike remain

Features
- built in bureau, 3-drawer (similar to room 211), probably added in 1904

Recommendations
- replace door

203, Bedroom

Floor
- pine random width T&G, 2½" to 4¼", some patches installed with screws, some damage by moving furniture

Walls
- wallpaper over plaster

Ceiling
- wallpaper over plaster

Moldings
- base type B6 painted
- picture mold type M2, bamboo, painted

Windows
- 1 2/2-double-hung, trim type T10, painted, mitered corners
- 1 6/6-double-hung, trim type T10, painted, mitered corners

Doors
- east, door to closet removed, trim type T10, painted, mitered corners
- south, large opening between room 201 and room 203, no evidence of door ever being there, trim type T10, painted, mitered corners

Hardware
- closet door, half of plain 3-knuckle hinge and strike remain

Heating
- supply air on center of north side

Lighting
- converted gas swinging wall fixture

Recommendations
- replace closet door

204, Closet

Floor
- pine random width T&G, 2½" to 4", run NS, nails from 1880 carpet runner from hallway still there just east of threshold

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B2, painted
- hook strip type H3, painted, strip on 3 walls but hooks removed
- cornice on three sided (no east), type C7, painted, cornice runs through plaster on east wall to hall

Doors
- door removed, trim type T2, painted mitered corners, threshold

Hardware
- see room 203

Recommendations
- replace door

205, Hall

Floor
- oak alternating width T&G, 2½" and 3", run NS

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster, cracked ceiling, large EW crack across ceiling

Moldings
- base type B2, except at top of stairwell to north wall, painted
- base type B1, top of stairwell to north wall, painted (unpainted on stairway)
- cornice (picture mold) type C7, painted

Windows
- 1 2/2-double-hung, trim type T2, painted, mitered corners
- 1 6/6-double-hung, trim type T2, painted, mitered corners

Doors
- doorway trim type T2, painted, mitered corners

Lighting
- converted gaslight ceiling chandelier, 4-arm

Electrical
- call button by door of room 208

Features
- 1880 oak staircase

Recommendations
- as recommended by historic furnishings plan

206, Office

Floor
- oak alternating width T&G, 2½" and 3", threshold removed

Walls
- burlap wall covering on plaster, upper wall painted over, lower wall has original coloring but not painted
- side of chimney has remaining sample of 1885/86 wallpaper

Ceiling
- wallpaper on plaster

Moldings
- base type B6, painted
- chair rail type R6, painted
- cornice type C5, painted

Windows
- 2 6/6-double-hung, trim type, painted, mitered corners

Doors
- 4-panel, trim type T2, painted, mitered corners

Hardware
- plain 3-knuckle hinges, mortised lock with white porcelain knob

Fireplace
- 1885/86 mantel, cherry, carved "In Memorium," tile surround and hearth, gas burner, in 1880 room had coal stove

Lighting
- converted gas swinging arm wall lamp
- double spot lamp fixture above door

Electrical
- 3 duplex outlets

Features
- NW corner of chair rail is widened into a diagonal shelf

Recommendations
- remove chair rail and burlap wallpaper
- restore picture mold and reproduce historic wallpaper

- leave an area of the original wallpaper

207, Hall

Floor
- oak random width T&G, 2½" to 3¼", run NS, numerous nail marks at entry to bedrooms from carpet runners

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base north wall type B6, painted
- base south and east wall type B2, painted
- cornice type C7, painted

Doors
- doorway trim type T2, painted, mitered corners, west and north doorways have arched infills at top

Heating
- supply air in SW corner

Lighting
- 2 double-light wall sconces, 1944
- cover plate in ceiling indicated that there was probably once a ceiling fixture

Recommendations
- as recommended by historic furnishings plan

208, Lucretia Garfield Bedroom

Floor
- oak random width T&G, 2½" to 3", run EW

Walls
- wallpaper on plaster, cracks

Ceiling
- wallpaper on plaster, numerous cracks in ceiling and water staining

Moldings
- base type B6, painted, except type B2 north of fireplace to door
- picture mold type M3, gilded (original finish)

Windows
- 3 2/2-double-hung, trim type T2, painted, mitered corners, weathered sash, alligatored paint, molding added for sealing tight a lower sash or to hold screen

Doors
- west door, 4-panel, trim type T2, painted, mitered corners
- east door, 4-panel, trim type T11, painted, mitered corners
- closet door, door removed, trim type T2, hardware holes patched

Hardware
- west door, plain 3-knuckle hinge, mortise lock with white porcelain knobs
- west door, plain ball-tipped hinge, mortise lock with white porcelain knobs

Fireplace
- 1904 mantel, Colonial Revival style, flat arched brick opening, tile hearth, sides of mantel are ventilated, gas supply and fixture, mantel is separating from wall, left side of mantel has wallpaper run through behind 3" or 4", right side of mantel wallpaper is scribed to profile

Heating
- supply air NW corner

Lighting
- converted gas wall-hung chandelier, 3-arm
- wall sconce, 1944

Electrical
- 2 outlets

Recommendations
- replace closet door

209, Hall

Floor
- pine random width T&G, 2" to 2½", run EW, stained dark, poor condition, many boards starting to splinter

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B2, painted
- picture mold type M4, painted

Doors
- north door, 4-panel, trim type T2, painted, mitered corners
- west door, 4-panel, trim type T11, painted mitered
- closet door, 4-panel, trim type T3, painted mitered
- east doorway, no door, trim type T2, arched infill at top

Hardware
- north door, plain steeple hinges, mortise lock with white porcelain knobs
- west door, see room 208
- closet, plain 3-knuckle hinge, mortise lock with white porcelain knobs

Recommendations
- as recommended by historic furnishings plan

210, Closet

Floor
- oak random width T&G, 2½" to 3", run EW

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B3, painted
- hook strip type H3, painted

Features
- 2 levels of hook strips on 3 sides

Recommendations
- as recommended by historic furnishings plan

211, Closet

Floor
- pine T&G, south 5¼" wide boards, north 3" to 4" random width, run EW, ¾" lower than room 208 floor, painted, paint build-up thicker (ghost) north of where north wall used to be

Walls
- wallpaper on plaster, wide cracks in plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B7, painted
- hook strip H3, painted, top strip 4 sides partially original to 1880, bottom strip 2 sides newer

Door
- door removed, trim type T3, painted, butted corners, holes from hinges patched

Hardware
- strike remains

Features
- 3-drawer built-in bureau, oak drawers and pine frame, same as room 202, probably added in 1904

Recommendations
- as recommended by historic furnishings plan

212, Closet

Floor
- pine T&G, 5¼" wide, painted, 1¼" below floor in room 213

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B7, painted
- hook strip type H3, painted, 3 walls

Doors
- door removed, trim type T3, painted, butted corners, holes from hinges patched

Hardware
- strike remains

Features
- 1 shelf

Recommendations
- replace door

213, Bedroom

Floor
- pine T&G, run EW, stained dark
- north 4' of room 3¼" wide
- south, 2" wide
- floor cut and patched north side of fireplace
- floor poor condition by closet and by windows

Walls
- wallpaper on plaster, large cracks both sides of fireplace

Ceiling
- wallpaper on plaster, cracks all over ending short of wall

Moldings
- base type B6, painted
- picture mold type M4, painted

Windows
- 3 2/2-double-hung, trim type T2, painted, mitered corners

- 1 single-hung, multi-pane border sash, trim type T10, installed approximately 1903

Doors
- west doorway, trim type T10, painted, mitered corners, arched infill
- closet, door removed, trim type T10, painted, mitered corners

Fireplace
- 1904 mantel, Colonial Revival style, flat arched brick opening, tile hearth, sides of mantel are ventilated, gas supply and fixture, mantel is separating (pulling away) from wall

Heating
- supply air NW corner

Lighting
- converted gas wall chandelier, 3-arm

Electrical
- 3 outlets

Recommendations
- replace closet door

214, Bathroom

Floor
- oak random width T&G, 2½" to 3½", run EW, painted, floor level to top of threshold

Walls
- painted wallpaper on plaster

Ceiling
- painted wallpaper on plaster

Moldings
- base type B6, painted
- cornice, on north wall only, type

Windows
- 1 single-hung, multipane border sash, trim type T10, installed approx 1903

Doors
- 4-panel, trim type T10, painted, mitered corners, operable transom with 2-light sash

Hardware
- plain 3-knuckle hinge, mortise lock with white porcelain knobs

Heating
- supply air SW corner

Lighting
- converted gas 3-arm ceiling fixture
- remains of 2 wall fixtures, south wall

Electrical
- 2 duplex outlets

Features
- framed opening north wall, now has aluminum frame glass door for showcase, most likely was once a bureau similar to room 113

Recommendations
- restore bathroom to 1904 configuration, if possible, and as recommended by historic furnishings plan

215, Hall

Floor
- oak random width T&G, 2" to 3", run NS, nail holes from old runners, appears to be random replacement boards

Walls
- wallpaper on plaster, major crack at stair, water staining at window

Ceiling
- wallpaper on plaster

Moldings
- base type B4, oak
- cornice type C8, oak

Windows
- 1 1/1-double-hung, trim type T9, pine, scored corner blocks

Doors
- doorways, trim type T6, oak

Lighting
- converted gas ceiling chandelier, 3-arm

Electrical
- 2 duplex outlets

Features
- oak staircase with carved newel posts

Recommendations
- as recommended in historic furnishings plan

216, Bedroom

Floor
- pine random width T&G, 2" to 2½", run NS, stained dark

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster, numerous cracks

Moldings
- base type B5, painted
- cornice type M2, gilded bamboo

Windows
- 1 2/2-double-hung, trim type T9, painted, scored corner blocks, 1880 window
- pair of 1/1-double-hung, trim type T9, painted, scored corner blocks, 1885/86 window

Doors
- west door, door removed, trim type T9, painted, scored corner blocks
- closet, trim type T9, painted, scored corner blocks

Hardware
- west door, plain steeple hinges

Fireplace
- 1880-style mantel, cherry, glazed tile surround and hearth, gas removed; mantel may have been moved to present location in 1885 due to alterations in room

Heating
- supply air, wall register SE corner

Lighting
- 1 converted gas wall chandelier, 3-arm
- 2 converted gas swinging wall lamps, one each side of fireplace

Electrical
- 3 duplex outlets

Features
- drawer, built-in bureau

Recommendations
- leave room door off

217, Closet

Floor
- pine random width T&G, 2" to 2½", run EW, stained dark

Walls
- wallpaper on plaster

Ceiling
- wallpaper on plaster

Moldings
- base type B7, painted
- hook strip type H3, 4 walls

Doors
- 4-panel, trim type T10 modified (without rounded corner), painted, mitered corners

Hardware
- plain steeple hinges, mortise lock with white porcelain knobs

Heating
- duct boxed in wood across floor, rises from NE corner of room 108

Lighting
- modern ceramic base wall light with pull chain

Features
- shelf

Recommendations
- as recommended in historic furnishings plan

218, Hall

Floor
- oak T&G, 2", run NS

Walls
- lower wall, paneled oak wainscot
- upper wall, wallpaper on plaster

Ceiling
- paneled oak

Moldings
- base type B4, oak
- cornice C8, oak

Windows
- pair of 1/1-double-hung, trim type T6, oak, upper sash of each window has stained glass

Doors
- north door, 14-panel oak, trim type T6, oak

Hardware
- north door, ball hinges, mortise lock with flat metal knob

Lighting
- converted gas ceiling pendant (1 light)

Electrical
- 1 duplex outlet
- call button by library door

Recommendations
- as recommended in historic furnishings plan

228, Memorial Library

Floor
- oak random width T&G, 2-1/8" to 2¾", run NS, oak border -mitered at corners

Walls
- lower wall, paneled oak/bookcases with drawers at bottom, blond finish, wire added to bookcases in 1936, bookcases sag from weight of books
- upper wall, painted canvas on plaster

Ceiling
- paneled oak, blond finish, some decorative carved panels, boxed beams, excellent craftsmanship, beams sagging, drying wood has opened some joints

Windows
- north bay window, 3 large and 2 small double-hung sash, oak trim
- east bay window, 5 equal sized curved double-hung sash, oak trim
- east, an individual and a pair of single fixed windows, 1 light, oak trim
- south pair 1/1-double-hung windows, oak trim

Doors
- entrance, pair of bifold doors, 7 panels in each leaf, oak trim
- vault door, 14-panel oak, oak trim, inner steel vault door (decoratively painted)

Hardware
- entrance door, ball hinge, mortise lock with flat metal knobs, 3 leaves have mortised slide bolts

Fireplace
- carved oak mantel, arched brick surround, tile hearth, large mirror over mantel

Heating
- 2 radiators with covers, 1 at north bay window, 1 at south windows, these were installed in 1942

Lighting
- 3 converted gas ceiling chandeliers, 1 6-arm and center dome light installed 1885/86, 1 4-arm and 1 3-arm ceiling chandeliers added at a later unknown date
- 4 converted gas 2-light wall sconces installed 1885/86

Recommendations
- as recommended in historic furnishings plan

General Recommendations

Remove all gates at doorways to rooms and repair the damage to finishes they have caused. If a visual barrier is needed to indicate that entry into the room is not permitted, than the silk rope which is used on the ground floor is a more sensitive approach and less damaging to the fabric. The historical record indicates that this has been recommended in the past but only partially implemented, as can be seen today by the mixture of ropes and gates. As recommended in the "Security Systems" section, intrusion protection devices will provide additional security in these rooms.

In order to ensure that all asbestos is located, a qualified inspector should be obtained to conduct an investigation and prepare a report of his findings and recommendations.

Walls and Ceilings, Plaster

Plaster is the predominant wall and ceiling surface material used in the house. All of the plaster in both the 1880 portion of the house and the 1885 addition is on sawn lath, with the exception of the memorial library (room 228), butlers pantry (120), and wash room ceiling (119) where the plaster was applied directly onto the masonry. The condition of the plaster varies from good to poor. The worst condition is cracking of the walls and ceilings. The cracking appears to be due to various structural conditions including shifting of the walls due to deterioration, excessive deflection due to overloading, underdesign, and alterations. There appears to be no breakdown of the plaster in the lath attachment, keying, plaster layer bonding, or chalking/softening of the surface.

Recommendations. The recommended procedure for repairing cracks in the walls and ceilings is to apply a treatment called GLID-WALL to these surfaces. This system is a combination of Johns-Manville fiberglass materials and Glidden coatings, resulting in a dimensionably stable rehabilitated wall surface without removing the historic fabric, which also provides an effective vapor barrier (see discussion, "Thermal and Moisture Protection"). The material applied does not substantially add to the wall thickness or change its appearance, other than the surface texture is slightly altered. Since the interior walls are all covered with wallpaper, this will not be a problem. Since this same material also provides a vapor barrier, walls to be treated include cracked walls and ceilings as well as exterior or attic walls and ceilings.

Walls and Ceilings, Wallpaper

Nearly all of the wall and ceiling surfaces in the house that are not finished wood have wall coverings of paper, burlap, or canvas. This appears to be the case from the construction of the house in 1880 and continued on in the 1885 addition and thereafter. The *Interior Finishes Analysis* revealed that no paint was found underneath any of the papers, indicating that the walls were always sheathed with wallpapers. Unfortunately, it appears that all of the historic papers were stripped in 1936 when the rooms were repapered. Historic papers such as those seen in the historic photographs were not found, with the exception of the one in the office (room 206) which was previously uncovered by the Lake County Historical Society. Some rooms were papered again in 1963, without stripping off the previous paper. The last time any papering was known to have been done is 1979 when the paper in room 103 was semi-accurately reproduced. It is believed the paper that was copied in this room was installed in 1904. The only other old paper is in room 208 and also dates from 1904.

It appears that care was taken to select some papers that were at least similar in design when major repapering was accomplished in 1936. An example of this can be seen when comparing the ceiling paper depicted in historic photographs such as HP-69, which shows a snowflake pattern, against the present ceiling paper which also has a snowflake pattern but is smaller in scale. Of course, the historic pattern was not always followed, as can be seen by comparing the marbleized pattern in the historic photograph cited above with the present gold and white embossed paper.

Another theory we have regarding the wallpaper patterns, is that the historical society may have followed the matching of patterns above and below the chair rail (or picture mold) in rooms with this feature. Some rooms today utilize different papers (or wall coverings such as burlap) on the lower

part of the wall than they do on the upper part, such as in the reception room (110). Others have the same paper above and below the chair rail, such as in the dining room. No evidence (such as a photograph) has been discovered that proves that they followed historic precedent in the application of the papers but it is suspected that they did. This same theory applies to rooms with picture mold (and hook strips in closets) where the wallpaper changes to the ceiling paper.

The only other clue of historic wallpaper appearance is from the *Historic Resource Study* (page 128) which listed some receipted bills paid by Lucretia Garfield in November 1885. She spent $119.63 for "4½ Rolls Red Morris paper for the Blue Room," 96 feet of "Gilt (gilded) Moulding," 113 feet "Bamboo Moulding for the Pink Bedroom." The blue room, as documented by the *Interior Finishes Analysis*, was Lucretia's bedroom (208) and the pink room was Mollie's bedroom (201). Wallpaper manufactured by William Morris was very popular in the 1880s. Some of the Morris designs are being reproduced today, since they have once again become popular.

The existing condition of wallpapers varies from room to room. In general, many of the plaster walls underneath the paper are cracked and should be repaired. Condition and characteristics of the individual wallpapers are described in the *Interior Finishes Analysis*.

Recommendations. Since the papers are not of the historic period, a number of walls and ceilings will be opened up to reinforce structural members, hide wiring and piping systems for alarm and fire suppression systems, repair cracked plaster, and install a vapor barrier, it is recommended to carefully remove the wallpapers in all the rooms to be interpreted (with the possible exception of 103 and 208). This will allow an intensive and comprehensive search for remnants of historic papers or paint in these rooms. In a couple of the rooms where we have a photograph of the historic paper, such as the parlor or the reception hall upper wall, finding even a small fragment of the 1885 wallpaper will give us valuable information on the color. It is still very possible that fragments of these earlier papers remain since it is difficult to strip out every shred of paper before repapering and was generally not necessary. They are often found in corners and adjacent to or behind woodwork such as door and window trim. Pieces of all papers, even the later papers, should be saved for documentation purposes. Some papers could be left in place as a historical record such as in the closets. The services of a skilled researcher is required to do this work. It is also strongly advised that some of the historic 1885-86 paper in room 206 be left on the walls.

This work should be done in all rooms where the information can be found to support restoration of the wallpaper. If information cannot be found, then a wallpaper of the period matching the probable original type of design should be used. The interpretive prospectus and the historic furnishings plan will make additional recommendations as to the restoration year and matching period papers.

Walls and Ceilings, Wood

Wood ceilings occur on the first floor in the hall (room 112), butlers pantry (room 120), gift shop (121), toilet (room 122), and boiler room (room 123). All of these ceilings are the underside of the beaded-edge, tongue-and-groove decking which spans the large floor beams of the library above. The more finished rooms, such as the hall (room 112), hall (room 115) and butlers pantry, have boxed ceiling beams.

On the second floor, wood ceilings occur at the stair landing (room 218, just outside the library) and in the library. These are decorative blond oak-paneled and boxed-beam ceilings. Some of the panels are carved such as adjacent to the location of the main light fixtures.

Woodwork and Trim, General

The original appearance of the 1880 and 1885 interior natural pine woodwork was a rich, dark, reddish, smooth, glossy finish. It was good enough to fool the journalists of the 1880s as one remarked that "the rooms are finished in hardwoods."[99] It is still possible to see the original finish in some of the smaller recesses of the woodwork where it was difficult to remove (ca. 1936-44). The best remaining example of this finish is in room 116 in the closet at the south west corner. It did not

deteriorate or get stripped in this protected place, as it did at other locations. For example, it appears that the finish in the vestibule (room 118) is the same finish but it has darkened and lost its gloss. Because of this deterioration some rooms, such as the front vestibule (room 101), front hall (room 102), and the dining room (room 111), were stripped and refinished. At some locations, such as the front hall (room 102), the woodwork was left much lighter in color after stripping, more of a middle tawny brown. Much of the newer finish is very deteriorated, leaving the surface very rough and coagulated. In some places it is less deteriorated, with the surface lacquer merely cracked and crazed.

Woodwork and Trim, Wainscot

The only room where evidence remains of a wainscot in the 1880 house is the carriage porch vestibule. This painted, beaded-edge board paneling does not occur anywhere else in the house. The finish analysis revealed paint layers preceding the 1885 work on this paneling. This gives credence to the theory that the wainscoting lined a bathroom at this location in 1880, as shown on the published floor plan in 1881 (see plate HP-12). The door and window trim in this room date from 1885.

Blond oak wainscoting lines the walls of the main stair to the second floor, the second-floor stair landing, and the memorial library (at the few locations where there is not a bookcase or a window). All of the blond oak woodwork was part of the 1885 work and reflects the Queen Anne style which was popular at that time. Some of the wainscot and ceiling panels on the main stair and second floor have been warped by leaks in the roof.

Other walls with wooden wainscot are the toilet (room 113), lavatory (room 114), hall (room 115, once a part of the kitchen) and the living room (room 116, formerly the kitchen). The toilet and lavatory wainscots are thought to be original to the 1885 work, but there is also evidence to indicate some later alteration. The alterations are not readily apparent, but there were some changes made here since there is a date of "2-11-'14" marked on the underside of the lavatory, a ghost profile on the west wall (possibly the former location of a bathtub), and the door swing of this room has been reversed. This wainscot consists of flat panels with battens to cover the joints. The alterations to the wainscot are believed to be repairs to hide the changes to the fixtures of this room.

The old kitchen space (room 116) has similar wainscoting, but it has been altered. A remnant of wainscoting remains in the closet at the southwest corner that may be original to this room. It has V-groove paneling in the wainscot. More research into this area needs to be accomplished in order to determine the original appearance.

Rooms with a tile wainscot dating to 1885 are the toilet (room 113) and butlers pantry (room 120). In each of these rooms, the tile only occurs on a portion of one wall where there is, or was, a fixture with water. These approximately 6-inch by 6-inch ceramic tiles are white with a band of yellow ocher tiles at the floor to appear as a base. The top and the side that does not meet the wall are ended with a wooden cap.

It is suspected that there also was a tile wainscot in the kitchen, at least behind the sinks and maybe by the range. From peering behind the existing paneling on the upper part of the south wall where the sinks used to be, the ghost of a wainscot cap is evident at 4 feet 2½ inches above the floor, the same height as the wainscot in the butlers pantry. The lower part of this wall has two layers of plaster. The second layer, possibly, was added to level the wall after tile was removed. More research is required to see if additional evidence of these wall surfaces can be determined.

Woodwork and Trim, Chair Rail and Hook Strip

Various rooms that do not have wainscoting have a chair rail. In most of these rooms, this is used to accent the lower wall by the addition of a molding, and to create a dividing line for the change to a different wall covering. An example of this is in the reception hall (room 110), but it also occurs in many other rooms. Some rooms, such as the vestibule (room 101) and dining room (room 111), have the same paper above and below the chair rail.

A similar technique is sometimes used at the upper part of the wall where a picture mold (or, in the case of a closet, a hook strip) is used as a divider to change from the wallpaper to the ceiling paper. An example of this occurs in James A. Garfield's first-floor bedroom (room 103) and closet (room 104). All of the family bedrooms on the first and second floors (except room 216) exhibit this feature.

Recommendations. In general the woodwork is in good condition, although it will all require refinishing as will be discussed under wood finishes.

All of the warped panels of the blond wainscot and ceilings should be repaired. The damaged panels, plus a few more, will have to be removed to allow for structural reinforcing of the stair and the exterior wall. At that time, they can be flattened and repaired for reinstallation. Consideration could be given to installing a gypsum drywall or plywood backup of the paneled area, especially at the exterior walls.

Additional research in the kitchen is recommended to find the original wall configuration, finishes, and fixture locations. In order to accomplish this, a comprehensive investigation should be done, preceded by the removal of the wall-to-wall carpet, upper paneling on the wall, and the lowered wood ceiling.

Woodwork and Trim, Mantels

The blond oak fireplace mantels in the reception room and library were constructed in 1885, and very much reflect the then popular Queen Anne style. Both mantels have a carved floral design as decorative elements. The library mantel is larger with piers at each side rising up to the beamed ceiling, incorporating a large bevel-edged mirror. These mantels are in good condition but still have some of the same problems noted in "Woodwork and Trim, Finishes," fourth paragraph.

All of the natural finish wood mantels on the first two floors (except for the oak ones of the reception room and the library discussed in the previous paragraph), of which there are five, are in good condition and retain their original clear finish. The species of wood used is cherry on both the 1880 and the 1885 mantels.

The mantel located in room 103 has the original woodwork from the parlor fireplace installed in 1880. By comparing plate HP-56 (of the mantel in the parlor) to the present mantel in 103, it is obvious they are of the same design. The historic photo also shows shelves with a base that rested on top of the mantel and the mantel in room 103 has the ghost of those shelves. Additionally, the shape of the firebox and brick fireplace facing also do not conform to the appearance of the three unaltered 1880 fireplaces.

There are three mantels in the house that are painted. These were all installed ca. 1904 and are located in rooms 106, 208, and 213. Their design reflects the changing taste towards the more chaste style of Federal Revival, popular at the turn of the century. It is believed that the bedrooms had no fireplaces prior to the installation of the mantels in rooms 208 and 213; they were probably heated by stoves similar to the one found in room 201, or as pictured in the office (room 206) in plate HP-63. The addition of these two mantels reflects the changes to upgrade the house to make it more comfortable for Lucretia Garfield who still spent summers at Lawnfield. The remodeling of room 106, which included the mantel, was more comprehensive and was related to the replacement design for the front (south) porch and south wall of the parlor where two windows and an entry door were replaced by a new bay window (see discussion, "South Porch").

The paint on all three of these mantels is beginning to deteriorate, as evidenced by some crazing and cracking. Two of the mantels (in rooms 208 and 213) are pulling away from the wall. The separation exceeds 1 inch at the top on both of them. The exact cause of this separation has not been determined, but it is probably related to the structural consolidation of the frame walls in relation to the stable masonry (see discussion, "Structural"). The bedroom mantels will have to be removed and then reattached after the walls have been stabilized. They should also be repainted. The parlor mantel should be removed and replaced with the original 1880 mantel presently located in room 103.

Woodwork and Trim, Cabinetry

Historic cabinetry locations are as listed below. Descriptions of cabinets are in room descriptions.

1. Room 111, dining room, 1880. Located on both sides of the fireplace and above the mantel on the south wall; glass door china cabinets and base cabinets for storage of dishes, linens, and serving dishes

2. Room 113, toilet, 1885. Located on the south wall; bureau for linen storage.

3. Room 117, kitchen, 1885. Located on the east wall; tall cabinet with shelves, possibly food storage, from original kitchen or pantry.

4. Room 120, office, 1885. Located on the north wall; glass door china cabinets and base cabinets for storage of dishes, linens, and serving dishes.

5. Room 202, closet, ca. 1904. Located on the north wall; bureau for clothes storage.

6. Room 211, closet, ca. 1904. Located on the north wall; bureau for clothes storage.

7. Room 215, bedroom, 1885. Located on the south wall; bureau for linen storage.

8. Room 228, memorial library, 1885. Located on all walls; bookshelves.

Missing cabinetry locations are listed below.

1. Room 106, parlor. Located on the east wall; shelves above mantel and bookcase north of mantel (mantel presently in room 103 to be moved to this room); design details to be similar to dining room.

2. Room 214, bathroom. Located on north wall; bureau with drawer for linen storage; design details for cabinet and room need more research.

Recommendations. Replace 1880 and 1885 cabinetry missing from the first and second floors.

Woodwork and Trim, Changes to Woodwork

Although it is not documented anywhere, it is suspected that the ceilings of the front hall (room 102) and dining room (111) have been replaced, probably occurring during the late 1930s or early 40s. This is suspected because the cornice in these two rooms does not appear to be original, as the other woodwork seems to be. The cornice molding at the ceilings is oak, while the trim and bases are pine. The pine door and base trim are the same in both rooms. The profile of the oak cornice is quite unique, unlike any other in character used in the house, at any period. The finish on the oak cornice is in excellent condition, while the other woodwork finish is quite deteriorated. The probable original profile for the cornice in these rooms is the same as the one used in the vestibule, room 101, cornice profile type C1. The door and base moldings of this room matches the other two rooms but it still has its original cornice.

Since the cornice in the front hall and dining room appear to have been changed, it seems logical that the ceiling was replaced because no other explanation of why the cornice was removed in these rooms seems likely. The condition of the ceiling plaster may have been deteriorated or other unspecified repairs may have been made above the ceiling.

The woodwork in the parlor (room 106), including the cornice, door trim, window trim, base, and fireplace, were all removed and replaced with different profile moldings in 1904. Information on the historical appearance of these items from historical photographs and by comparison to existing identical elements in other rooms will allow for accurate restoration of these features.

Garfield's second-floor office (room 206) has a chair rail which does not show in the 1887 photograph of this room. It is suspected that this room was redecorated (the original picture mold removed and a new cornice, chair rail, and burlap wall covering added) around 1904.

In other locations where changes were made in the original 1880 work, such as the 1885 addition or the second-floor 1903/1904 work, care was taken to match the original moldings. Only a few exceptions occur, and they are noted in the room descriptions. Also, in the upstairs hall (207), the base installed in 1880 on the north wall does not match the one used on the south wall. This is the only example found of mismatched woodwork being installed in the original construction.

Recommendations. Replace the cornice in the front hall (room 102) and the dining room (room 111) with one matching the original profile type CP-1 (see plates EC-15 and EC-16).

Restore the interior of the parlor (room 106) back to the 1885 appearance with its original molding profiles (see discussion, "Room Descriptions").

Remove the chair rail in room 206. Lower the cornice (see plate CP-5) to create the picture mold.

Woodwork and Trim, Finishes

Both painted and natural finishes are used on woodwork in rooms throughout the house. Individually, almost all rooms have the same finish on all of the woodwork, except in some of the rooms that have fireplaces and the two bedrooms that have gilded picture molding. An example of this exception is room 107 where the trim, base, and picture mold are painted, while the fireplace is natural wood.

Painted wall finishes vary from good condition to very deteriorated, but none of them match the historic colors (see the *Interior Finishes Analysis*.[100] Each time a wall was painted the new paint was matched to the dirty, oxidized paint on the wall. The end result is that the present paint is much more yellow than the earlier layers.

Various natural finishes are used on the woodwork throughout the house. In a few remote locations, it appears in its original unaltered state, but almost all is either deteriorated to the point where it looks very different from its original state, or has been stripped and refinished with a different appearance. Most of the refinished woodwork finish is deteriorated

The blond oak woodwork, in general, is still close to its original appearance. It does not appear to have been stripped or refinished, although there is a 1944 file reference to refinishing/rewaxing in the library. From the condition of the wood, this was probably only a rewaxing of the surface. Much of the blond wood today looks very dry, and some shrinkage of boards at the joints is noted. In some areas, the wood looks dirty as dust has settled into the dry open pores of the wood surface. The wood is weathered and is starting to turn grey at areas surrounding some of the windows.

Recommendations. All painted surfaces shall be repainted according to the chosen time period (as determined in the *Interpretive Prospectus* and historic furnishings plan) as recorded in the *Interior Finishes Analysis*. The 1885 oak woodwork all should be refinished as it was originally in the light blond finish. The 1880 natural finish fireplaces, such as the dining room (room 111), mother's bedroom (room 107), or second-floor bedroom (room 216), still appear to have salvageable finishes but need cleaning and protective sealer coats applied. The rest of the 1880 woodwork needs to be stripped and refinished to the original dark red, glossy finish.

Floor Surfaces and Finish, Wood Floors

Floors in the 1880 portion of the house are wood, most of which are finished with a varnish. Floors in the 1885 portion of the house are wood, tile carpet, or concrete. Species of wood used, direction the floor is laid, size and pattern (random width, alternating widths, etc.) are recorded in the room descriptions. The historical documentation indicates that many of the floors were sanded and

refinished in 1936, 1943-44, and 1945-46 (see discussion, "Historical Analysis, Western Reserve Historical Society, 1936-1980" for more detail). Floors that have a finish other than a varnish are listed below.

1. Six of the eight closet floors are painted (rooms 104, 109, 202, 204, 211, and 212).

2. Four of the first-floor rooms are tiled with 9" by 9" asphalt type tiles (rooms 105, 112, 113, and 114).

3. Four of the first-floor rooms have wall-to-wall carpet (rooms 115 - 118).

4. Three of the first-floor rooms have concrete floors (rooms 119, 121, 123

5. Two of the second-floor bedroom floors are painted (rooms 201 and 202).

It is difficult to tell what the historical appearance of the floors was back to 1885. From the remaining evidence it seems likely that in 1880 all the floors were pine. Evidence is stronger on the second floor. Closet 204, which in 1880 was part of the hallway, is pine. It still has nails near the threshold from a carpet runner dating to this time. Room 209 also is pine and was part of the hallway until 1904. The front stair landings and treads are also pine. Only one second-floor bedroom (room 208) and the office were refloored in oak, in addition to the hallways. All other second-floor bedrooms are pine. The pine floors all have areas that are in poor condition indicating that the oak replacement took place in areas that were in worse shape before the other rooms or were more important rooms. The front stair landing and treads are pine even though the rest of the stair details are oak.

The first floor of the 1880 portion of the house has a subfloor of wide pine boards. The western section of this subflooring (where the log joists are) may be the original flooring of the 1832 house. Finish floors of either pine or oak are laid over this subfloor except in the original 1880 closets. When the 1885 work was accomplished oak floors were probably installed in the new and refurbished rooms such as the reception room and the library. To what extent, in intermediate spaces such as hallways the flooring was changed, is not known. It seems logical that all the hallway flooring may have been changed during the 1885 work to tie those spaces together (except room 209) since part of them were new and they tied in with major oak floored spaces such as the reception room and library.

When additional rooms such as 103, 106, 107, 108, 206, and 208 were changed to oak is not known. It is possible that some of these replacements did not come until the 1904 era or even later such as 1944. The bedroom flooring that was replaced with oak is all stained dark, possibly to make it look more like the pine it was replacing. Oak flooring laid in an alternating width pattern such as in the main hallway (102) may be replacement flooring from 1944 or there about, since it mainly occurs in major wear areas such as first- and second-floor hallways but in few original oak floored rooms.

Recommendations. Leave the wood floors the way they are now. Refinish all wood flooring in traffic ways (hallways, the reception room, library, etc.) the same color as present. If a traffic floor is in too poor a condition to refinish because it is worn thin, it should be replaced. After this work is done these floors should not get direct traffic on them anymore. They should all be protected with reproduction carpet runners which keep all the wear on an expendable item.

Floor Surfaces and Finish, Tile Floors

The asphalt type tile floors were probably installed during the late 1930s or early 1940s. It is not known what material or appearance the earlier floor may have had. The existing tile does not have an incompatible or offensive appearance but it is beginning to break up at the entrance to the toilet room and around the toilet.

Recommendations. More investigation will be needed to determine if there is any evidence of the prior material and appearance of these floors.

Floor Surfaces and Finish, Wall-to-Wall Carpet

The former first-floor apartment area and office (butlers pantry) still have carpet on the floor. The age of the carpet is unknown but it is not of the historic period. All of this carpet is within the area recommended for intensive investigation to determine the configuration, appearance and materials of the kitchen.

Recommendations. Remove all the wall to wall carpet to facilitate the investigation of this area of the house.

Stairways

The stairway in room 102 is all that remains of the 1880 period stairs. It contains only one flight, from the first to the second floor. Newel posts, rail, balusters, stringer trim, and enclosure paneling are oak. This is the only known oak woodwork to have existed in the 1880 house. Stair treads and landings were made of pine. Newel posts with finials, turned balusters, trim, and paneling are typical for the 1880s. The woodwork of this stairway is in good condition but may need structural reinforcing because of greater load requirements today (see discussion, "Structural"). The varnished finish of the stairway has deteriorated. All other stairs from this time were removed in 1885. Once the new main stairway was added this one became a secondary means of access to the bedrooms. The window at the landing at bottom of stairway has glazing almost down to the floor. It must have the glazing replaced with safety glass due to danger of a forward fall.

The main stairway starting from the reception room and continuing up to the third floor was a major design feature of the 1885 remodeling work. It is the only stairway in the house that ascends up to the third floor. Carved newel posts, rails, square and turned balusters, raised panel wainscot, paneled ceilings, treads and landings are all of blond oak. The details of the design, as they are in much of the other 1885 work, reflect the Queen Anne style. There have been no alterations to this stairway. From the investigations done to date it is clear that parts of this stairway have undergone movement which have been explained in the "Structural" section. It will need reinforcing to regain its structural integrity. This will require some (and possibly a lot) of the paneling to be removed. The finish on this stairway is beginning to fail. The handrail is not continuous all the way up this rambling stairway; it only covers the open side, not where there are walls.

From room 116 there is a stairway to the basement. There is a door which separates it from room 116. This stairway is utilized for access to the basement service area which is undecorated. It is planned to remain that way. The stairway is in fair condition, mostly being dirty.

In room 118 is a back stairway to the second floor, built as part of the 1885 addition which historically served as access to the servants quarters. The newel post, turned balusters, and stair treads are pine. The handrail is oak and is not continuous to the top (it dies into the ceiling). This stairway also has winders (tapered stair treads) at the top. Public access is not planned, so these shortcomings are not a problem. The finish on this stairway has darkened and the varnish is crazed (as noted in "Woodwork and Trim, General").

Recommendations. All of the woodwork on these stairs requires refinishing. The front stairway needs to be checked for structural reinforcing and the main stairway has been determined to require reinforcing. The exact solution to alleviate the problems on the main stairway cannot be determined until partial demolition has been done.

Doors and Door Hardware, General

Interior doors are generally all wood, raised, four-panel, swinging doors arranged with the panels in a vertical position, two tall ones on top and two shorter ones on the bottom. Exceptions to this style are few but the size of the four panel doors vary (see plate EC-17).

In general, the interior door hardware of the 1880 period follows this pattern.

1. All first-floor doors and room 216 had plain steeple-tipped hinges.
2. All second-floor rooms, except as noted above, had plain three-knuckle hinges.
3. All doors on the first and second floors had mortise locksets/latchsets.
4. Doors opening into the front hallon the first floor had flat metal knobs.
5. All other doors, other than the front hall doors in 1880, had white porcelain knobs.

Door finishes are either painted or natural matching the other woodwork in the room. Interior doors are all in good condition.

A number of room doors have been removed. Some may have been done earlier by the family remodeling (possibly) 1904). Many of these seem to be closet doors. Some closet doors have had their hinges removed and filled in while others still have half a hinge remaining. The strike from the latch remains on all the closet doors. It appears that closet doors just went out of style. All of these closets without doors are covered by a cloth drape. The cloth drapes also were used in the reception room in the doors to the parlor and dining room. These doors were not removed since they were not visible in their pockets. None of the removed doors seems to be stored in the house.

A number of other doors besides the closet doors have also been removed. These seem to have been done by Lake County Historical Society to facilitate the tour of the house. There are some four-panel doors stored in the basement. From the hardware they all seem to date to the 1885 period. It is not known from which openings these doors might have been removed from.

Doors and Door Hardware, Alterations in 1885

1. Interior doors in the new addition had decorative steeple hinges and mortise locksets/latchsets with black porcelain knobs except in the 14-panel oak doors in and adjacent to the library.
2. Oak doors in and adjacent to the library had ball-tipped hinges, and mortise locksets with flat metal knobs.
3. Pocket doors, double swinging doors and the entrance door to the carriage porch had unique hardware (see discussion, "Room Descriptions").

Doors and Door Hardware, Alterations in 1904

1. Alterations were small enough so that removed hardware was probably reused but not necessarily in the same use pattern as the original hardware was installed.

Since 1904 there have been only minor subsequent additions to door hardware such as locks added to a few doors (noted in the room descriptions) and a minor amount of substituting black knobs for white ones and vice versa. In general, the hardware is in good condition and operational.

Recommendations. Remove all nonhistoric hardware such as additional door locks. Restore all historic hardware to operational condition (some is gummed-up or otherwise stiff and slow acting). On parts of the building where alterations back to earlier historic configuration is planned, reuse historic hardware in the historic pattern. In addition, some historic hardware may have to be reproduced for the restored areas of the building.

Doors and Door Hardware, Non-Four-Panel Swinging Doors

Front vestibule (room 101) to front hall (room 102), 1880, pair of two-panel doors, one tall glazed panel on top and a small horizontal decorative raised panel on the bottom.

Double doors from reception room (110 to parlor 106), 1885, pair of six raised panel (a similar style but three panels across because they are much wider than the other doors) pocket doors. The parlor side is painted but the reception room side is pine, even though the room is all oak woodwork.

Double doors from reception room to dining room, 1885, pair of four raised panel pocket doors, pine both sides.

Door from hall (115) to office (121), three flat panels, one horizontal glass panel at top and two vertical panels on the bottom, originally double swinging but now has stop installed to swing into office only.

Hall (118) to hall (119), 14 raised panels, oak, 10 horizontal small panels arranged two across at the top and four horizontal somewhat larger panels at the bottom.

Hall (118) to library (228), pair of bifold doors, each leaf 14 raised panels, similar to door above.

Library (228) to vault (227), 14-raised-panel oak outer door similar to above and a metal inner door.

Gas Fireplaces

By 1885, all of the fireplaces were probably fitted with gas fixtures to provide heat in the room. It was at this time that the gas well was drilled on the property and made available for use in the house. None of the fireplaces (1880 and 1885) were designed with large fireboxes to burn wood; the fireboxes are all shallow with small flue openings. The original 1880 fireplaces were probably designed to burn coal. Conversion to gas was comparatively simple to do since the gas heater also did not require a large firebox and flue. In the 1880 part of the house, this was probably the only source of heat in the rooms with fireplaces, but was a supplemental source to the central system in the 1885 addition.

Although gas service in houses was fairly common by 1850, evidence suggests that gas fireplaces did not get popular before the 1880s and 1890s.[101] Until then gas was considered an illuminant, either impractical or uneconomical for other uses. Gas fireplaces did not hit their peak popularity until the first three decades of the 20th century.

Designs of heaters vary but generally fall into two main types. Reflector heaters burn gas in luminous flames and have a silvered backing to reflect the radiated heat. Incandescent heaters use elements that were heated by the gas flame until they became white hot and luminous. This principle was used in gas-fired, simulated coal (and some gas logs) to provide heat and atmosphere without the fuss and dirt of coal or wood. Radiant heaters were the most popular of the incandescent type. Many of these heaters employed bunsen-type burners and fire clay elements, although other fireproof fibers were also used (such as asbestos). All units were promoted by advertising to be cleaner, safer, and more efficient than wood fires.

Some of the original fireplace equipment at the Garfield house still exists, but much of it has been shuffled around to fireplaces other than the original. Below is a listing of some of the known changes of fireplace equipment. Also mesh screens, such as in rooms 206 or 216, were probably not used since there would not have been ash or falling logs in a gas fixture. There would not have been much use for screens even with the earlier coal fixtures. Having tools next to the fireplace was probably more for appearance sake once the fireplaces were converted to gas, although they still show in some of the historic photographs. The tools have been located as follows:

The hearth rail that was originally located in the memorial library fireplace is now in the reception hall.

The reception hall hearth rail is now in the parlor.

Andirons in the reception hall were originally in room 311.

Andirons in the dining room were originally in the reception hall.

Fireplace tools in the dining room were originally in the parlor.

Recommendations. Recommissioning gas fireplaces is a potentially dangerous undertaking (see discussion, "Mechanical Systems"). All fireplaces are disconnected from the gas supply pipe and are no longer necessary to supply heat for the home. It is recommended that the remaining heaters be preserved in place and interpreted along with the other available technology of the time. Any known changes of equipment from one fireplace to another should be restored to its historic location.

Gaslight

The industrial revolution brought in a new type of illumination that eventually became synonymous with the Victorian-era gaslight.[102] During the early years of the 19th century, gaslighting was used primarily for street lighting since many people mistrusted the new light source. Street lighting allowed people to become familiar with it gradually, and by 1850 it was considered to be a necessity. Ten years later, 301 gas companies had been formed around the country and gaslight had become the dominant form of illumination for populated areas. Although the light bulb was perfected by 1878, which started the demise of the gaslight, it did not die out entirely until World War I. In part, this was due to the unreliability of early electrical service.

The gas was generally produced at a centralized works by distilling bituminous coal and, accordingly, was called manufactured or coal gas. Once pressurized at the works, it was delivered to its destination through a network of underground cast-iron mains. At the Garfield house, all of this was unnecessary since the on-site natural gas well provided all of the fuel required at the property. The system was operated by the pressure of the gas as it escaped from the well, although it was regulated by the gas holder (attached to the east side of the carriage house). The Garfields, therefore, never had to have a gas meter, a device of great mistrust and misunderstanding to the folks of the gaslight era.

Gaslight fixtures have their own specialized nomenclature. Bracket lamps are fixtures that are attached to a wall. They may be one-piece stationary units or models with up to three horizontal, movable arms. For example, stationary wall units are used in the library (room 228) while moveable wall fixtures are used in room 201. Portable or table lamps were run by connecting a rubber hose from the gas key assembly of the lamp to an overhead fixture, however, it does not appear that these lamps were used at the Garfield house. Oil lamps continued to be used for table lamps (see plates HS-56 and HS-74). Gas ceiling fixtures can be further classified into three subtypes: drop lamps which have a single center burner (such as room 218); pendants which have one or two arms (none in the house); and chandeliers, or gasoliers, which have three or more arms (such as in room 111). Sometimes the chandeliers are also wall mounted, such as in bedroom 208.

Unlike brackets, which were connected directly to gas pipes, ceiling fixtures usually used a ball and socket assembly to connect the fixture to a gas line mounted in the ceiling. This consisted of two threaded iron pipes about 1 inch long with a rubber ball in between. This assembly greatly reduced the chance of a pipe breaking and leaking when a fixture was disturbed.

Gas winds its way through the tubing of the fixture and is regulated by a cock-and-key assembly. To light a fixture, one would open the key gradually, letting out just enough to ignite it with a match and then adjust the flame to the desired setting. More elaborate systems (such as a torch and key lighter) were used on hard to reach fixtures, but none of these were apparently used at the Garfield house. Once the flame was ignited, burners were needed to spread the flame to produce usable light. Batswing and fishtail burners, which appeared early in the 19th century, remained in use throughout the gaslight era.

Until the gaslight era, interiors were designed for natural light that entered through windows and moved across the room. Gas fixtures were stationary so the layout of room furnishings could become more fixed as it adapted to this new light source.

Ceiling fixtures were not often used in bedrooms. Instead, several brackets would be placed around the room. Likely locations would be at the washstand, on each side of the headboard, and by the bureau and mirror. Horizontally moveable brackets were used where light was needed in more than one place, such as by a dressing table. In the bathroom, one bracket would be placed near the mirror and wash basin, and another near the toilet and bathtub.

In hallways and staircases, fixtures were carefully positioned to avoid accidental damage, and to minimize shadows that might cause someone to trip. Kitchens would have a ceiling fixture over the work table, with brackets located by the sink and stove.

Parlor and dining rooms received more elaborate fixtures, and sometimes both chandeliers and brackets. This occurs in the memorial library (room 228) where fixed brackets complementing the chandelier are used around the perimeter of the room at accent locations, such as on the pilasters at both sides of the fireplace. Even though the two smaller ceiling fixtures in the library match the floral theme of the other fixtures well, they are later additions since they do not show in the 1888 and 1891 photographs. It appears, though, that planning was done for the installation of fixtures at these locations since capped nipples are visible in the above mentioned photographs.

In the dining room, it was essential that the table be well lit. Depending on the size of the room, a four- to eight-arm chandelier would be appropriate. The dining room presently has a six-arm chandelier but, as seen in plate HS-62, it belongs in the reception room. If the fixtures were switched, the present four-arm fixture in the reception hall would still be appropriate in the dining room.

The light produced by a gas flame is harsh and glaring, so glass shades were used to soften the light. Etched, frosted, opal, cut, and clear glass were all commonly used for shades. Dark-colored shades, although pretty, allowed little light to pass, probably finding most use as accent lighting. There are a number of fixtures at Lawnfield with light-colored glass (such as in room 103) that are attractive without losing a great deal of their light. Simple frosted and clear glass were often reserved for work rooms such as kitchens or bathrooms. Etched glass with simple floral designs and cut glass in geometric patterns were used in important spaces such as the reception hall, dining room, and library.

Some of the existing light fixtures and a few that have been removed are recorded in historic photographs. There is some vague documentation of additional gaslight fixtures that were added ca. 1940. The remaining gaslight fixtures were electrified at that time. In 1971, all fixtures were removed and new nonmetallic cable (romex) was used to rewire.

Recommendations. Switch the light fixtures in the reception hall and dining room. Reproduce historic light fixtures in the parlor and office where there is a known appearance of the historic fixture. At locations where there is evidence that historic gaslight fixtures existed, replace them with historic reproductions such as in hall 207 (fixtures which need to be replaced are noted in the "Recommendations" in "Room Descriptions, 207, Hall"), or as will be recommended by the historic furnishings plan. More investigation should be done to see if it can be determined if actual historic fixtures can be differentiated from newer replacements. Remove all 1944 wall-mounted sconces in interpreted rooms and replace them, where required, with can lights or another type of easily identifiable nonintrusive light fixture.

HANDICAPPED ACCESSIBILITY

At present, there have been no actions taken to make any part of the site accessible to the handicapped.* The discussion will include two phases since the future of the site development will include a new visitor center. The new or adapted structure will be designed to meet the needs of the

*The site must meet the requirements of the Uniform Federal Accessibility Standards.

handicapped visitor far better than retrofits of the main house will, especially in terms of parking and walk pavements, building access, rest rooms, drinking fountains, and additional interpretation. Since this will be accomplished in future design work, the details of how that is going to be accomplished will have to be worked out later. However, this does not relieve the National Park Service from taking some immediate steps to make the site more accessible.

Site problems begin on the path to the house via the rear door into the gift shop, and include loose gravel in the parking area and flagstone pavers with unfilled joints on the path. Loose materials such as the gravel make rolling wheelchairs difficult. The flagstone paved path is quite narrow and wheels could get stuck in the joints. At the door to the gift shop, the entry for all users, there is an elevation difference of approximately 9 inches from grade to the stoop.

Once inside, mobility can be accommodated, but is limited by the tight clearances between furnishings and structural elements. The difficulty is more with groups rather than an occasional wheelchair visitor. There is an additional obstacle at the connection of the gift shop to the back hallway where there is a 16½-inch elevation change in floor level. The rest of the first floor, however, is on this elevated floor level, allowing full access for viewing once this level is achieved. Negotiating through the narrow winding back hallway (with two 29-inch doorways) to reach the front of the house will take some care, but it is wide enough for most wheelchairs.

Accessibility beyond the first floor to the second-floor memorial library or to the third-floor museum is not possible without major alteration to the building. There are no lifts, elevators, or ramps in the house to make this possible.

Other facilities, such as rest rooms and drinking fountains, are not presently accessible to the handicapped. There are two rest rooms located on the first floor of the house. One is located in the gift shop and was probably installed in 1904 (see discussion, "Historical Analysis"). This small, cramped lavatory has a door that is too narrow to allow wheelchairs to enter, not enough floor space inside to rotate, no grab bars, and not enough space adjacent to the toilet for a side transfer. The second rest room is located off the narrow hallway to the front of the house. It dates from 1885/86 when the memorial library room was added and retains its historic marble lavatory and original wainscoting. The toilet, although not original, probably dates from the 1920s or earlier. This rest room also has a doorway which is too narrow to allow a person in a wheelchair to enter, although it has more space once inside. The house does not have a drinking fountain.

Recommendations

The present parking lot should be stabilized with a soil cement to create a better surface for wheelchair access, while not compromising the appearance of the lot. This low cost solution is also appropriate since the present parking lot will be removed when a new one is created by the visitor center. The flagstone walkway should be gently graded upwards creating an on-grade ramp to eliminate the high step at the entrance to the gift shop. The slope for the ramp should be at 1:20 so that handrails will not be necessary. The stone joints should also be grouted to create more stability and eliminate places a wheelchair wheel could catch (see plate EC-4).

Inside, the gift shop furnishings should be arranged to allow proper clearance for the passage of a wheelchair. For example, the display case by the entry will need to be shifted to provide access around the centrally located brick pier. A ramp will have to be constructed to connect the gift shop floor level with the rest of the house's first-floor level.

Alterations to allow access beyond the first floor will require some sort of lifting device to be installed. Stair lifts such as the Garavata Stair Glide, which run on its own steel rails with internal cables attached to floors and walls, would be intrusive and destructive to the fine woodwork of the home. The use of such devices in this house is not recommended. Other devices, such as the Garavanta portable wheelchair lift, deserve more study and testing to see what the effects on the fabric might be and to see if it can operate in the available stair configuration.

If, as defined in the *General Management Plan*, no interpretation or visitor use is ever planned for the kitchen area, then it may be possible to install an elevator in the kitchen and up through the servants

quarters on the second floor.* This would involve structural modifications to the building because a simple shaft through existing floor levels is not possible at this location. Use and functioning of the remaining space would require additional alterations to the walls, floors, and stairs to this area. The elevator would provide access to the memorial library level of the second floor only. A stairway with six risers separates the rest of the second floor. Since this work will involve change to the fabric of the building, even if interpretation is not planned for this area, more study of this problem is needed. Some possible designs and their effects should be investigated. They should be evaluated in regards to historic preservation law and guidelines, as well as accommodation of disabled visitors.

Alternative methods of interpretation of second- and third-floor rooms and items of importance should also be considered. Photographs or video could be made available to visitors not able to make it up the stairs. This could be in the form of an audio visual presentation or color prints fixed in a permanent display. The video could be a standard program or done "live" so that wheelchair visitors could participate in an actual tour. In general, overall introductory interpretation is planned to be accomplished in the future visitor center. The contents of the museum will be moved to that location and then will be fully accessible.

Other services such as rest rooms will be provided in the main house, but only on a limited or basic level until better permanent facilities can be created in the visitor center. It is recommended to retrofit the existing lavatory in the gift shop, as this one is less historically significant than the other one and is located in an area that is not presently, nor in the future, planned to be interpreted. This will involve removing the present door and replacing it with a wider one. This wider door will conflict with the swing of the entry door, but that will have to be tolerated. Rearrangement or replacement of fixtures is not anticipated. Grab bars will be installed on two walls adjacent to the toilet. Paper cups for drinking water should be provided in this lavatory.

The *General Management Plan* calls for creating a visitor center in the 1893 carriage house. Introductory interpretive information will be given at this location which will be designed in a fully accessible manner in respect to the public facilities. Tours will be led or encouraged to be self led from the carriage house in a route that takes visitors to the front of the house via the campaign office (002). The campaign office is important to the James A. Garfield story and is open to the public for viewing the interior. Visitors are limited by a barrier inside the structure to a small area at the doorway. This 400-square-foot structure has a small front porch with an elevation difference from grade of approximately 2 feet. The size of a ramp, or the intrusion of a lift, on a small structure such as this is inappropriate. It is recommended that this structure be interpreted much like the memorial library room and other inaccessible portions of the main house in photographs or video.

Once the visitor center is completed, the approach to the main house will be through the front door. Since there is a level change from grade to the front porch, this once again presents a problem. The proposed solution is to build a ramp on the adjoining east porch. This will allow the wheelchair bound visitor to take the same general route as the able-bodied visitor. They will follow the tour route on the porch rather than on the lawn. The ramp should be tucked in on the north side of the east porch where it will be less noticeable. Also, the grade difference is least at that point, lessening the length of the ramp.

LIFE SAFETY

A review of life safety, using the Uniform Building Code, was made on the main house (see "Appendix H, Code Review"). Code requirements affecting this building are cited and the existing condition is recorded. It was determined that this building cannot meet all of the requirements in regard to the number of floors allowed for construction type, exits, roof fire rating, and toilet facilities--even with the planned improvements. Since this is a historic building, code does allow some leeway in nonconformance, but conditions that are determined to be unsafe must be corrected. Since this is

*It has been recommended earlier that the kitchen area be intensively investigated to complete information regarding its possible restoration before a decision is made to go ahead with major alterations to the kitchen/servants quarters area. In general though, it is recommended that this work not be done. Even though it may end up as uninterpreted space, the work would be too intrusive to warrant this level of irreversible modification.

a federal government property, formal application to local building inspection authorities is not required. In general, for our buildings the Denver Service Center safety officer is the governing official and would rule on allowable nonconformance to code.

Recommendations

Installing a residential sprinkler system, in addition to the fire detection system, is the action recommended to reduce the risk associated with noncompliance to acceptable limits. Four variances are requested:

1. Classification and Construction Type A3 Type V-N: Construction should not exceed one floor in height. This building is three floors. It also requires a 1-hour fire rating above the first floor. It is requested that these requirements be waived. When operated, the building will be watched by trained personnel. A fire detection system and an automatic sprinkler system will also be installed. It is not planned to have public access above the second floor.

2. The existing wood shingle roof is, generally, in good condition, but it does not conform to the required Class B rating. It is proposed to spray a fire retardant on the roof to bring up the rating from nonrated to Class C. It is requested to waive the Class B requirement for this wood shingle roof until it needs to be replaced.

3. Exits: Exit doors swing in the direction opposite to the flow, and hardware is in some cases nonconforming (does not all work in single action). Stairways are not enclosed and handrails are not continuous, occurring only on the open side of the stairway. Exit paths are not presently marked, nor are they always obvious, depending upon the path traveled. A limited number of exit signs will be placed but not at all required locations. It is recommended that these requirements be waived to preserve the historical appearance and accuracy, and to avoid the destruction of the historic fabric. Again, with trained personnel, an early warning by a fire detection system, an automatic sprinkler system, and emergency lighting, the risk of loss of life in a fire would be considerably lessened. The area of the house used for public occupancy is scheduled to be reduced in the future with the construction of the visitor center.

4. Toilet Facilities: Existing load cannot be satisfactorily handled with present facilities. Future construction of the visitor center will provide all required facilities, including handicapped requirements. Present facilities will be adapted to meet the minimum handicapped standards.

THERMAL AND MOISTURE PROTECTION

The attic of the house is insulated with approximately 3 to 4 inches of poured mineral wool type insulation. This insulation was installed in January of 1944 according to a contract on file which called for 6 inches of rock wool over the flat ceilings of the third floor. Apparently, the insulation has settled some over the years and will have to be supplemented. Other work included in this contract: third-floor slopes were blown full, knee walls were lined with 3-5/8-inch batts covered with air cell board, a 6-inch rock wool fill was installed over all second-floor exposed ceilings, the sidewall adjacent to the main staircase was blown full, and 3-5/8-inch thick batts were installed above both furnaces in a permanent and fireproof manner. Work also included insulating landings, treads, and risers of the main stairway, as well as faces and cheeks of the dormers. This contract did not call for insulating the vertical walls of the house and, although it was discussed and estimated, it seems that this work was not done. Investigations into the walls did not show any evidence of insulation other than a few small pieces which drifted down the walls from the attic. The basement walls are also not insulated. Vapor barriers, which are normally installed with insulation in attics and walls, were not found. Windows are single glazed.

All frame wall construction on the house consists of balloon framing, with a full 4-inch-wide stud space. Joists are spaced at approximately 16 inches on center. In the 1880 portion of the building the tongue-and-groove siding is applied directly on the studs. Sheathing occurs on the inside of the wall on which the sawn lath is furred out to allow the plaster keys room to form. The 1885/86

construction has lapped siding over tongue-and-groove sheathing on the exterior of the wall, with lath and plaster directly on the interior side.

The library walls are plaster on solid masonry so there is no internal space for insulation. Since there is no air space a vapor barrier is not required.

The better the walls, ceilings, and attic are insulated, and with the provision of effective vapor barriers and the minimization of air infiltration, the more effective the humidity control and the heating systems will be and less fuel will be required. Application of the vapor barrier in cold northern climates is on the warm side of the insulation. Various types of insulation are available for use, depending on accessibility of the wall cavities, i.e., removal of lath and plaster, removal of exterior siding, injection through holes drilled in the upper and lower sill plates and through inner and outer wall coverings, and by application directly on the interior and exterior walls.

Recommendations

It is recommended that samples of the attic insulation be taken and analyzed for asbestos. If the samples contain asbestos, how much, what kind, and where it is located must be determined. Also if present, further study will need to be done to determine what subsequent action is required, i.e., removal, encapsulation, enclosure, or a combination of these actions to provide protection for all who enter the building, while also preserving the structure.

It is recommended that the attic insulation be increased to bring the R value to approximately R=39 and to add a moisture barrier. It is also recommended that the exterior walls be insulated in the stud space with an insulation having an R=19 value and, again, add a moisture barrier. A decision of where heat is required on the third floor must be made to determine where insulation is needed. It is recommended that storm windows be provided as described in the recommendations for windows. Glazing added should be of the type which reduces solar heat transmittal and ultraviolet degradation. The windows and window sash/frames should be refurbished to minimize air infiltration.

Since it is not possible to get under the plaster to create a sheet vapor barrier, such as is common on new construction, the barrier must be applied on the room side of the plaster wall. The recommended procedure for the exterior walls is to apply a treatment called GLID-WALL to these surfaces as described in "Wall and Ceiling Surfaces." The vapor barrier is achieved by using INSUL-AID paint as an adhesive for the fiberglass and as a prime coat over it. This material is certified as an effective vapor barrier by the Federal Housing Administration. (GLID-WALL is also recommended for repairing cracked plaster surfaces in the discussion, "Walls and Ceilings, Plaster.")

Insulating the frame walls of the house will cause some damage to the historic fabric, but it is necessary to save energy and stabilize the environment for the protection of the interior furnishings. If fire stops are installed, then adding insulation will cause no additional damage beyond what is needed to access the stud spaces for the stops. The recommended approach to access the stud spaces is from the exterior. On the 1880 portion of the building, this will mean that the tongue-and-groove exterior siding will be affected, but that is all. New siding can be milled to replace damaged boards and they will all be painted. Much more damage would result from trying to access the stud space from the interior of the 1880 portion. On the 1885/86 portion of the building, the exterior lap siding and the tongue-and-groove sheathing will be affected. Repairs to the lapped siding will be easier than relathing and plastering.

Room 306 must have the bird droppings removed and the room cleaned and sanitized before this area can be insulated.

MECHANICAL SYSTEMS

Plumbing, Water Supply

The domestic water supply system has been altered many times during several building additions and many smaller improvements. As a result, some piping has been removed, some abandoned in place, the third-floor water storage was tank retained for display purposes, and some piping was incorporated with new piping as the various needs arose. Generally, the existing supply piping all appears to be copper and in good condition. The house was connected to the village water system in 1939. The size of the water supply piping may not be adequate for a fire suppression system and/or irrigation system.

Recommendations. Tests should be performed for asbestos in the areas that contain or did contain the old hot-water piping and, if present, determine what action is required.

Any new piping should be installed in accordance with the future plans for those areas requiring hot and cold domestic water. All of the hot and cold water piping should be insulated. Branch lines should be valved near the supply run, and each valve tagged with the name of the area served and the service. Evaluate the water supply in light of requirements for a fire suppression and irrigation system.

Plumbing, Waste/Sanitary

The waste/sanitary system has been modified many times during the various additions and improvements. Portions of the systems have been abandoned in place and several fittings in the basement are broken, some of which are on active systems, thereby presenting unsanitary conditions. There is a main drain that is cut off and plugged directly below where the existing sewer exits the basement. This may be the remains of the original drain to a septic system. As late as 1952 there is a record of a bill for a new septic tank. Apparently the house was not yet connected to the city sewer system at that time.

The various roof downspout drains of the building were observed to be clogged or unable to drain. It may be that these drains do not connect to the city storm sewer system but to an old cistern on the property.

Recommendations. The broken fittings on the active systems should be replaced to eliminate the unsanitary conditions. The abandoned systems should be disconnected from the active systems, removed where practical, and then the exposed ends sealed. All removed pipe should be recorded on drawings for possible future study. If it is possible to trace or locate the old septic system, this should also be done.

The various downspout drains should be investigated to see if they drain to a cistern in the back yard. A new system will most likely be required to ensure that the system will drain the rain water away from the building foundation. Since grading around the house is necessary, it would be most economic to accomplish the work of installing a new drain system at the same time.

Heating, General

The house utilized three types of heating: gas log fireplaces, hot-water radiators, and forced-air heating system.

Heating, Gas Log Fireplaces

Currently, the gas log fireplaces are not in use and the gas supplies are disconnected. There are no plans to reconnect the gas fireplaces.

Heating, Hot-Water Radiators

The memorial library wing, including the kitchen and quarters area, is heated by hot-water radiators. The present system was created in 1942 when an earlier steam system was extensively modified (see "Appendix B, Specifications and Contract Agreement for Heating Improvements, January 29, 1942"). All of the old radiators were removed. Larger, more efficient radiators were selected and located for better heat distribution. Not all rooms received new radiators and none were located on the third floor.

The attic, third floor, and basement are currently not heated. Some heat is gained from exposed utilities or, where possible, from the heated space below. The present system appears to be in good repair, though the internal condition of the boiler is unknown.

The room in which the boiler and hot-water heater are located is a screened portion of the gift shop, with a louver comprising the bottom third. The boiler and heater combustion air is provided through the louver from the gift shop. The room is small, not fire rated, and access is very limited. The boiler and some of the hot-water piping are insulated with asbestos which is not properly encapsulated or otherwise protected. The asbestos materials are soft and friable, and any air circulation can carry loose fibers into the gift shop. The upper portion of one of the enclosing walls in the boiler and hot-water heater room is made of asbestos board. This boiler should be moved to a location that is fire rated. If this is contemplated, consideration should be given to replacing it with a modern insulated spark-ignition boiler.

From direction by the Midwest Regional Office, it has been determined that there is a need to provide temperature and humidity control to protect all the curatorial objects in the main house and the campaign building. It should be recognized that fuel consumed (i.e., higher operations costs) will be substantially greater, even with the installation of energy efficient retrofits (insulation, etc.). There also may be additional employees required to maintain the system.

Recommendations. The boiler and water heater should be relocated into the laundry room adjacent to the current space (room 119) where adequate room is available for access and maintainability. An alternate location is possible in the basement, room 006, where it appears that a boiler was once located in the past. The asbestos should be removed from the boiler and piping, and from all other exposed surfaces of the room. All rough room surfaces containing asbestos should be removed, if possible, or encapsulated. The boiler and hot-water piping should be insulated throughout the wing. The hot-water boiler should be inspected to ascertain any need for repairs or maintenance. For increased efficiency and maintainability, a new boiler might be considered when moving it to a new location.

In light of the condition and location of the old boiler and the need to provide a higher level of climate control, it would be advantageous to remove the existing hot-water system and replace it with a forced-air furnace that would supply heated, cooled, and humidified air. Since the existing system was extensively modified in 1942, there would be little loss of historic fabric. If the new forced-air system was located in room 119, then duct work could be run horizontally below the gift shop ceiling to the library above and be distributed through floor registers in place of the radiators. A duct riser could also continue vertically through the vault above in the memorial library to supply conditioned air to the presently unheated third floor.

Such a system would also need a compressor for air conditioning, which has to be located outdoors. The existing forced-air furnaces would also need a compressor. The compressor should be located as far west of the u-shaped area as possible (to the property line), where it would be mostly hidden by landscaping. This area is in a direct line to the existing furnace room in the basement and is readily accessible to the laundry room through the basement and existing crawl spaces. The entire mechanical system needs further study to make a more definitive recommendation. This would include humidity control (see discussion, "Humidity Control").

Heating, Forced-Air Heating System

The first and second floors of the original house are heated by a forced-air heating system which is in good repair and operating condition. This duct work was added as a retrofit system in 1942. The design was for the heating only, to meet the criteria of heating the front portion of the house to 70° with an outside temperature of 0°. An oil-fired furnace was the original heating plant for this system. There was no insulation or vapor barrier anywhere in the house when it was designed. Present furnaces were installed in 1984.

The old duct work presents an asbestos hazard. Joints or connections were sealed (made airtight) using strips of two-inch wide asbestos cloth wrapped around the circumference of the connection to form the seal. This material is friable and aging. Most of the material is located within walls, floors, and ceilings where it is partially enclosed and not subject to personnel contact. In closets rooms 104 and 109 there are exposed duct risers with asbestos covering. Asbestos-containing sheet material was found fastened to the underside of the floor joists and wall to form fire-rated surfaces adjacent and above the furnace. Part of the material has been removed in the past. The remainder is not friable.

Recommendations. Modifications or repairs to the building, piping, or ducting systems at the asbestos wrapped locations will require asbestos abatement action by removal, encapsulation, or enclosure to prevent contamination of personnel and the building. The asbestos containing sheet materials at the hot-air furnaces should be removed and a 1-hour fire-rated room constructed about the furnaces.

An investigation should be made to determine the extent, amount, and location of the asbestos, with the location marked on drawings showing the routing and size of the ductwork and piping, the location of the asbestos shown for further analysis and reference by others at a later date. Copies of this data and drawings are to be retained by NPS park maintenance and NPS Denver Service Center files for future use.

Heat loss/gain calculations need to be generated for the entire building. Heating and air conditioning loads then need to be determined. Record the layout and sizes of the ductwork and analyze the system to determine if modifications are necessary for air conditioning. If changes to the ductwork are necessary, they should be planned in conjunction with the furnishings plan, which will affect placement of registers and returns. The location of a compressor for this system has already been discussed in the previous section.

Fuel Supply Piping, Natural Gas

The building is supplied gas externally by two pressure regulations. One is no longer in use having had the discharge piping removed, however, it has not been plugged to prevent leaking. Gas was supplied to most of the fireplaces for which most of the piping was disconnected and abandoned in place. The active gas supply system is in reasonable condition and supplies the two hot-air furnaces in the basement, the hot-water boiler, and hot-water heater adjacent to the gift shop, as well as the caretakers stove on the second floor. The original gas supply main was routed under the basement floor and wooden access covers were provided in the floor for access to the system valves.

Recommendations. The unused gas supply regulator should be plugged or sealed to prevent further internal contamination and any leakage. The original gas supply main and valves should remain abandoned in place. The supply to the caretaker's stove should be removed from the supply main and the tee plugged during future remodeling.

Fuel Supply Piping, Fuel Oil

Previous furnaces were fired using fuel oil. Parts of the fuel oil recirculating supply system are abandoned in place. This system presents minimal hazard until modifications are required in that specific area. The fuel oil tanks are buried outside the house in the u-shaped area on the west side.

Recommendations. In view of current Environmental Protection Agency rulings about draining, spilling, or leaking fuels, etc., into the earth, this fuel system should be investigated, exposed, and traced to ascertain if any potential leakage problems exist, with subsequential removal and other remedial actions as required. The buried fuel oil tanks themselves should be removed.

Humidity Control

The building currently does not employ humidity control or air conditioning. The doors throughout the building are open for ease of public access. The memorial library doors are closed only at night. Effective humidity control of an area or room utilizes insulation, vapor barriers, and sealed air spaces, as well as the proper humidity control equipment.

Recommendations. Equipment needed for such a system is discussed under the recommendations for hot-water radiators. Insulation and vapor barriers are discussed under "Thermal and Moisture Protection."

If this type of system is installed, the memorial library doors should be left closed and unlocked for visitor access, and door closers should be utilized to assure that the doors will not be left open any longer than necessary. However, this may impede visitor use of this area. The air handler and dehumidifying equipment could be installed within the vault in the memorial library with the supply air ducting penetrating the vault walls, utilizing the lower bookcase shelf or drawer spaces to inject tempered air into the library.

A return air grille could be located high on the wall above the vault door. An alternative would utilize equipment placed in either the vault or the first-floor laundry/store room, with a dropped ceiling in the gift shop area to conceal the ducting routed under the floor above. The floor registers could be located in the floors below the window seats, radiators, and drawers under the bookcases. Return air grilles could be installed in the bookcases or high in the wall above the vault door.

The desired humidity will not be closely maintained with the library doors open, and will require larger equipment capacities. A more stable environment can be obtained with the doors closed and opened only for visitor egress.

The same problem exists for any rooms in the house that require humidity control, as nearly all doors in the public areas of the building currently are open at all times during visiting hours. The only other alternative is to provide humidity control for the complete house or to compartmentalize those areas wherein humidity control is required.

ELECTRICAL SYSTEMS

Services, Exterior

The main house is supplied with an underground single phase, 120/240-volt 200-ampere electrical service from a power pole on Mentor Avenue just west of the front gate. A meter is located on the west wall of the house. The main disconnect is located in the basement adjacent to where the meter is outside. An underground branch feeder line from the main house provides service to the carriage house.

The telephone line to the house utilizes the old power poles to the east that run down the property line to the southeast corner.

There are some exterior floodlights that are powered via surface-mounted conduits on the wall of the house. Some of the upper floor power is supplied in conduit running on the exterior of the building.

Recommendations. All of the remaining overhead telephone wires, unused poles, and the meter at the main house are considered to be intrusions to the historic scene and should be removed. Metering and service disconnects should be rack mounted at the transformer(s). New service via direct burial

conductors will be required at the campaign house, carriage house (which will be converted to a visitor center), barn (which will be converted to a maintenance shop), granary, windmill/pump house, and security lighting at the new parking area. The new line to the campaign house should remain a branch feeder off the main house and should be buried.

Telephone service to the main house, visitor center, maintenance shop, and tenant house should also be via buried cables. All of the electrical components on the exterior of the main house should be removed. Replace all of the exterior conduits supplying power with new metal conduits inside the wall. Any flood lighting of the area should be by ground-mounted fixtures hidden in the landscaping and supplied by direct burial conductors.

Services, Interior

Two multi-pole contactors in the basement control the power to the lighting circuits throughout the house. A representative sample of these circuits was inspected and no safety violations were observed. The old two-wire receptacles have been de-energized and new three-wire receptacles have been installed for housekeeping purposes. The new power is run in nonmetallic cable (Romex).

Recommendations. The interior electrical system seems to be satisfactory for the usage of the building. It is recommended that the existing wires be placed in conduit where it is planned to insulate for thermal efficiency during the construction.

A maintenance problem exists at a basement panel board where one of the multi-pole contactors has a noisy coil. This coil should be replaced.

Services, Communications

Telephone service is by Ohio Bell and is used by the site manager for day-to-day operations.

Recommendations. When the visitor center with its amenities has been constructed to handle site management, then the main telephone service will be moved to the carriage house. The main house will still require service on the ground floor and third floors for operations, convenience, safety, and a digital communicator for security and the fire alarm.

SECURITY SYSTEMS

Intrusion Detection and Alarm System

The intrusion detection and alarm system of the main house consisted of the site manager's beagle dog. This system has since been removed to the tenant house where the site manager resides.

Recommendations. Intrusion detection should be accomplished by the installation of passive/microwave dual detectors across rooms and along halls of the first and second floors. These sensors will not be active during the day. An intrusion alarm panel also containing fire detection and alarm capabilities should activate a digital communicator to advise local law enforcement personnel.

Fire Detection, Alarm, and Suppression

The purpose of a fire detection system is to detect an impending catastrophic condition as soon as practical so that the alarm system will warn people to vacate the area and also to advise a suppression system to protect the structure. The fire detection alarm and suppression system at present is the site manager armed with dry-powder type extinguishers. The local fire department is very close for larger fires.

Recommendations. It is recommended that hard-wired detectors with local alarms be installed throughout the house. While battery-powered detectors were originally considered to minimize intrusion into the building's historical fabric, considering the amount of work that is now recommended, installing a hard-wired system will not cause additional damage. The fire detection system will also advise the local fire department via the digital communicators.

The hot-air heating system should have duct detectors, and the furnace room should have fixed-temperature rate-of-rise detectors.

The entire house (basement, first floor, second floor, third floor, and attic spaces) should be protected with a dry-pipe automatic sprinkler system. This should be a residential type, installed with freeze-proof flexible plastic pipe to cut down on damage to the fabric and reduce the cost. This system is needed because the building cannot meet other requirements of the life safety codes requiring, for example, enclosed stairways with direct exits to the exterior (see "Appendix H, Code Review"). Sensitive decorative fabric, such as the oak ceiling of the memorial library, will be preserved by installing this portion of the system through the floor above. Safeguards in deploying such a system could be implemented, such as the first detectors that are activated only let water into the pipes, and by requiring several detectors to be activated before the system actually discharges water (verified detection). Further study is recommended for a more in-depth investigation into the impact of how such systems can be installed.

Other systems such as halon were considered but are not recommended. Halon is an extremely expensive chemical to replace if it goes off accidentally. In order to make the gas effective in the event of a fire, the space has to be sealed as well as possible to keep the concentration of the gas contained. The historic bifold doors could not be automatically operated without a great deal of alteration to these doors. Along with other substances, the halon gas has been associated with causing ozone depletion of the atmosphere. The U.S. Government has signed a voluntary restriction on halon.

RECOMMENDED TREATMENTS

LAWNFIELD EXTERIOR PLAN

The many changes that have taken place over the years will be considered and evaluated in regard to their affect on the interpretation of the property and management objectives.

Review of General Management Plan Rationale

In 1880, James A. Garfield completely renovated the house he had purchased in 1876. Since the former president is the primary focus of interpretation, the library addition added by his wife in 1885/86 is somewhat problematic in that it altered a large portion of the 1880 house that Garfield built, lived in, and around which he campaigned for the presidency. This is largely solved by the fact that a major inspiration for the construction of this addition was the memorialization of the slain president by his family. Major changes were made in 1904 when the south and east porches were removed and replaced by porches of a different design.. Therefore, the *General Management Plan* approved in July 1986 calls for the main house to use a restoration date of approximately 1900.

The 1900 date falls after the library addition was added and before the original south and east porches were replaced with new porches in 1904. The south porch was an original part of the 1880 improvements to Lawnfield. More important, a major part of James A. Garfield's presidential campaign was conducted from here, resulting in the label "front porch" campaign. Interpretation of this important part of President Garfield's campaign will be more meaningful with the reconstruction of this porch. The east porch will also be reconstructed to its 1885/86 appearance (part of the memorial library addition). This will give the house a consistent appearance as it once had during the interval 1886-1904. The condition of the existing porches is very poor and, if they were to remain, they would require extensive rebuilding.

Parlor Wall Restoration

Although the *General Management Plan* calls for restoration to the date 1900, it goes on to define the remainder of the exterior work as preservation of the existing. It is unclear if restoration is meant to include the exterior of the parlor wall. The door opening from the south porch directly into the parlor was noted in both Garfield's correspondence and in campaign literature. It was heavily used at this time and added a unique feature to the front elevation. Therefore, it is recommended that the restoration of the exterior parlor wall be included with the reconstruction of the front porch. The existing bay window should be removed and the original double-hung windows and entry door should be replaced. This will restore the south elevation of the house much closer to an appearance that James A. Garfield would recognize, and makes it consistent with the construction of the front porch. The treatment of the interior of the parlor will be discussed in the interior section.

Additional Restoration Recommendations

It is recommended to restore the rest of the exterior of the main house to its appearance in 1903 or 1904 before the porches were removed. This will require only a few additional exterior alterations.

On the east elevation, the alteration of one second-floor window over the east porch occurred ca. 1903 or early 1904, just prior to the alteration of the east porch. The relocation of an interior wall was made possible by removing the original single window and replacing it with a pair of windows with a solid panel between them. The double window can remain, though, since there are two photographs (HP-22 and HP-23) showing that these alterations were made before the porches were removed in 1904.

Another window alteration that occurred sometime during the interval 1900-1910 (see discussion, "Historical Analysis") was on the west elevation, third floor, north gable (in rooms 307 and 308). A small attic window was removed to allow the construction of a wall to subdivide the interior attic space, and a new window was installed in each of new newly divided spaces. One of the spaces became a bathroom and the other remained unfinished attic. The two windows can remain in their present configuration since we are not positive of the date. The change is very minor on the exterior, and the interior space is not to be interpreted or used in any manner.

All other changes made after 1936 will be restored to the 1885-1904 appearance. The changes were the result of nonhistoric repairs during the historical society ownership and included the replacement of the original eave troughs and box gutters with metal hung gutters; removal of the metal roof ridge covers; removal of the lightning protection system; removal of window shutters; altered west porch columns, brackets and handrails; and missing finials and other decorative ornament.

Paint Scheme. If the most important restoration criteria used is the chronological date, the east and west window alterations are recommended to be left as they are and the 1895 paint scheme should be used, as described in general in the historical analysis section of this report. This paint scheme is also described in detail in the exterior paint and mortar analysis.[103] The earlier 1885/86 color scheme with the painted red shingle roof could conceivably be chosen, too, since the roof was painted red during Garfield's occupancy of the house, therefore closer to an appearance he might recognize.

LAWNFIELD INTERIOR PLAN

Justification of the Interior Restoration Date

Every remaining original 1880 James A. Garfield-era room has been altered in some way, either by the 1885-1904 work or other subsequent changes. It is not possible to restore the house back to the pure 1880 Garfield era because that would involve removal of the memorial library, among other things. The 1885-1904 period most accurately reflects a cross section of the primary interpretive themes (from the *General Management Plan:* personal life, his presidency, his commemoration, and his family). Therefore, interior restoration to this period is the most practical, and is a consistent time period with the exterior. To restore portions of the house to 1886 and leave other areas to date from a later time (after 1904) when the two parts did not coexist, is inconsistent and would most likely cause confusion to the visitor.

The time period after 1904 is not the most effective for interpretation. Even though the alterations corrected some deteriorated conditions, this date really marks the beginning of the decline of Lawnfield. Modifications at this time included work such as replacing the rotted porches, as well as updating the decor in the parlor. Other plan modifications, such as the second-floor bedroom/bathroom changes, can remain as they are since they happened before the removal of the porches. The porch alterations had a major negative impact on the recognizable front elevation, which is important today for the interpretation of the site. By the mid-1890s, the Garfield children were moving out of the house into their own homes. Although James and Harry lived close by and could easily look in on the home, it did not prevent the gradual decline of the property. From 1904 until it was donated to the WRHS in 1936, the condition of the house progressively declined into a decrepid state. The year 1898 was the last big family Christmas celebration. After that, Lucretia Garfield spent winters in the south and then permanently relocated her winter residence to Pasadena, California, where she bought a new house. The record shows the amount of Lucretia's finances diminished somewhat at this time and less money was being spent on Lawnfield. In 1908, she began to sell off large portions of the property. Although Lawnfield remained as the center of family activities, anniversaries, reunions, and other celebrations well into the 20th century, it never again experienced the continuous bustling activities of the family, nor was the family able to maintain its former high style of the late 1880s-1900 period.

The Parlor. Leaving the remaining 1904 changes intact in the parlor (room 106) is not a viable option if the exterior wall is restored. Three different time periods would be represented in a way they never existed before. Good documentation exists on the appearance of the room details including the original fireplace, bookcases, and windows for 1880 and subsequent alterations in 1885/86, in written

descriptions, illustrations, photographs, and remaining comparative fabric in other parts of the house. In fact, the fireplace mantel in the James A. Garfield bedroom (room 103) is the original one that once graced the parlor.

Other Affected Fabric. Extensive structural and mechanical modifications, a fire detection and suppression system, intrusion detection system, and possible restoration activities will require a great deal of repair to and refinishing of wall and ceiling surfaces in all rooms. Since all interior paint and wallpaper date from 1936 or later, except in the Lucretia Garfield bedroom (which is 1904), there should not be a significant loss of visible historic fabric to accomplish this scope of work. The first-floor James A. Garfield bedroom wallpaper has already been reproduced but, again, inaccurately to the 1904 version. All other rooms are to be repapered with a reproduction of the original wallpaper, if that can be determined, or a period wallpaper. All painted surfaces will be repainted to the match the historic 1885/86 colors and all of the natural wood will be refinished.

Additional Interior Restoration

The rear portion of the first floor was not planned to be interpreted according to the *General Management Plan*. The original cabinets, fixtures, finishes, etc., still remain in the bathroom (rooms 113 and 114) and butlers pantry (room 120). The original stoves, fixtures, and cabinets have previously been removed in the kitchen (room 116). These spaces are separated from the rest of the house by a winding narrow corridor. This may have contributed to the reluctance to interpret this area since the access for group tours is more difficult and some of the fabric is missing. The *General Management Plan* development plan does not identify a strong need to develop this space into any other use. It is recommended that this area be more intensively investigated to determine the original wall configuration and appearance of this space. If this can be determined, then the restoration of this area of the house should be accomplished. The kitchen/bath area is very important to the house and the use of 1880s technology is planned to be interpreted elsewhere on this site.

The same arguments for restoration of the second-floor bathroom (room 214) can be made as for the kitchen area. Research accomplished to date indicates that this bathroom dates to the 1880 construction of the house. It is believed to have been altered somewhat in 1885 and again in 1904. Sometime during the historical society ownership, the fixtures must have been removed and the original room use was forgotten (until recently it has been labeled as a trunk storage room). Since it is recommended to let the 1903/04 second-floor plan changes remain as they are, the date for this bathroom is recommended to be 1904. It would be closer to an appearance Garfield would recognize (the same logic used in the first-floor parlor). Discussion of recommendations for individual rooms is included with the description of existing conditions for the rooms.

COST ESTIMATE AND PROJECT PRIORITY LIST*

ADDITIONAL STUDY AND PLANNING

Cultural Landscape Report	$ 35,000
Revision to General Management Plan	5,000
Advance and Project Planning	785,000
Archeological Data Recovery Study[104]	75,000
Historic Furnishings Report[105]	45,000
Interpretive Plan[106]	25,000
Total Planning[107]	$ 970,000

Perimeter Fence (Entire Site) $ 52,000

Exterior Repairs (Well House) $ 21,000

Repair masonry. Some disassembly and rebuilding of stone masonry.
Repoint masonry.
Repair roof.
New wood door, sash, and glazing.
Paint.

Exterior Repairs (Chicken Coop) $ 3,000

Repair roof structure and walls.
New wood shingle roof.
Repair exterior walls, reglaze windows, repair door.
Paint.

Survey and Remove Corn Crib $ 4,500

Handicapped Access (Main House) $ 4,000

Develop access to the first floor by grading the exterior walk to the gift shop entrance up 8 inches. Build a straight ramp to the interior of the gift shop to the main first-floor level.
Minor modification to an existing toilet (located near the gift shop entrance) for use by the handicapped. This is a temporary solution.

Roof Restoration (Carriage Barn and Gas Holder) $ 65,300

Structural repairs including replacing sill beams.
Replace the roof of carriage barn with wood shingles, and the metal on the gas holder.
Restore the eyebrow windows, vents, etc.
Remove the shed addition. This will be replaced at a later date.
Lightning protection.

Exterior Repairs (Carriage House and Gas Holder) $ 222,600

New underground electric, gas, and water service.
Replace the shed addition with a structure that will meet the future needs for additional space in the visitor center.
Repair the windows and doors.
Strip all of the exterior paint and make repairs to the siding and shingles.
Paint.
Consolidate the stone of the gas holder.
Repoint the stone joints of the gas holder.

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*All estimated funds are net figures and based upon 1990 construction costs.

Exterior Repairs (Campaign House) $ 11,400

Repair the porch floor, roof, supports.
Reinforce the ceiling joist to carry the chimney load.
Repair the roof structure and reroof with wood shingles.
Ventilate the attic.
Remove the gutter and downspouts.
Touch-up painting.

Work on Main House $3,100,000 to $3,600,000

Structural Modifications

Install new sill plates on the foundation walls.
Reinforce the weak joists in the basement.
Reinforce the weak beams in the basement.
Install new columns and beams to support loads where required in the basement.
Reinforce the reception hall ceiling.
Reinforce the adjacent reception hall walls (pocket door openings to dining room and sitting room).
Reinforce the second-floor walls above the reception hall.
Reinforce the main stair on the first, second, and third floors.
Rebuild the three exterior walls by the main stair.
Remove and reinstall the library window and repair the adjacent damage.
Remove and reinstall all loose foundation veneer stones on the west, south, and east sides; rebuild the basement entrance.
Control overloading on the third floor by restricting the live load.

Roof Moisture Protection/Lightning Protection

Replace the four flat roofs and flashing at the porte-cochere, main stair, and two third-floor porch balconies with metal roofing.
Install new metal caps at all horizontal roof ridges.
Reconstruct the historic gutters and downspouts.
Treat the wood shingle roof with a preservative and paint.
Cap all unused chimney flues.
Reline the flues to be used for mechanical equipment.
Install a full lightning protection system to protect the structure on all roof ridges and peaks, as it appears in the historic photographs.

Exterior Repairs/Restoration

Restore (construct new) the campaign porch (south elevation).
Restore (construct new) side porch (east elevation); this will include the new handicapped-accessible ramp.
Repair/replace the basement windows, as necessary.
Repair all other windows to operating condition (sill, frame, sash, glazing, trim, hardware, etc.); refinish.
Repair doors, replace locks.
Strip all paint from the entire exterior of the structure.
Repair the wood siding, shingles, cornices, moldings, trim; replace missing or deteriorated elements such as finials, porch handrails, brackets, vergeboard, etc. Much of the carriage porch is rotted.
Repair the existing shutters to operating condition and strip the paint; replace all missing shutters; paint.
Remove any remaining exposed electrical conduit and lighting hung on the building; replace in hidden location.
Install fire stops in the balloon framing.
Install insulation in the wall cavities.

Remove the bay window and restore the historic windows and door on the south elevation.
Repaint the exterior of the building.
Repoint the masonry.
Replace the stone sill at the gift shop window and consolidate the eroding stone at the other windows.
Repair the existing historic light fixtures.
Develop the curatorial office space, work area, and storage rooms.

Site Work

Remove the existing landscaping around the house.
Lower and regrade the site, as necessary, to provide for proper drainage.
Install all new storm drain lines from the downspouts to the storm sewer main.
Install new walkway lighting and night lighting for the building.
Install irrigation system.
Replant the landscaping according to the *Cultural Landscape Report.*

Mechanical/Air Quality

Provide rated enclosures for two mechanical systems.
Remove the asbestos hazard on the boiler and furnace ducts.
Remove guano from room 305 and sanitize the room.
Install humidifier and air conditioning equipment to the existing forced-air furnaces in the front of the house.
Remove the boiler and hot-water heating system and install a new forced-air heating and air conditioning system for the rear portion of the house.
Replace broken waste lines.
Install a residential sprinkler system on all floors.

Electrical, Intrusion/Fire Detection

Relocate the meter and main panel cut off.
Install intrusion detection: ultrasonic, infrared, and pressure detectors each room as required; door signal shut off; and telephone dialers.
Install fire detection: minimum one unit each room/space, including attic and basement.

Interior Finishes

Remove varnish from all natural finish woodwork and refinish.
Repaint previously painted woodwork.
Flooring (work required to be determined).
Conduct an intensive search for remnants of historic wallpapers.
Remove wallpaper from all existing rooms, except the James A. Garfield and Lucretia Garfield bedrooms.
If enough evidence can be found, reproduce the wallpaper.
If no evidence for restoration can be found, select a historic period wallpaper.

Exterior/Interior (Campaign House) $ 35,700

Install new underground electrical service.
Rewire and install new lighting fixtures.
Replace the rotten sill.
Strip all exterior paint.
Repair the windows and door.
Repair the foundation.
Install fire detection and suppression systems.
Install a intrusion detection system.
Install a heating and air conditioning system.

Construct a new transparent enclosure just inside the door to keep visitors out and conditioned air in.
Remove varnish from the book cases and refinish.
Repaint the interior walls and ceiling; refinish the floor.

Exterior Repair (Barn) $ 31,000

Repair the roof structure and add new wood shingle roof.
Construction new cupola on roof.
Install new front doors.
Repair siding, windows, doors, sills, and foundation.

Exterior (Granary) $ 18,500

Construct a new foundation.
Install new electric service.
Repair siding and eliminate intrusive windows.
Paint.

Rehabilitation for Visitor Center (Carriage Barn) $ 750,000

New visitor center will contain these areas:
- Visitor contact.
- Public rest rooms (handicapped-accessible).
- Offices.
- Display/interpretation.
- Sales.
- Audio visual presentation.

Site Development $ 200,000

Build new entrance roads and parking.
Create new walkways.
Install new exterior lighting.
Install irrigation system.
Landscape disturbed areas, revegetate as necessary, and implement recommendations of *Cultural Landscape Report.*
Survey and remove corn crib and brick ruin.

Rehabilitation for Maintenance Facility (Barn) $ 50,000

Reconstruct Tower (Well House) $ 45,000

Repair Interior of Gas Holder $ 10,000

NET CONSTRUCTION TOTAL $4,624,000 - $5,124,000

GROSS CONSTRUCTION TOTAL $6,078,000 - $6,712,000

ADDITIONAL INVESTIGATION

With the exception of the *Cultural Landscape Report* which is currently being reviewed in draft form, this report has preceded other required documents that have not been written yet. Once these documents with their additional research and recommendations are completed, it will clarify some of the issues generated in this report. These reports include:

Archeological Data Testing and Recovery
Cultural Landscape Report
Historic Furnishings Plan

In addition, it was administratively decided that further structural investigation would be carried out by an A/E firm to either corroborate or negate the findings of the Denver Service Center. Areas in which work shall be done include the following topics:

Investigate foundation deterioration on the west side of the main house in the vicinity of room 103.

Prepare an analysis for replacement columns to match the 1880 appearance for the south porch, manufactured out of alternative materials.

Prepare an additional assessment of the foundations once the soil investigations are complete.

Investigate the substructure of the south, west, and north porches.

Identify actual rotted elements at the exterior walls adjacent to the main stair.

Identify any wall sills or lower wall framing that exhibits rot (by coring).

In the area of the south library wall, further investigations are needed to determine if structural problems exist in both the wall and roof structure above.

Investigate first-floor loading capacity.

Investigate second-floor framing above rooms 102, 103, 104, 106, 107, 108, 111, and 114 with a borescope. The entire ceiling of room 106 may be removed if needed to investigate conditions. In addition, plaster could be removed from the south, east, and west walls above the doorways to investigate header conditions, if necessary. Investigate the library floor (exposed in gift shop).

Investigate hallway framing on the north and south walls of room 207 and the west wall of room 217.

Investigate third-floor framing above rooms 201, 205, 206, 207, 208, 213, 214, 215, 217 with a borescope. Investigate third-floor framing (above the library) from the floor above.

Investigate the main stair. Removal of wood ceiling panels will be necessary to expose the framing of the stair.

Investigate the original stair framing with a borescope.

Since it was being planned to accomplish the necessary investigation on the structure with an A/E firm, it is recommended for them to also complete the study on accessibility for disabled visitors within the main house, as well as further analysis of the mechanical and electrical systems.

This report itself recommends additional investigation on a number of items that were not able to be studied in enough detail in the initial work. They are listed below.

Identify the location and condition of the drainage field for roof storm water, and the location of the septic tank (see discussion, "Plumbing, Waste/Sanitary").

Do a close-up inspection of all cornices and decorative trim for pieces that are rotten or missing. This will involve the use of lifts and/or tall ladders to reach these high places. Also inspect the wood siding for rotten areas (see discussions, "Wall Surfaces, Wood" and "Wall Surfaces, Wood Siding").

Test paint removal methods on the wood siding to see what methods work best while not damaging the historic fabric, environment, and workers (see discussion, "Wall Surfaces, Wood Siding").

Investigate for chemicals or other reasons causing stone deterioration (scale/erosion of the surface) on the masonry of the memorial library. Test stone consolidants (see discussion, "Masonry").

Investigate details of old metal roofs such as on the carriage porch and third floor porches (see discussion, "Built-Up Metal").

Investigate the date of old porch lamps on the south and west porches (see discussion, "Porches, Lighting Fixtures").

Date other pieces of architectural hardware using the paint analysis method (see discussion, "Porches, Lighting Fixtures").

Investigate and test for the presence of asbestos and asbestos containing materials by a qualified inspector (see discussions, "Hot-Water Radiators," and "Forced-Air Heating System").

Calculate heat loss/gain and heating/air conditioning loads. Record layout and size of existing ductwork and analyze if modifications are necessary.

Conduct a comprehensive search for the remains of historic wallpaper at an appropriate time (see discussion, "Walls and Ceilings, Wallpaper").

Investigate the original 1885 kitchen (rooms 116, 117, and 118) and the second-floor bathroom (room 214) to see if the remains of fixtures, plumbing, electrical, finish materials, etc., can be found (see discussion, "Additional Interior Restoration").

Investigate the original floor material which may be under the black and white asphalt type tile in the first-floor back hall (room 112) and the bathroom (rooms 113, 114) (see discussion, "Floor Surfaces and Finish, Tile Floors").

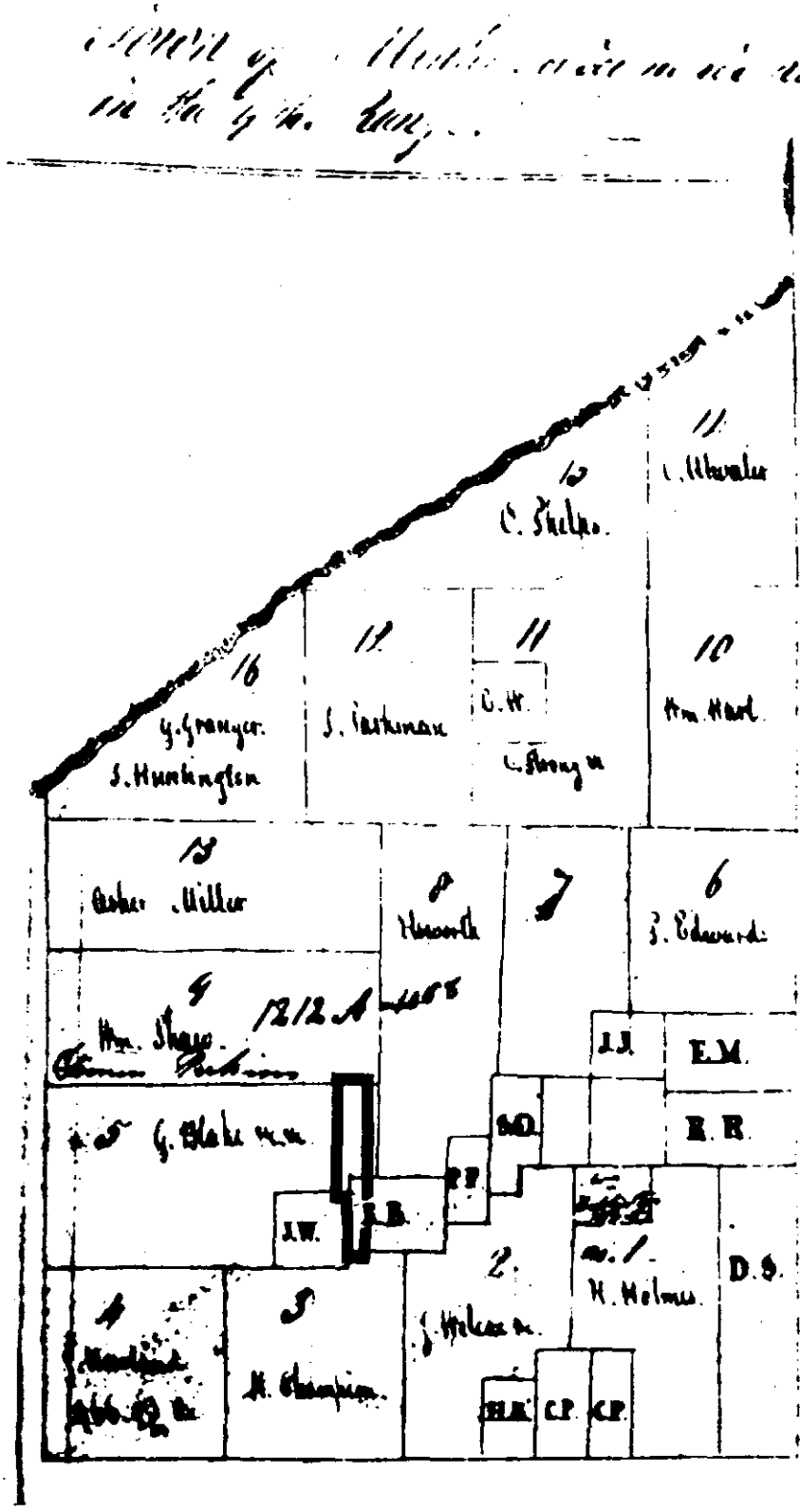
Investigate the possibility of buried underground fuel oil tank leakage in the exterior area adjacent to main stair (see discussion, "Fuel Supply Piping, Fuel Oil").

Monitor the temperature and humidity levels in the main house and campaign house to determine needs for new climate control systems. Additionally, more study needs to be done to make more specific recommendations for mechanical, electrical and security systems (see discussions, "Mechanical Systems," "Electrical Systems," and "Security Systems").

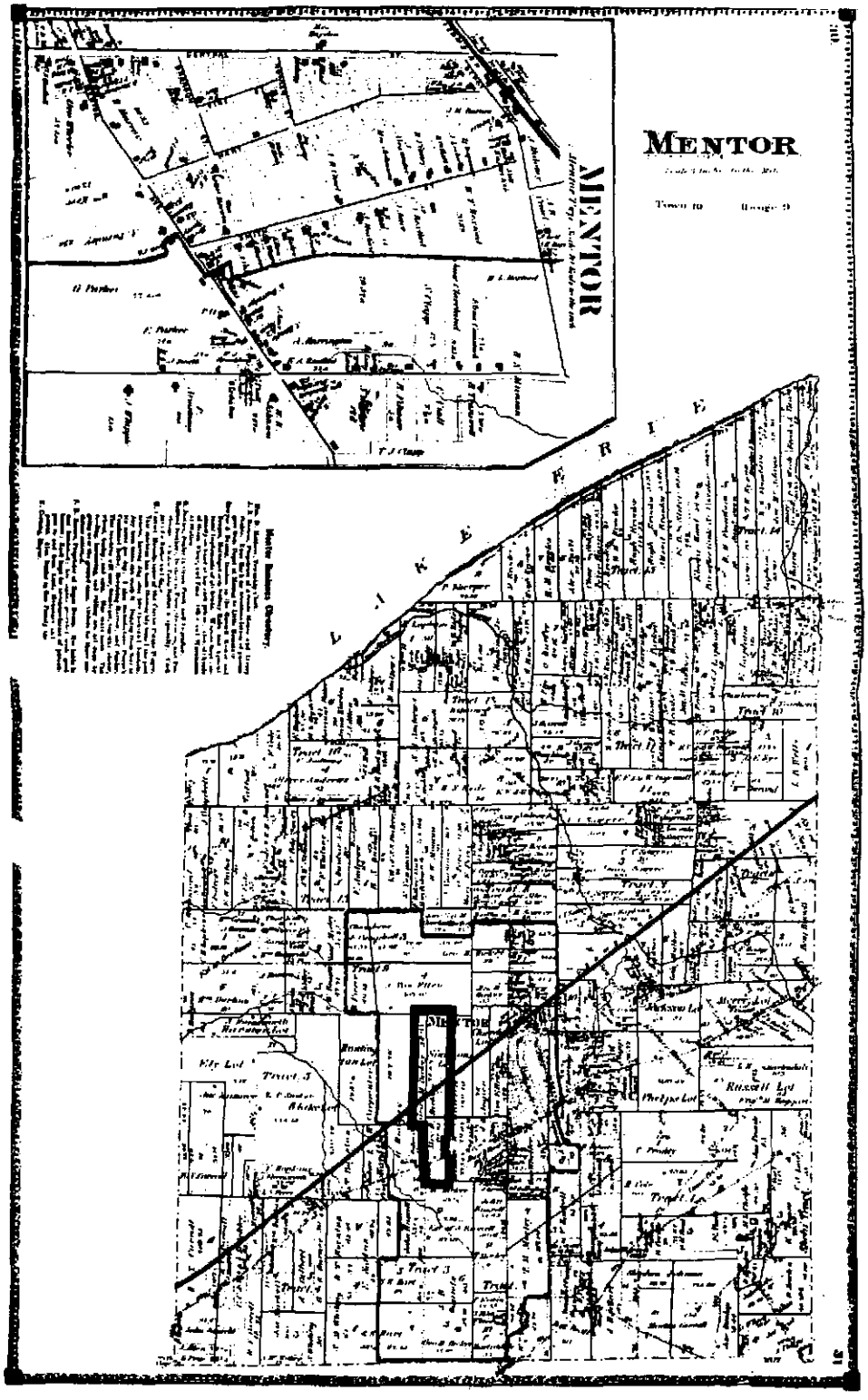
GALLERY

Codes before titles pertain to how maps, drawings, and photographs are referred to in the report.

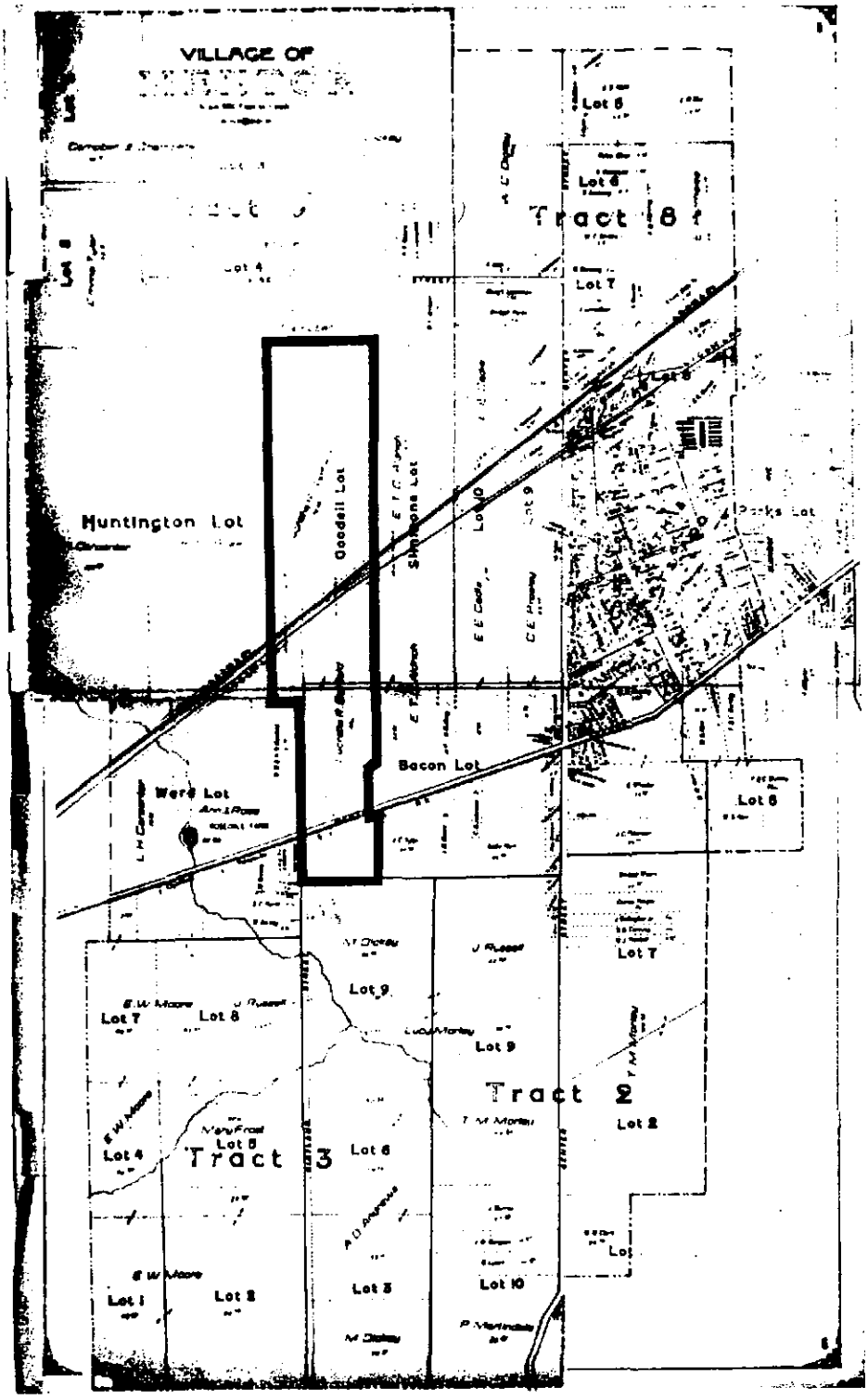
HISTORICAL LOCATION MAPS (LM)



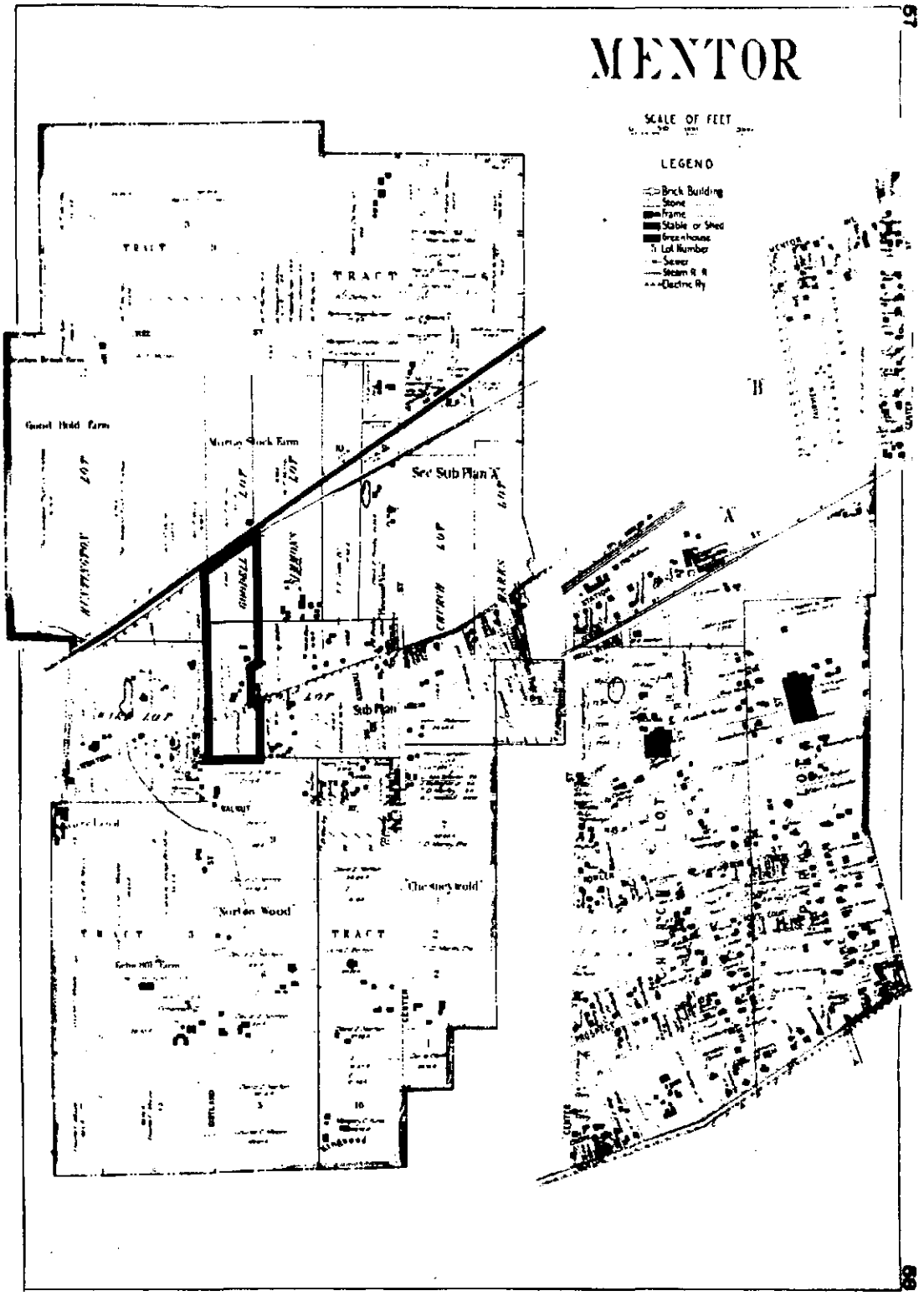
LM-1, Map, Town of Mentor or Township No. 10 in the 9th Range, ca. 1802. Shows ownership of land after Connecticut Land Company Drafts of 1802. A part of the tract 5 and a part of the land owned by Ralph Bacon (R.B.) later became part of the Garfield farm. WRHS.



LM-2, Map, Mentor Township, ca. 1874. From *Atlas of Lake and Geauga Counties, Ohio.* D.J. Lake, Civil Engineer, Philadelphia, p. 30.

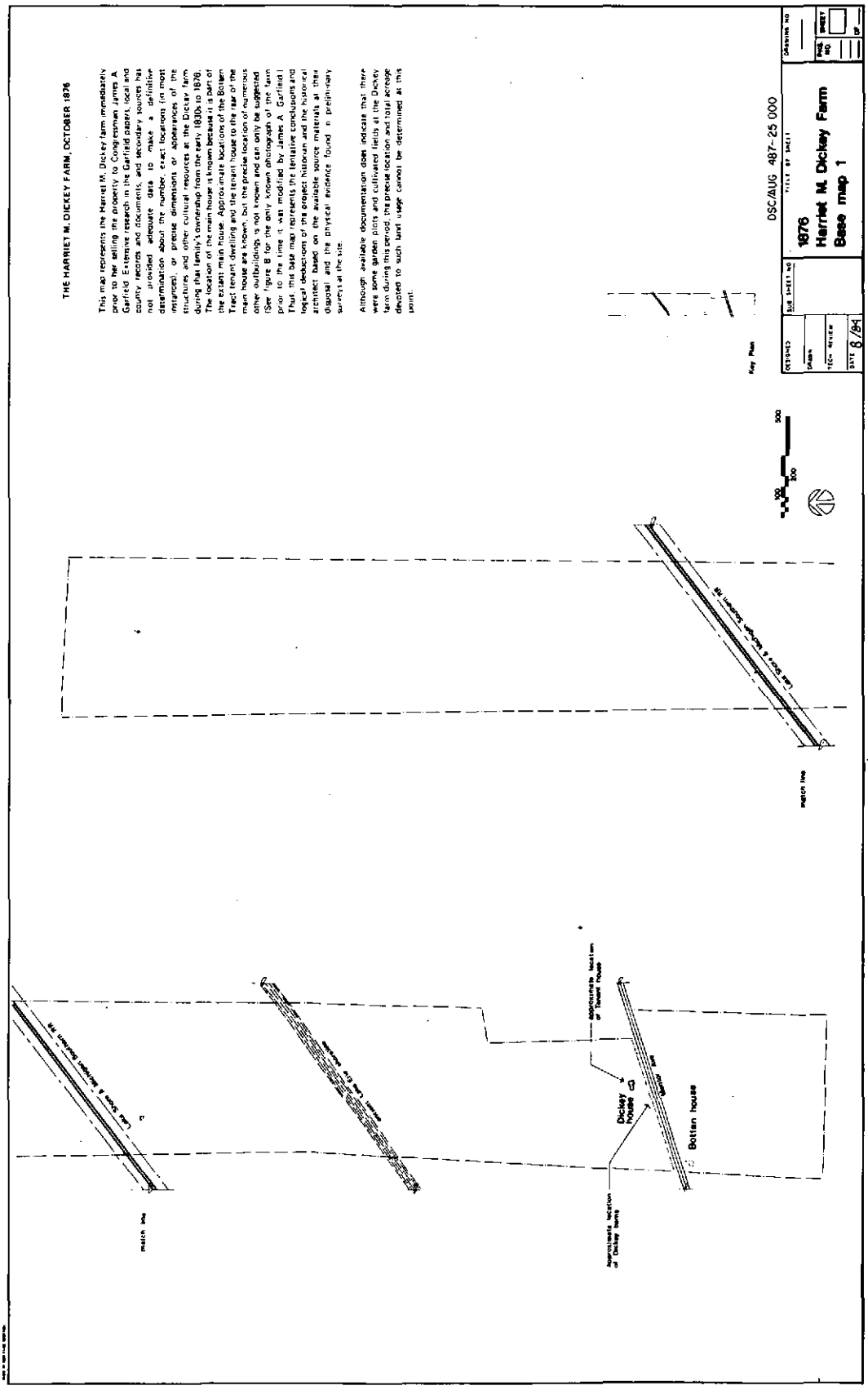


LM-3, Map, Village of Mentor, ca. 1898. From *Atlas of Lake County, Ohio,* by H.B. Stranahan and G.D. Corey, Cleveland, p. 109.



LM-4, Map, Mentor Incorporated, ca. 1915. From *New Century Atlas, Lake County, Ohio.* Alexander C. Stark, Civil Engineer, Philadelphia, p. 57. Lucretia sold 87 acres (all land north of the railroad right of way) to William Murray in 1908.

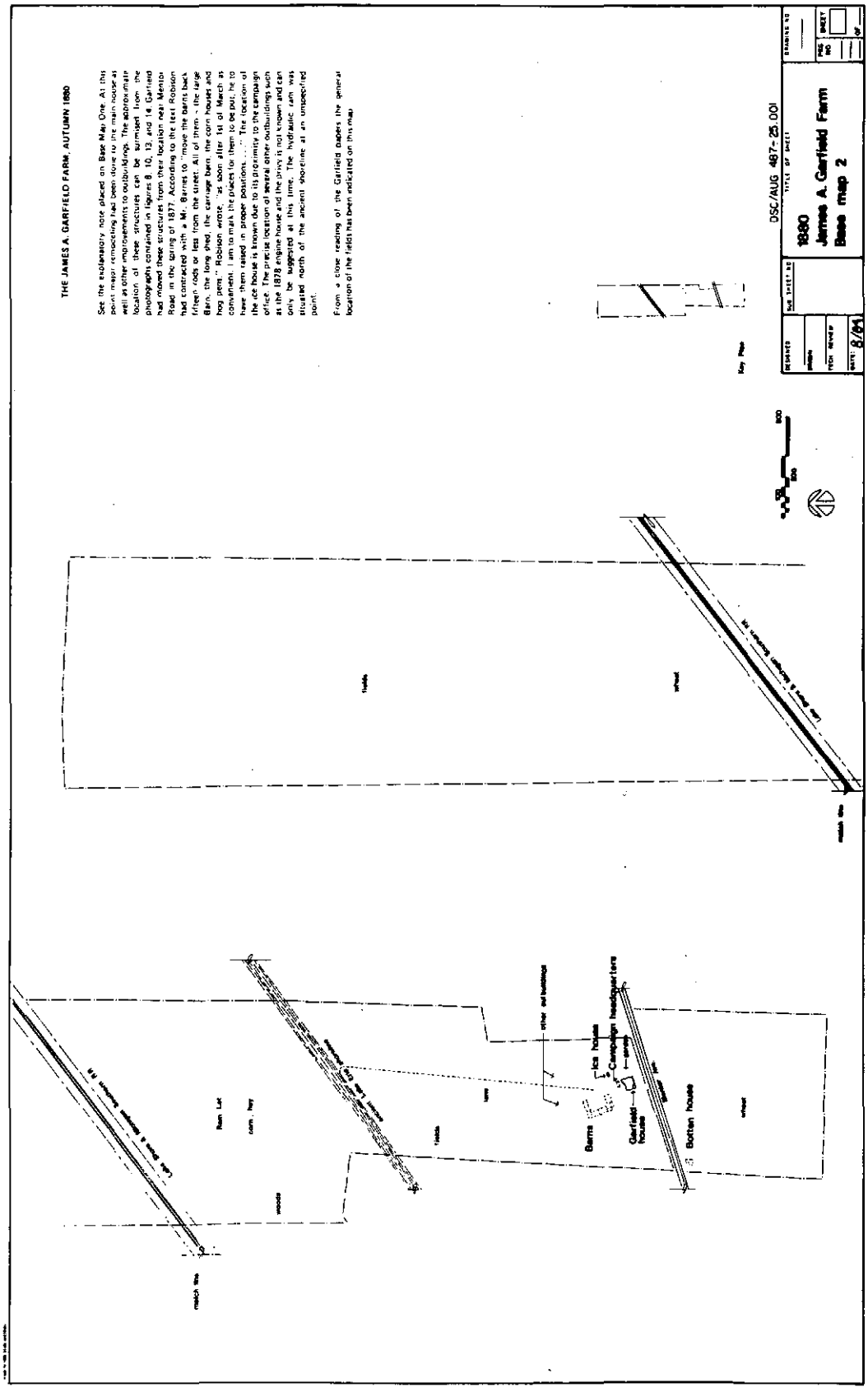
HISTORICAL BASE MAPS (BM)



BM-1, Base Map 1, ca. 1876.

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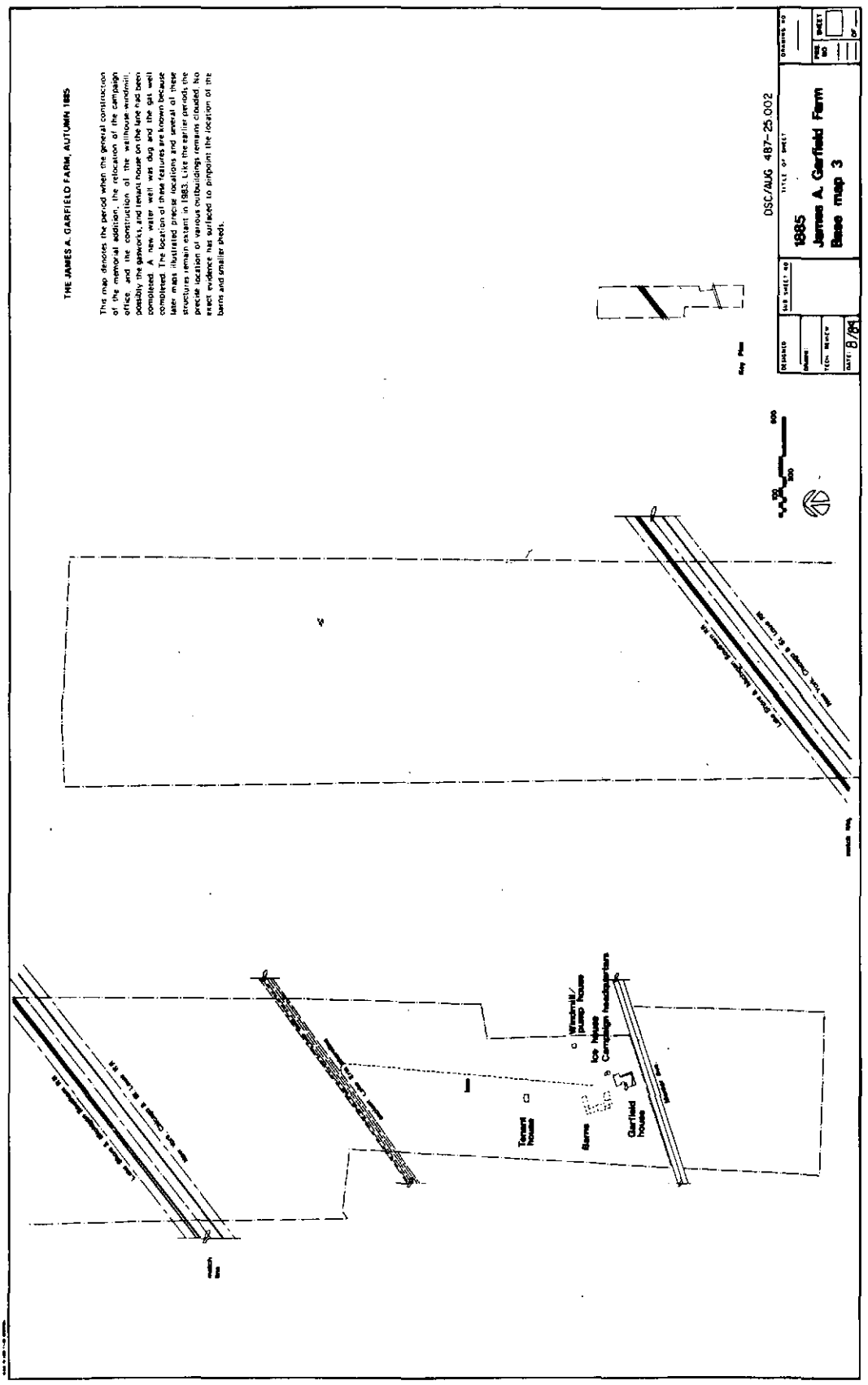
SAN FRANCISCO PUBLIC LIBRARY



BM-2, Base Map 2, ca. 1880.

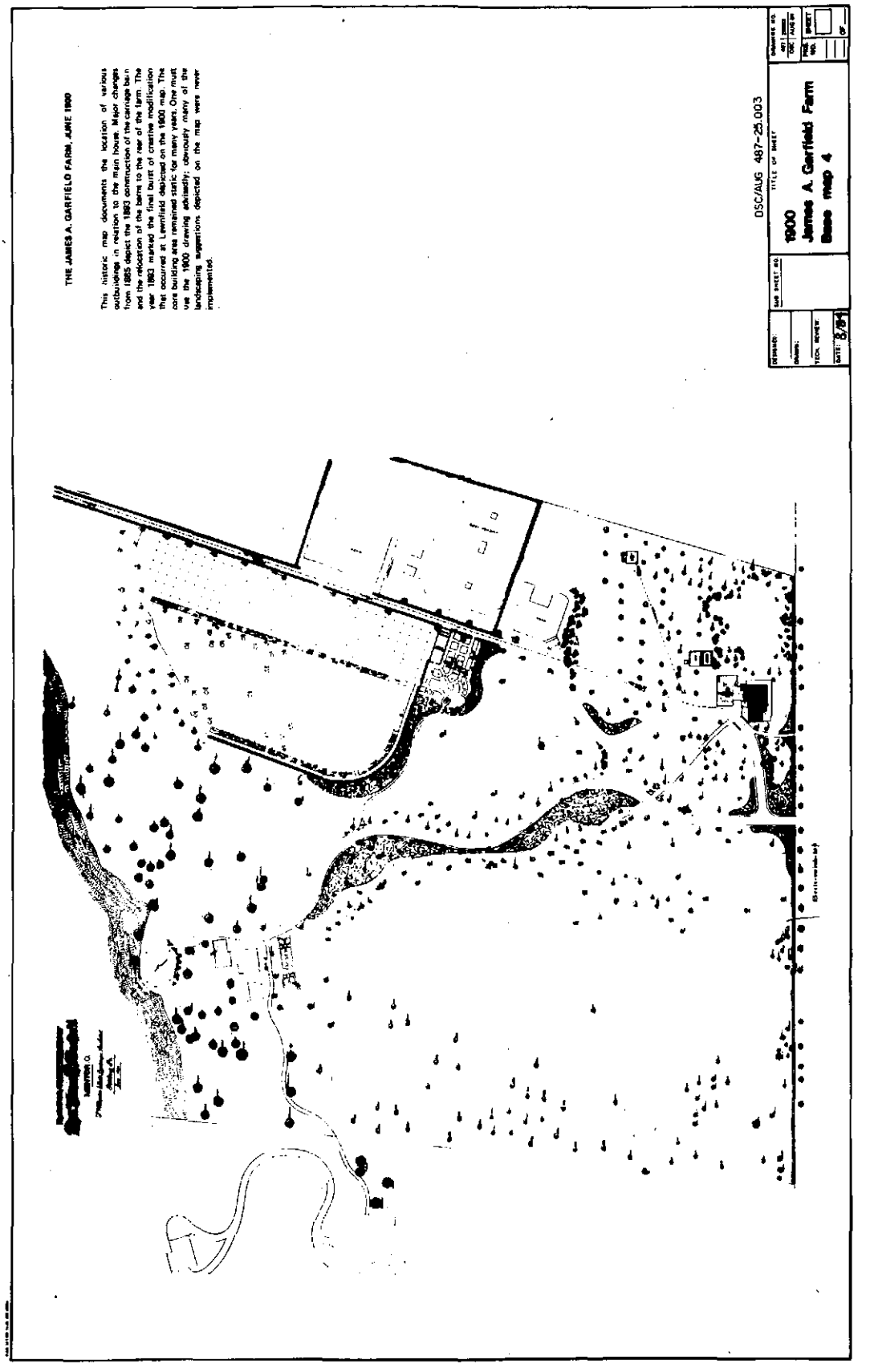
ON MICROFILM

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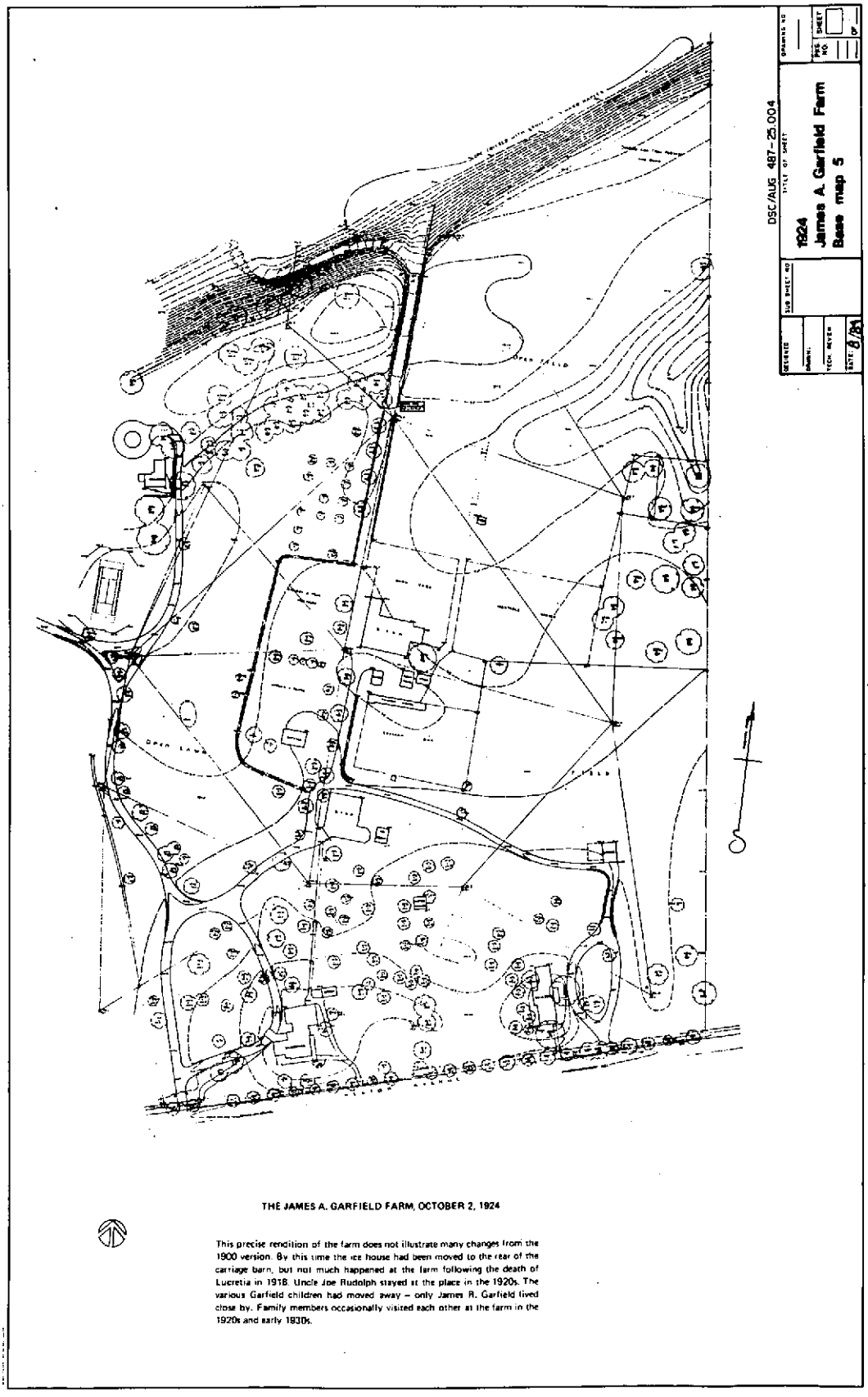
BM-3, Base Map 3, ca. 1885.

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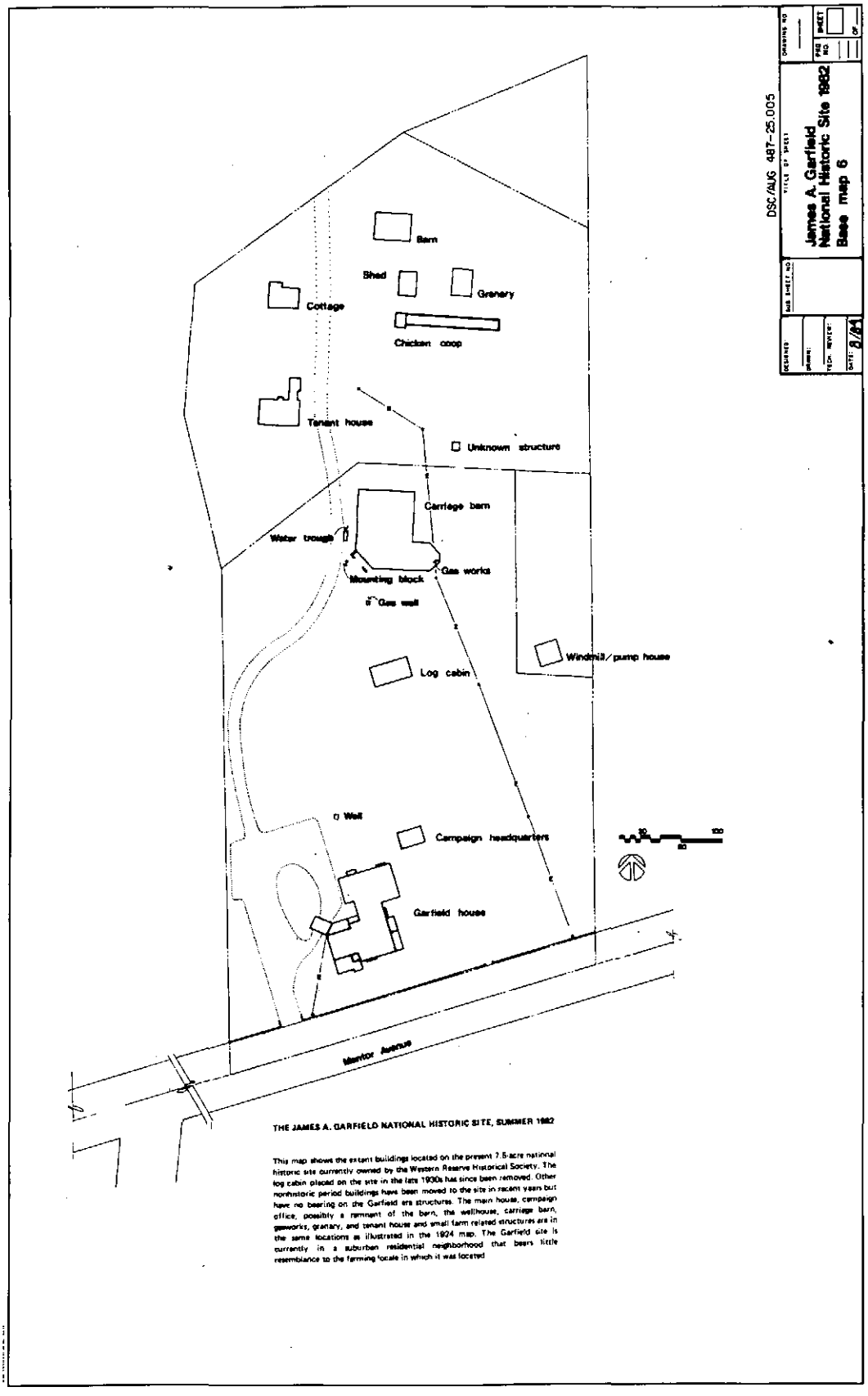
BM-4, Base Map 4, ca. 1900.

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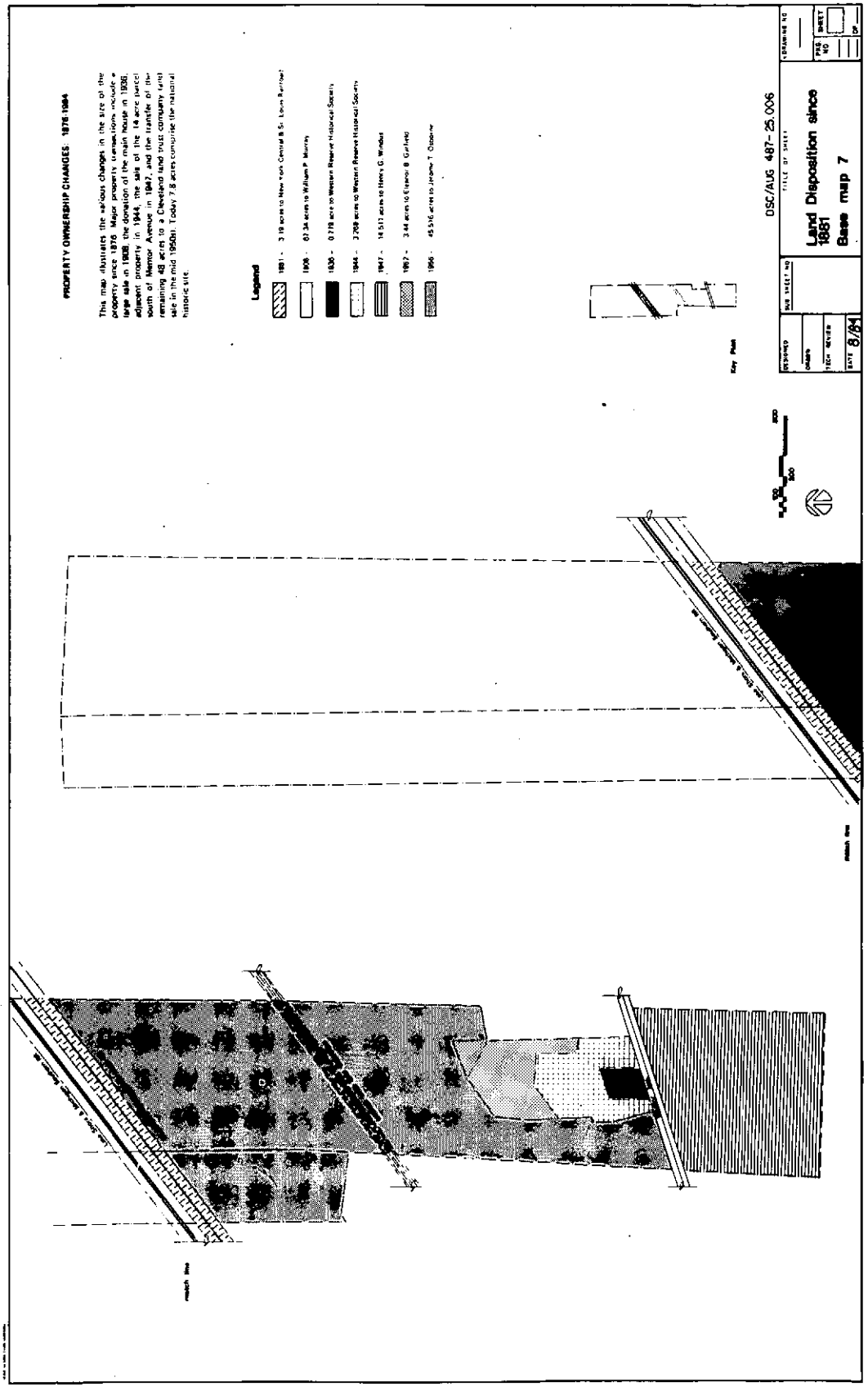
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BM-5, Base Map 5, ca. 1924.



BM-6, Base Map 6, ca. 1982.

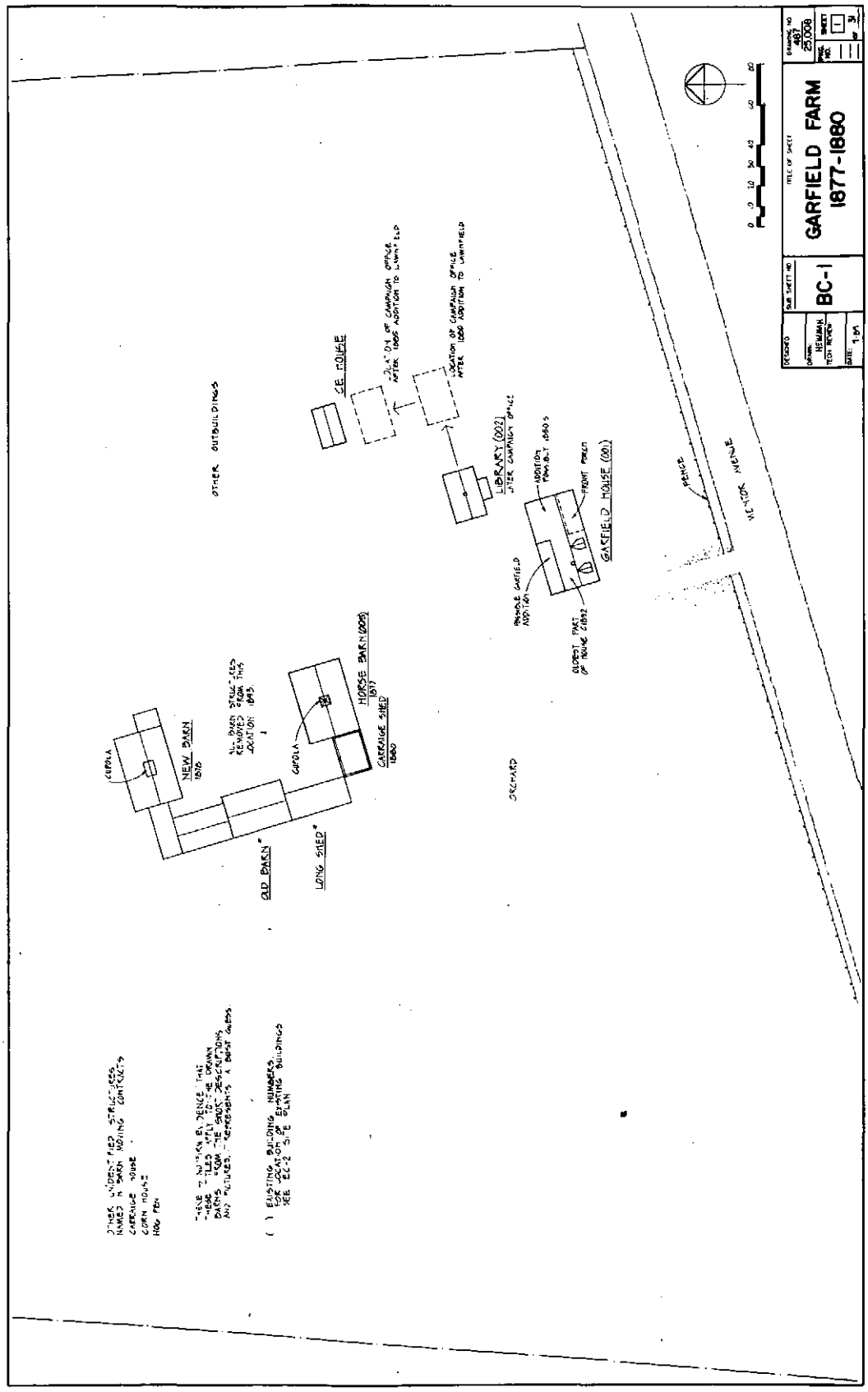
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BM-7, Base Map 7, Land Disposition Since 1881.

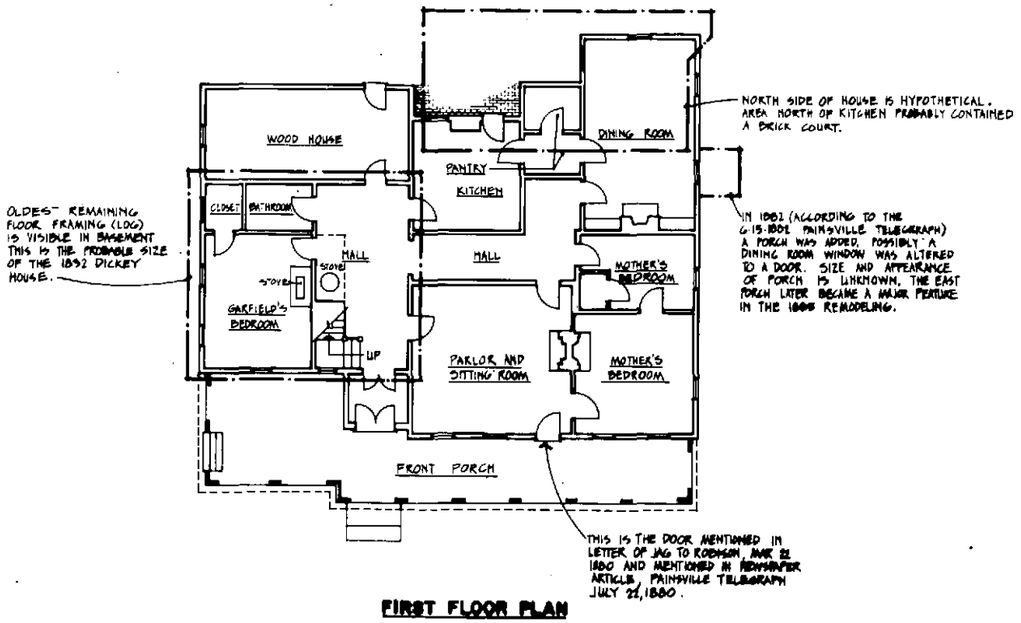
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BUILDING CHRONOLOGY DRAWINGS (BC)

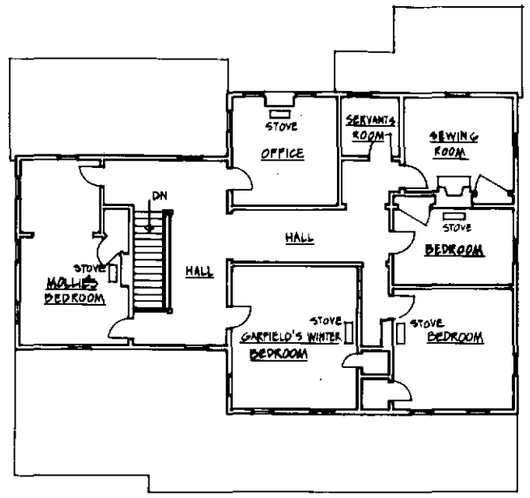


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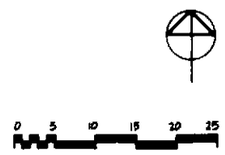
BC-1, Garfield Farm, ca. 1877-1879.



FIRST FLOOR PLAN



SECOND FLOOR PLAN

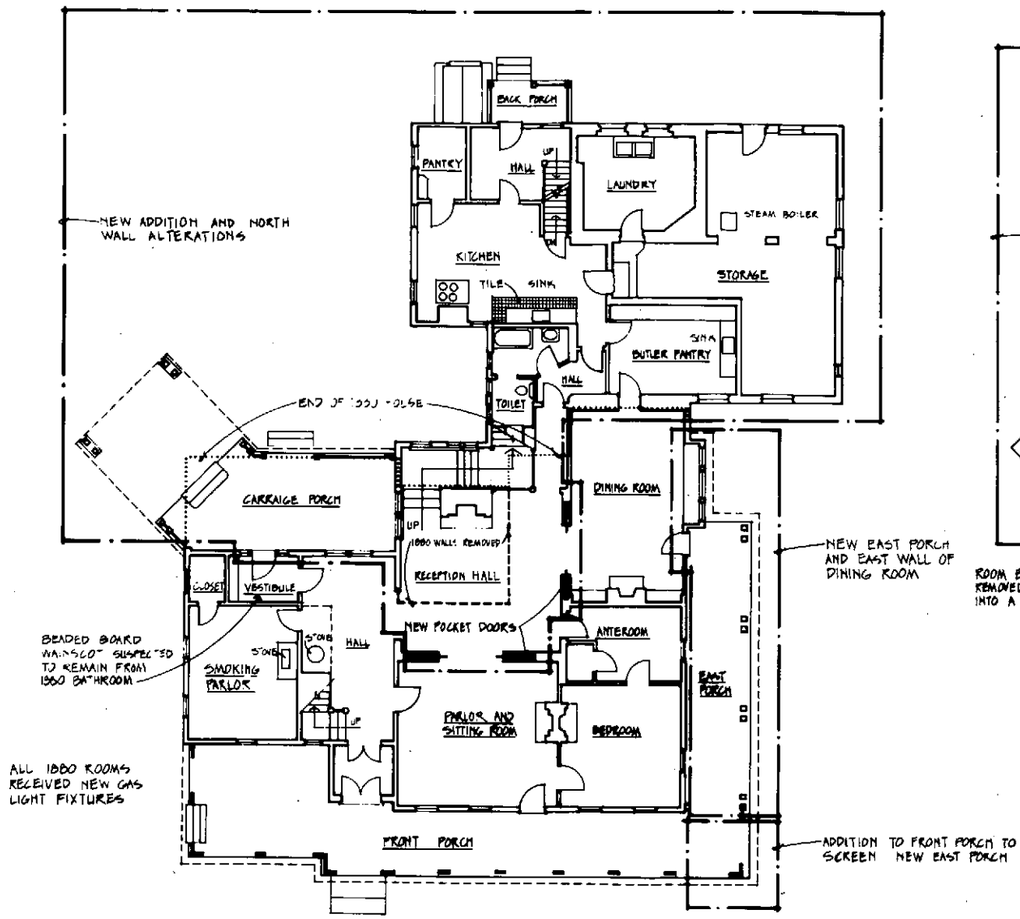


DRAWING BASED UPON INFORMATION CONTAINED ON "LAWNFIELD FLOOR PLAN - THE GARFIELD FARM" NEW YORK HERALD 9-26-1881, VARIOUS HISTORICAL PHOTOGRAPHS AND ILLUSTRATIONS. THIS INFO WAS COMPARED AGAINST THE MEASURED DRAWINGS OF THE EXISTING CONDITIONS AND PHYSICAL EVIDENCE TO DETERMINE THE ACTUAL CONFIGURATION.

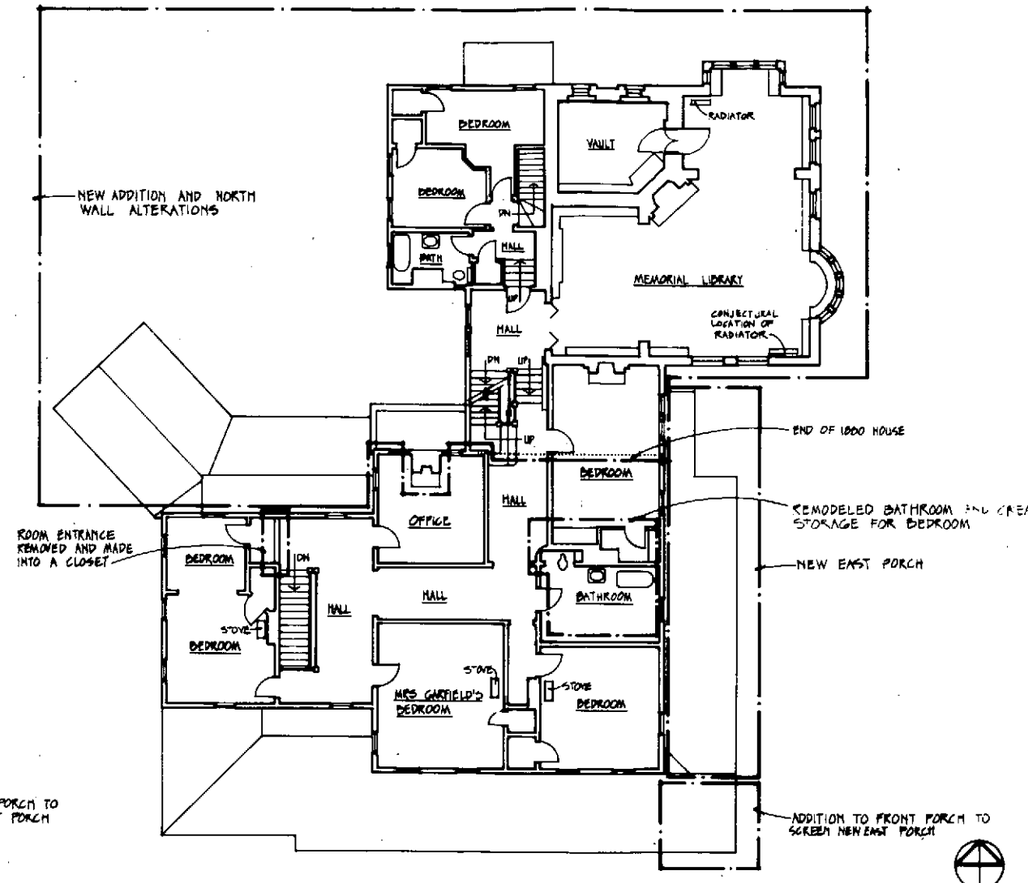
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DRAWN: NEWMAN	BC-2	LAWNFIELD 1880	SHEET 2 OF 31
TECH. REVIEW:			
DATE: 10/91			

BC-2, Lawnfield, ca. 1880.

ON MICROFILM



FIRST FLOOR PLAN



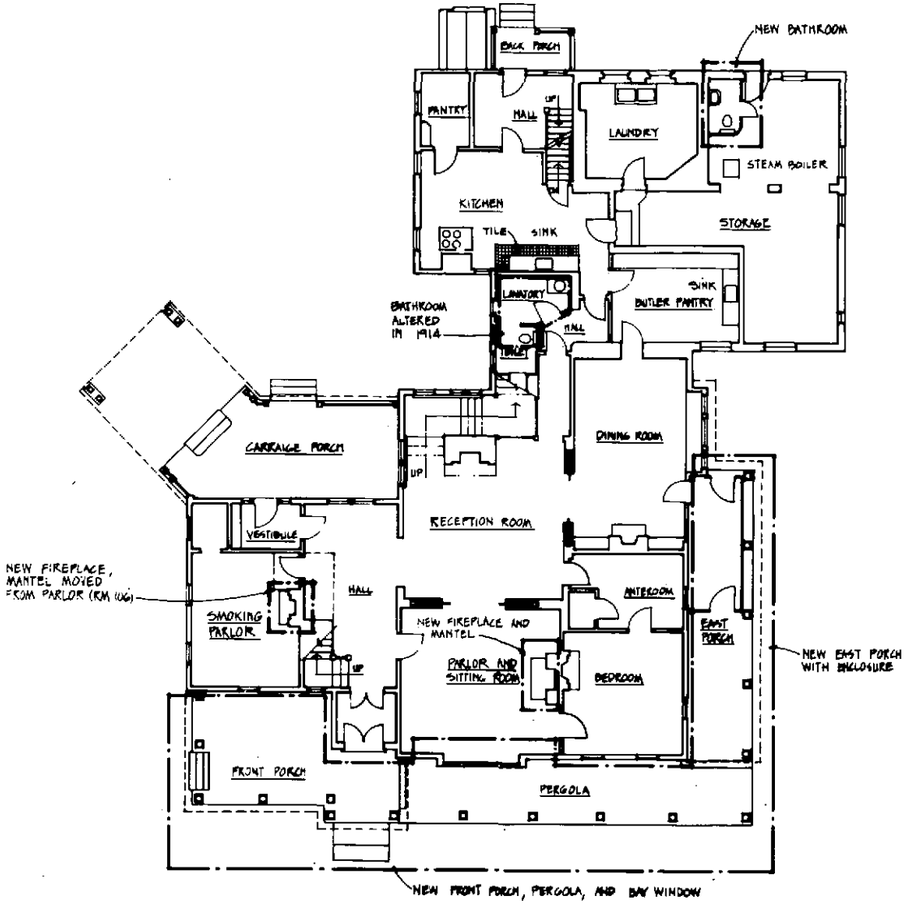
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0 5 10 15 20 25

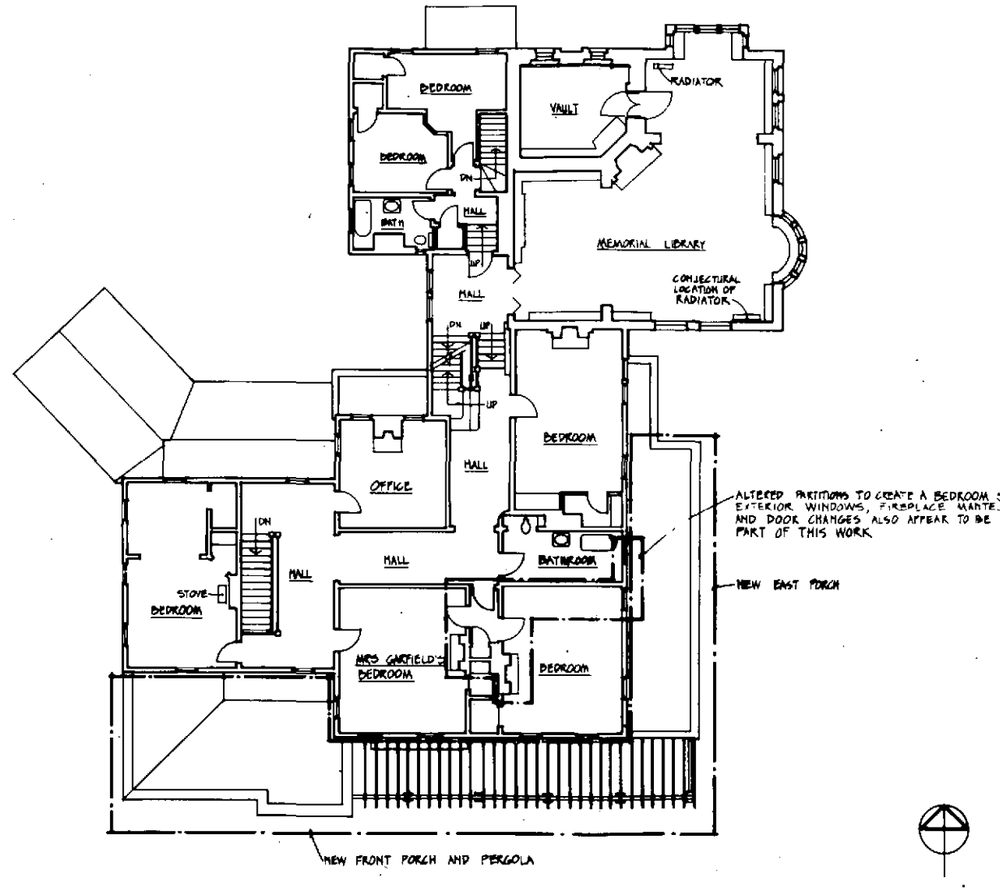
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DRAWN: MEWHAM	BC-3	LAWNFIELD 1885	
TECH. REVIEW:			SHEET 3 OF 31
DATE: 10/91			

BC-3, Lawnfield, ca. 1885.

ON MICROFILM



FIRST FLOOR PLAN



SECOND FLOOR PLAN

0 5 10 15 20 25

DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: HERRMANN	BC-4	LAWNFIELD 1904	SHEET 4
TECH. REVIEW:			
DATE: 10/91			

BC-4, Lawnfield, ca. 1904.

ON MICROFILM

EXISTING CONDITION DRAWINGS, 1984/85 (EC)

JAMES A. GARFIELD NATIONAL HISTORIC SITE

"LAWNFIELD"

JAMES A. GARFIELD NATIONAL HISTORIC SITE WAS THE MENTOR, OHIO, HOME OF JAMES A GARFIELD, THE TWENTIETH PRESIDENT OF THE UNITED STATES. GARFIELD PURCHASED THE SITE IN 1876, (THEN A 118-ACRE FARM)AND ADDED 40 ADDITIONAL ACRES IN 1877. THE FARM INCLUDED A SMALL ONE AND ONE-HALF STORY HOUSE CONSTRUCTED CIRCA 1831 - 1832.

ALTHOUGH SMALL IMPROVEMENTS WERE MADE, IT WAS NOT UNTIL THE SPRING OF 1860 THAT GARFIELD ENLARGED THE HOUSE TO A SPACIOUS TWO AND ONE-HALF STORY HOME. IT WAS FROM THIS HOUSE, THAT GARFIELD CONDUCTED HIS FAMOUS AND SUCCESSFUL "FRONT PORCH" CAMPAIGN FOR THE PRESIDENCY IN 1880, WHICH THEN BECAME KNOWN AS "LAWNFIELD." A SMALL FORMER TENANT HOUSE LOCATED BEHIND THE MAIN HOUSE, OUTFITTED AS A LIBRARY, SERVED AS THE CAMPAIGN HEADQUARTERS.

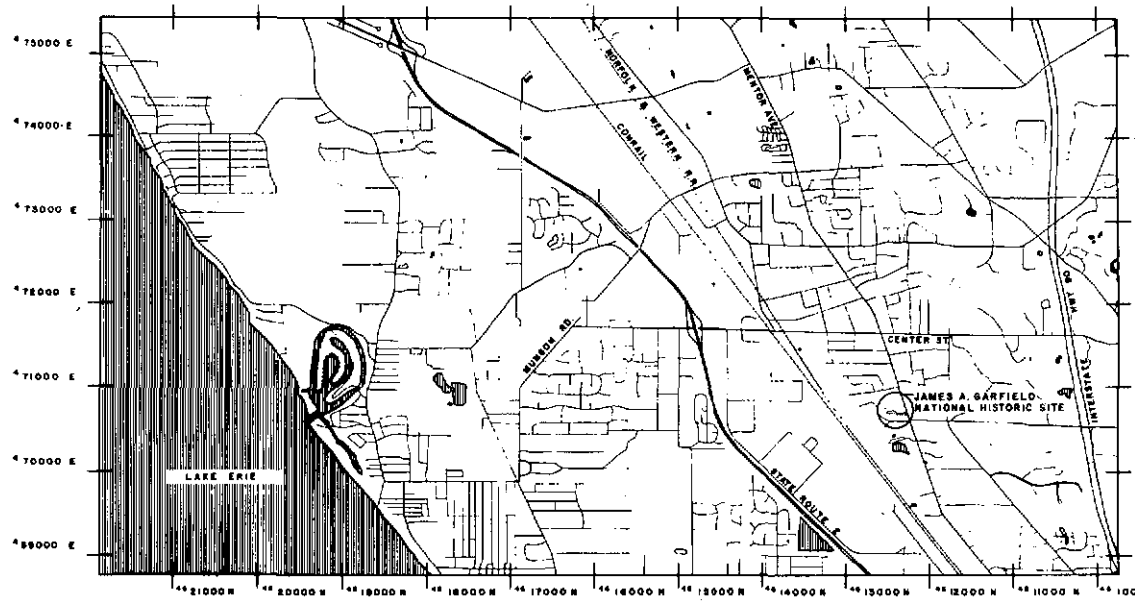
FOUR YEARS AFTER THE ASSASSINATION OF PRESIDENT GARFIELD IN 1881, THE HOME WAS AGAIN ENLARGED TO INCLUDE A MEMORIAL LIBRARY TO THE SLAIN PRESIDENT. THIS 1885 ADDITION TO THE HOUSE WAS ACCOMANIED BY THE CONSTRUCTION OF A TENANT HOUSE, A WINDMILL / PUMPHOUSE AND GAS HOLDER. A NEW CARRIAGE BARN WAS BUILT IN 1893.

THE DOCUMENTATION OF THE JAMES A. GARFIELD NATIONAL HISTORIC SITE IN MENTOR, OHIO WAS UNDERTAKEN BY THE WASHINGTON, D.C. OFFICE OF HISTORIC AMERICAN BUILDINGS SURVEY (HABS), AND WAS COSPONSORED BY THE MIDWEST REGIONAL OFFICE OF THE NATIONAL PARK SERVICE, THE DENVER SERVICE CENTER, CUYAHOGA VALLEY NATIONAL RECREATION AREA AND THE WESTERN RESERVE HISTORICAL SOCIETY.

THE HABS FIELD RECORDING PROJECT WAS CONDUCTED BY THE HABS/HAER DIVISION, NATIONAL PARK SERVICE, ROBERT J. KAPSCH, DIVISION CHIEF, AND WAS ORGANIZED AND DIRECTED BY KENNETH L. ANDERSON, PRINCIPAL ARCHITECT, HABS. THE MEASURED DRAWINGS WERE PRODUCED DURING THE SUMMER OF 1984 AT THE HABS JAMES A. GARFIELD NATIONAL HISTORIC SITE FIELD OFFICE BY PROJECT SUPERVISOR JOHN SCHLINKE (RICE UNIVERSITY) AND ARCHITECTURE TECHNICIANS: SCOTT DUENOW (IOWA STATE UNIVERSITY), ERIC GASTIER (CORNELL UNIVERSITY), AND TODD GUTE (LAWRENCE INSTITUTE OF TECHNOLOGY).

THE 1985 MEASURED DRAWINGS WERE PRODUCED AT THE HABS JAMES A. GARFIELD NATIONAL HISTORIC SITE FIELD OFFICE BY PROJECT SUPERVISOR JOHN SCHLINKE, (RICE UNIVERSITY), AND ARCHITECTURE TECHNICIANS: LESLEY GILMORE, (UNIVERSITY OF CHICAGO), ELIZABETH KUNIN, (ILLINOIS INSTITUTE OF TECHNOLOGY), AND ANNE EVANS, (UNIVERSITY OF EDINBURGH, INTERNATIONAL COUNCIL ON MONUMENTS AND SITES - U.S./ICOMOS.

EXISTING CONDITION NOTES



LOCATION MAP

ADAPTED FROM U.S.G.S. MAP, MENTOR QUADRANGLE, 1979

UTM 17.470780.4612320

SCALE 1:24000

1 0.5 0 1 MILES

1 0.5 0 1 KILOMETRES

EC 1 487/25,008 5 OF 31

HISTORIC AMERICAN BUILDINGS SURVEY SHEET 1 OF 14 SHEETS

OH-2254

OHIO

LAKE COUNTY

LAWNFIELD

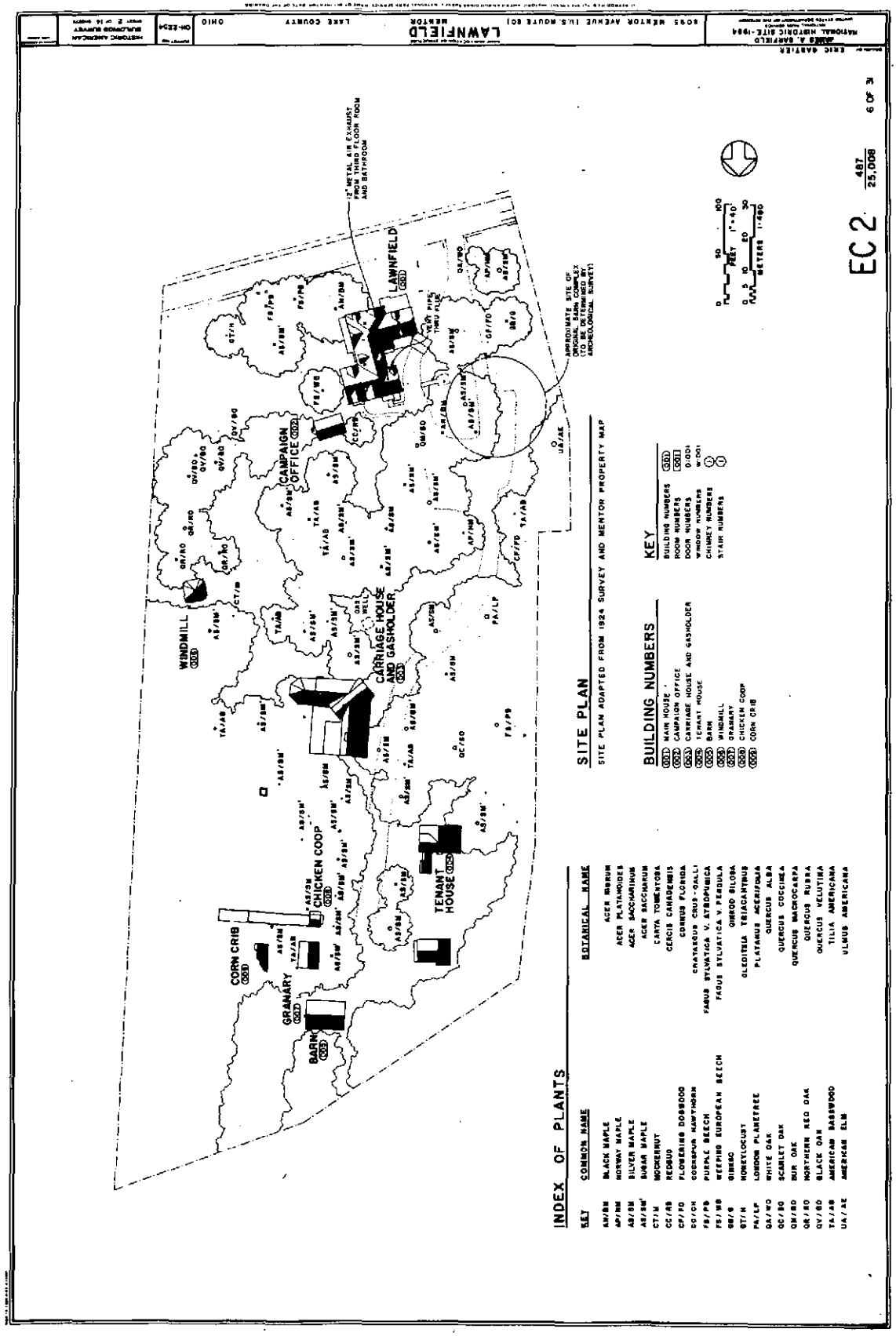
8095 MENTOR AVENUE (U.S. ROUTE 20)

MENTOR

ERIC GASTIER

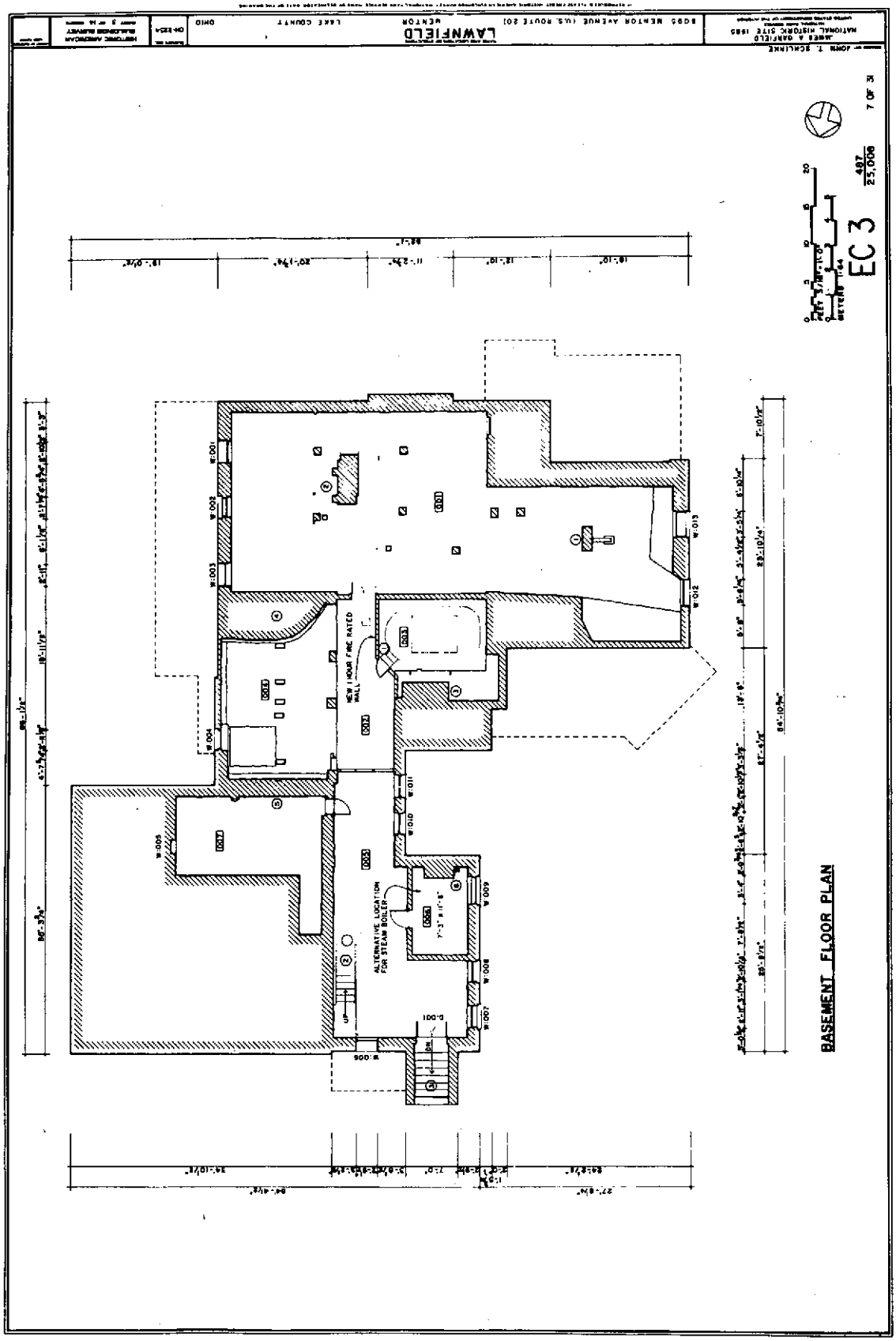
JAMES A. GARFIELD NATIONAL HISTORIC SITE - 1984

ON MICROFILM



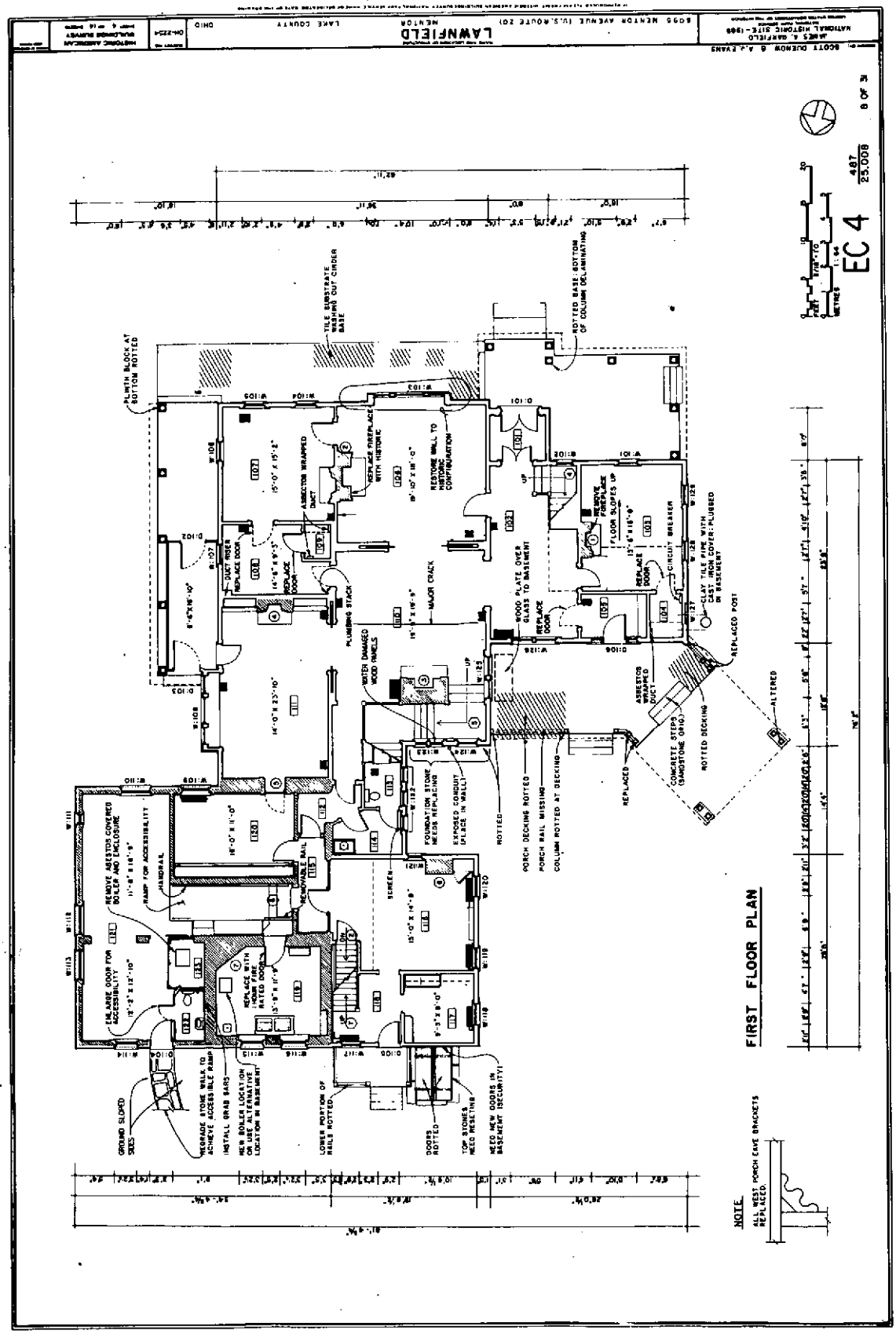
ON MICROFILM

EC-2, Lawnfield, Site Plan



EC-3, Lawnfield, Basement Floor Plan

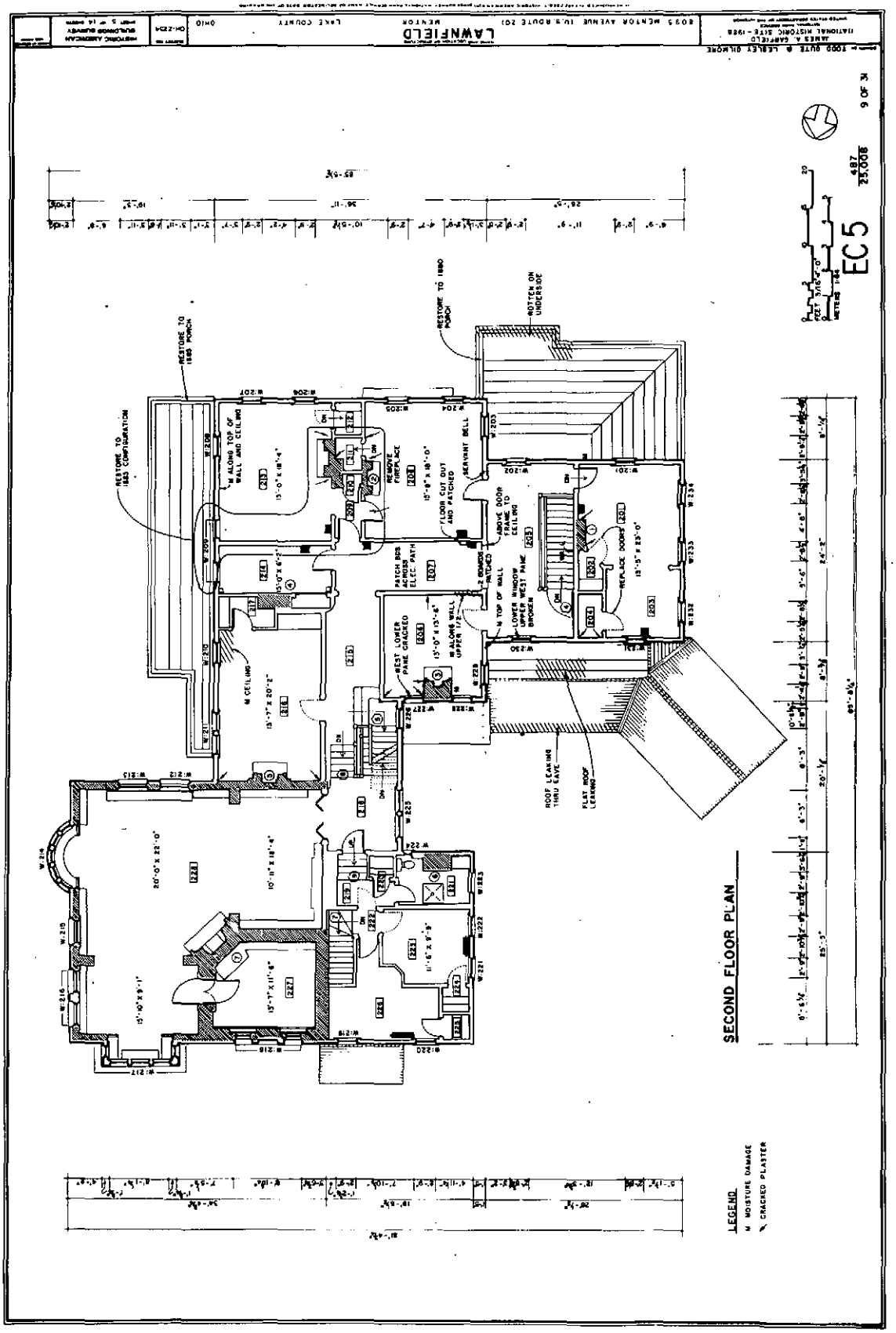
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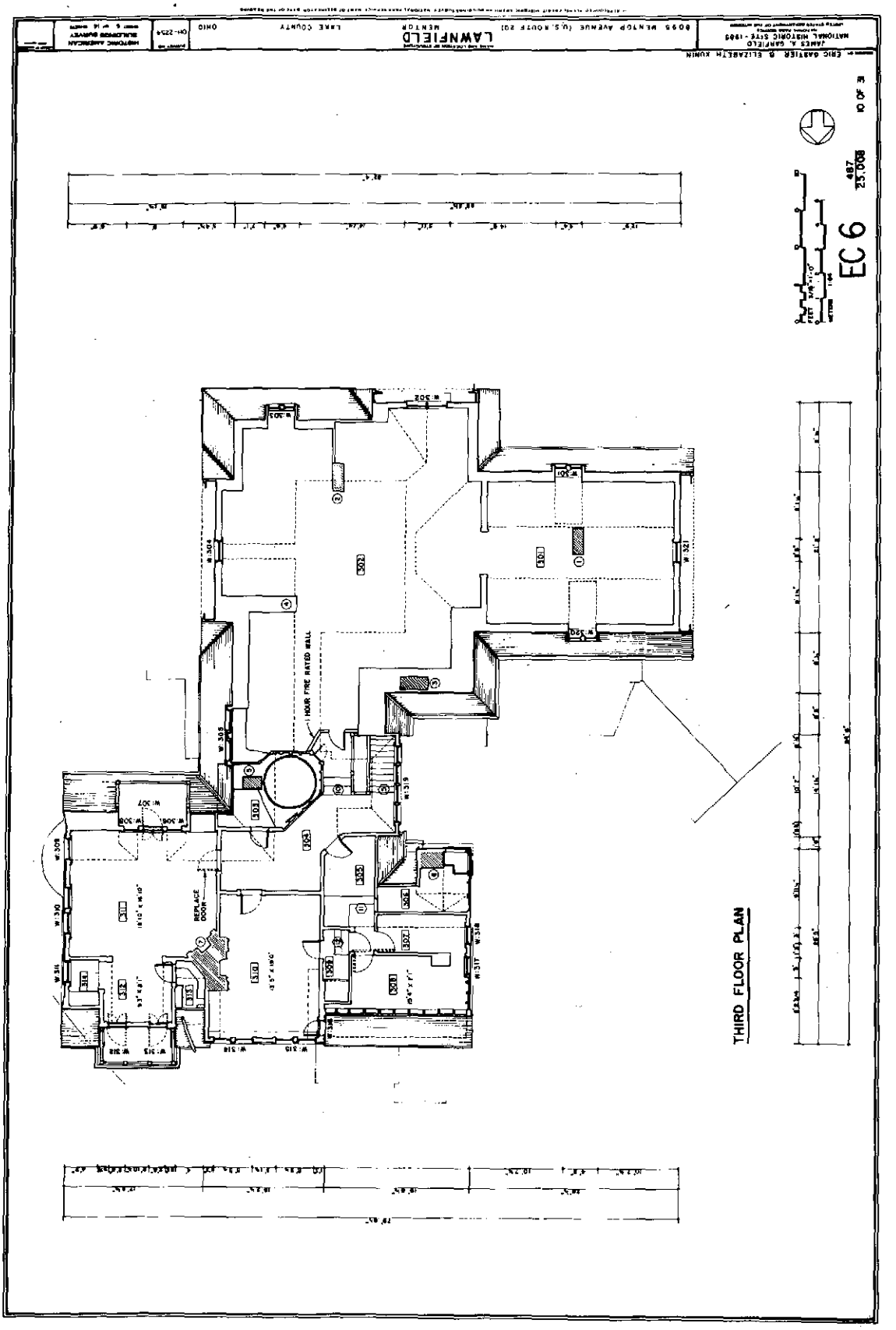
EC-4, Lawnfield, First-Floor Plan

ON MICROFILM

ON MICROFILM

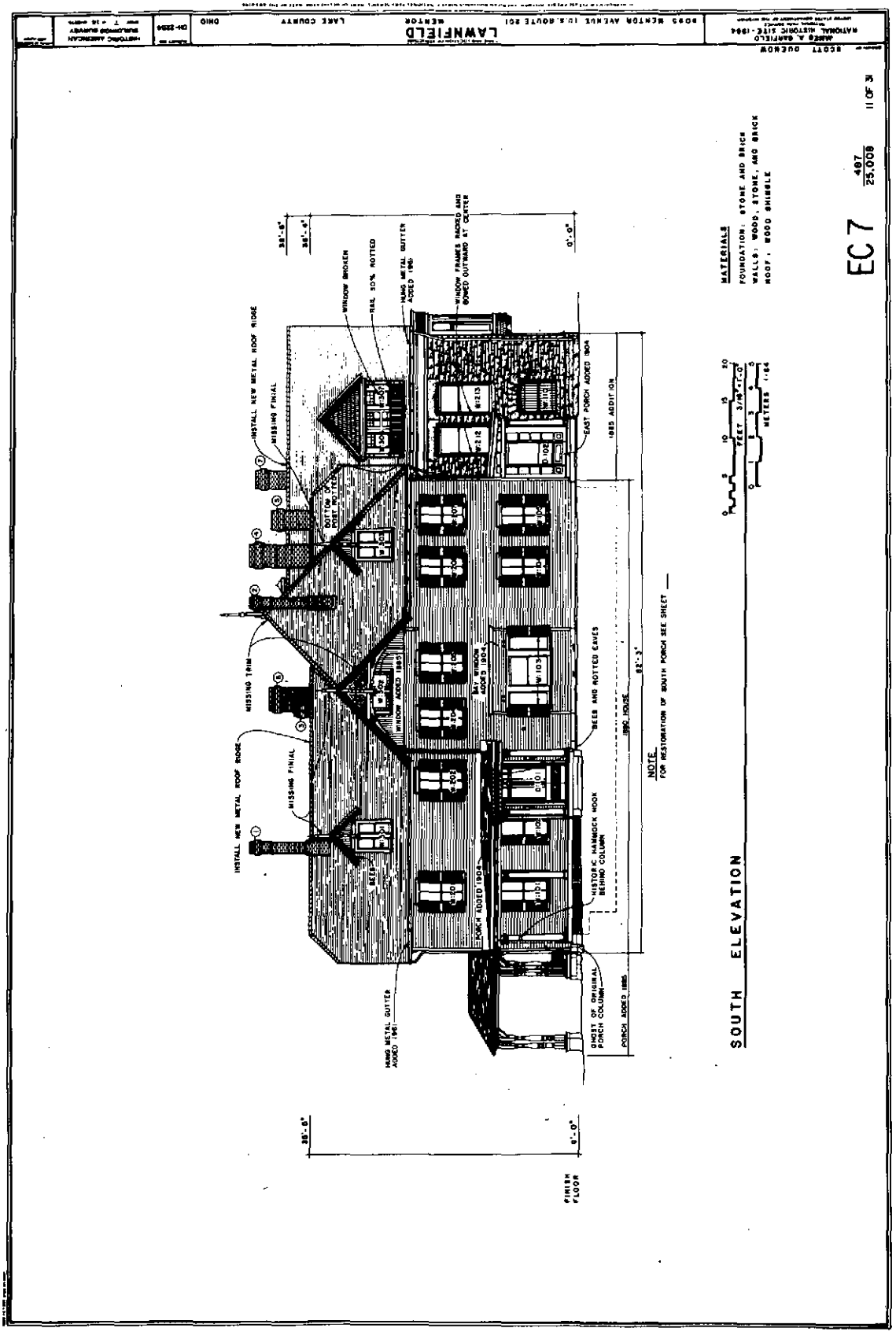


EC-5, Lawnfield, Second-Floor Plan



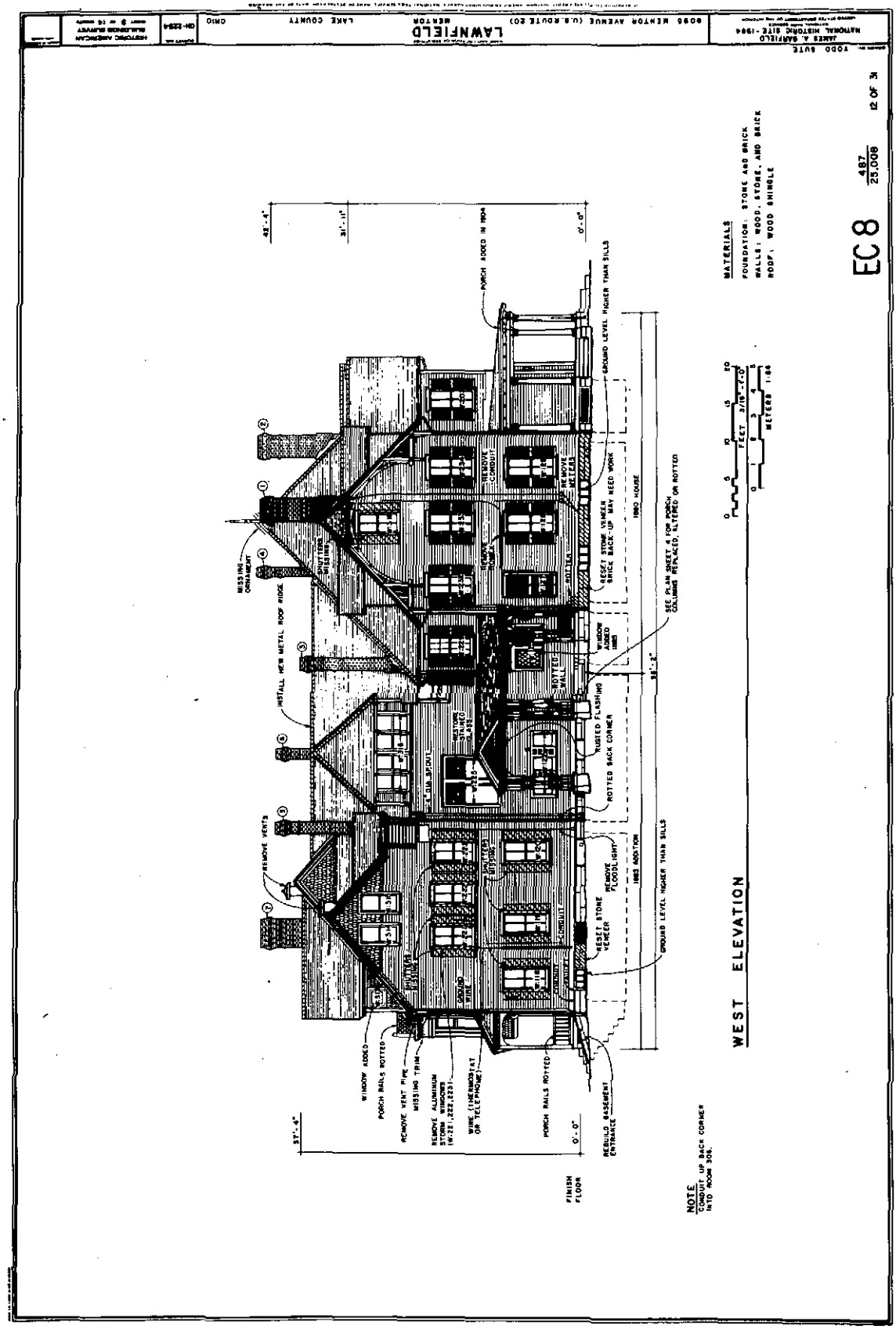
EC-6, Lawnfield, Third-Floor Plan

ON MICROFILM



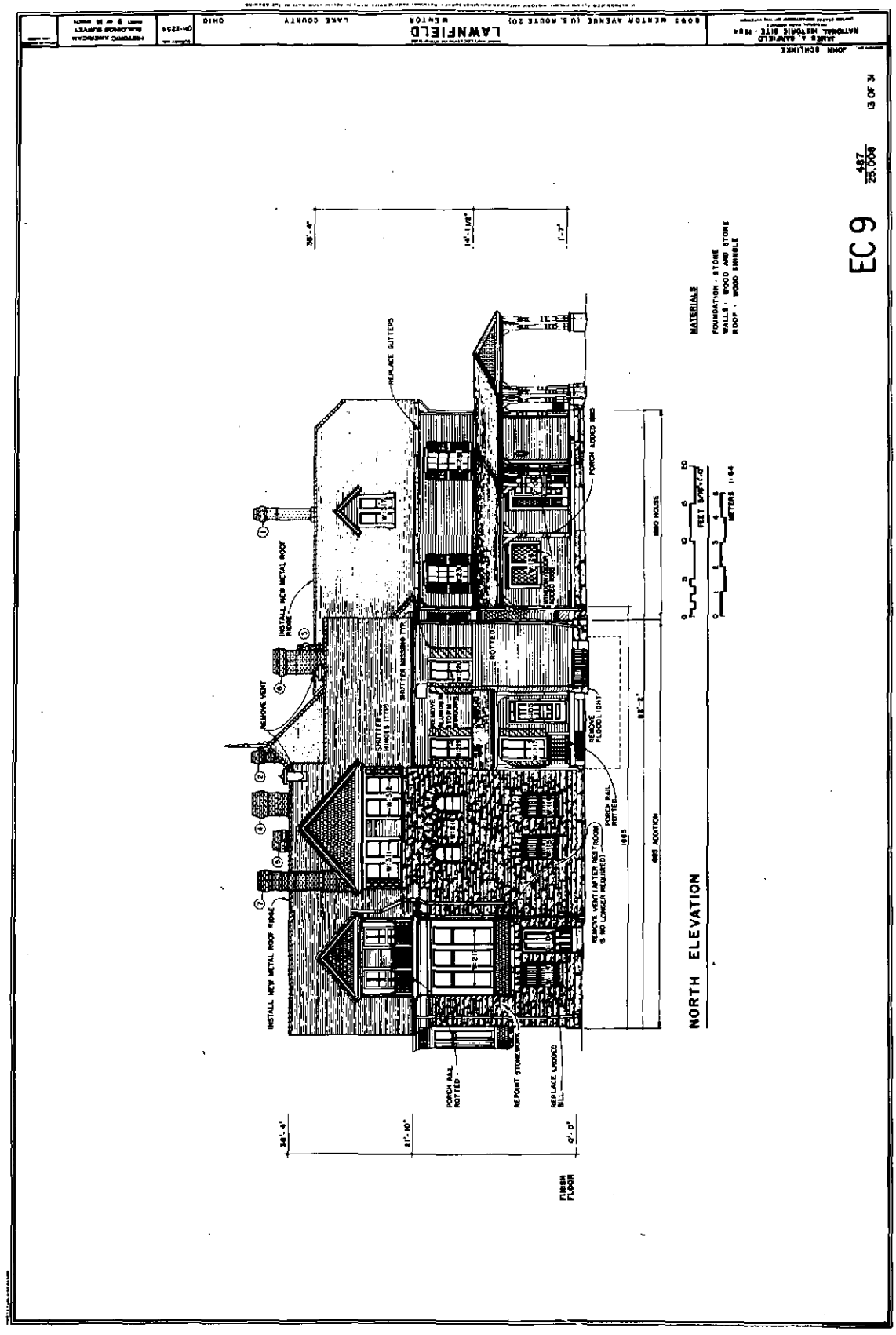
EC-7, Lawnfield, South Elevation

ON MICROFILM



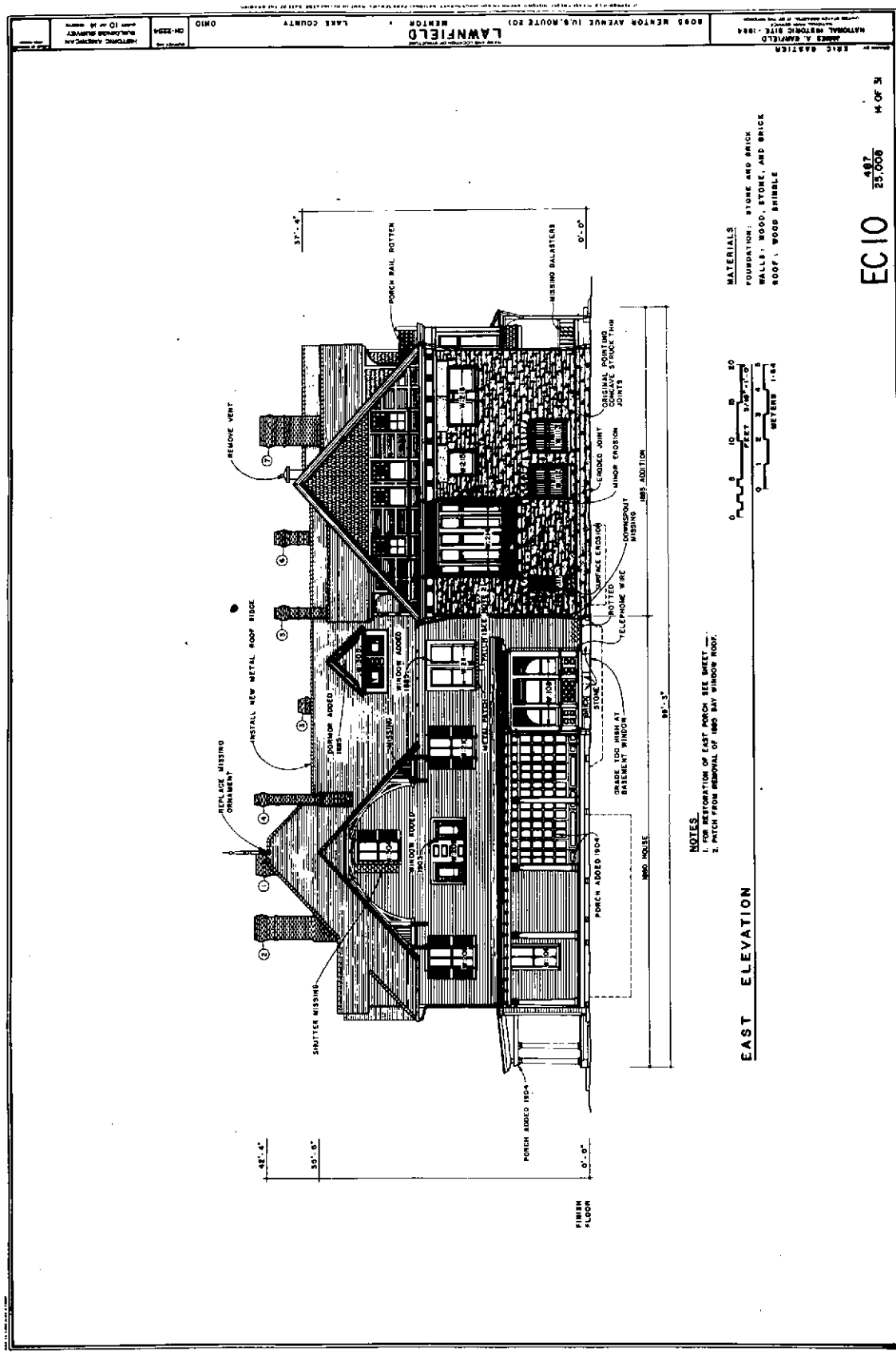
EC-8, Lawnfield, West Elevation

ON MICROFILM



EC-9, Lawnfield, North Elevation

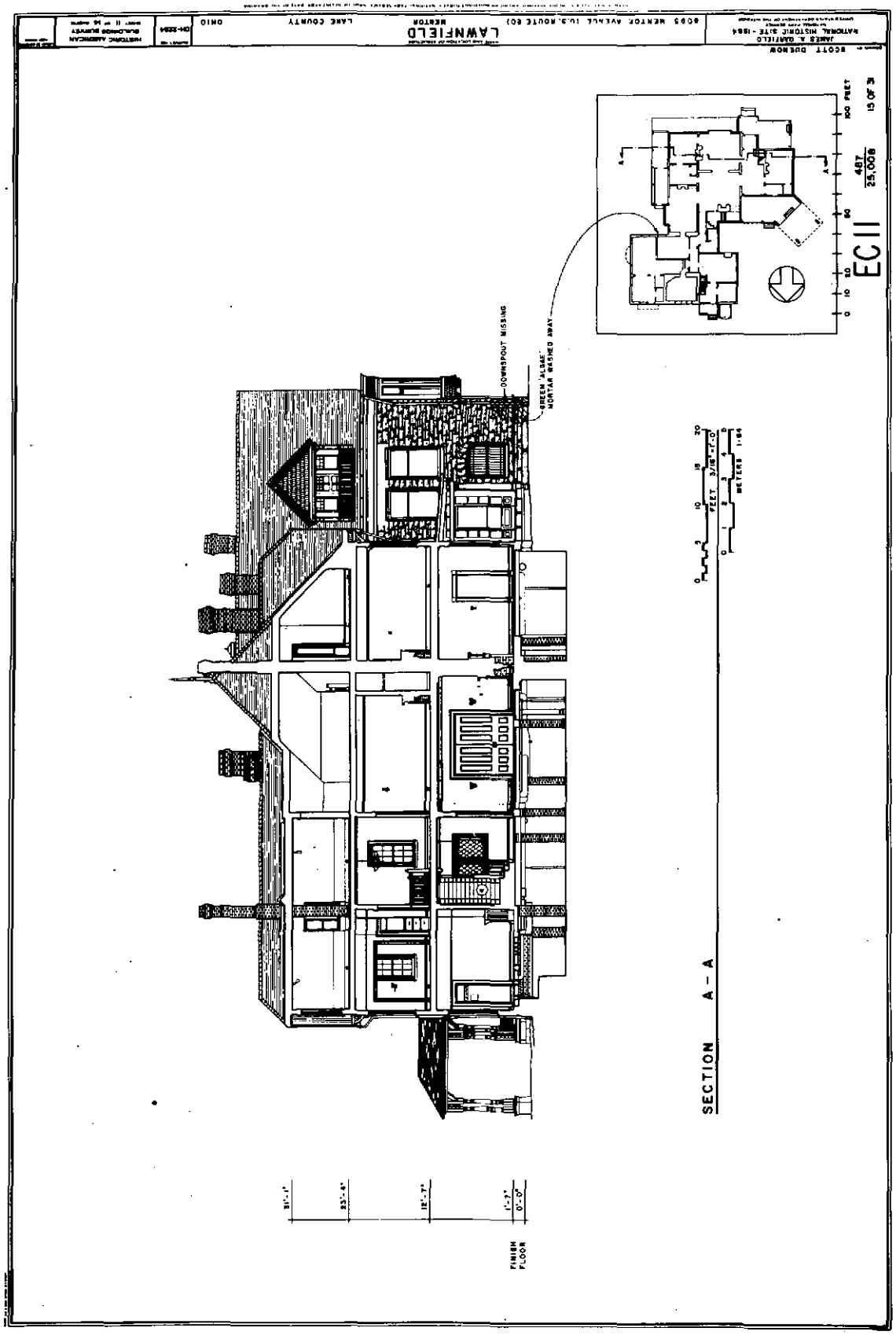
ON MICROFILM



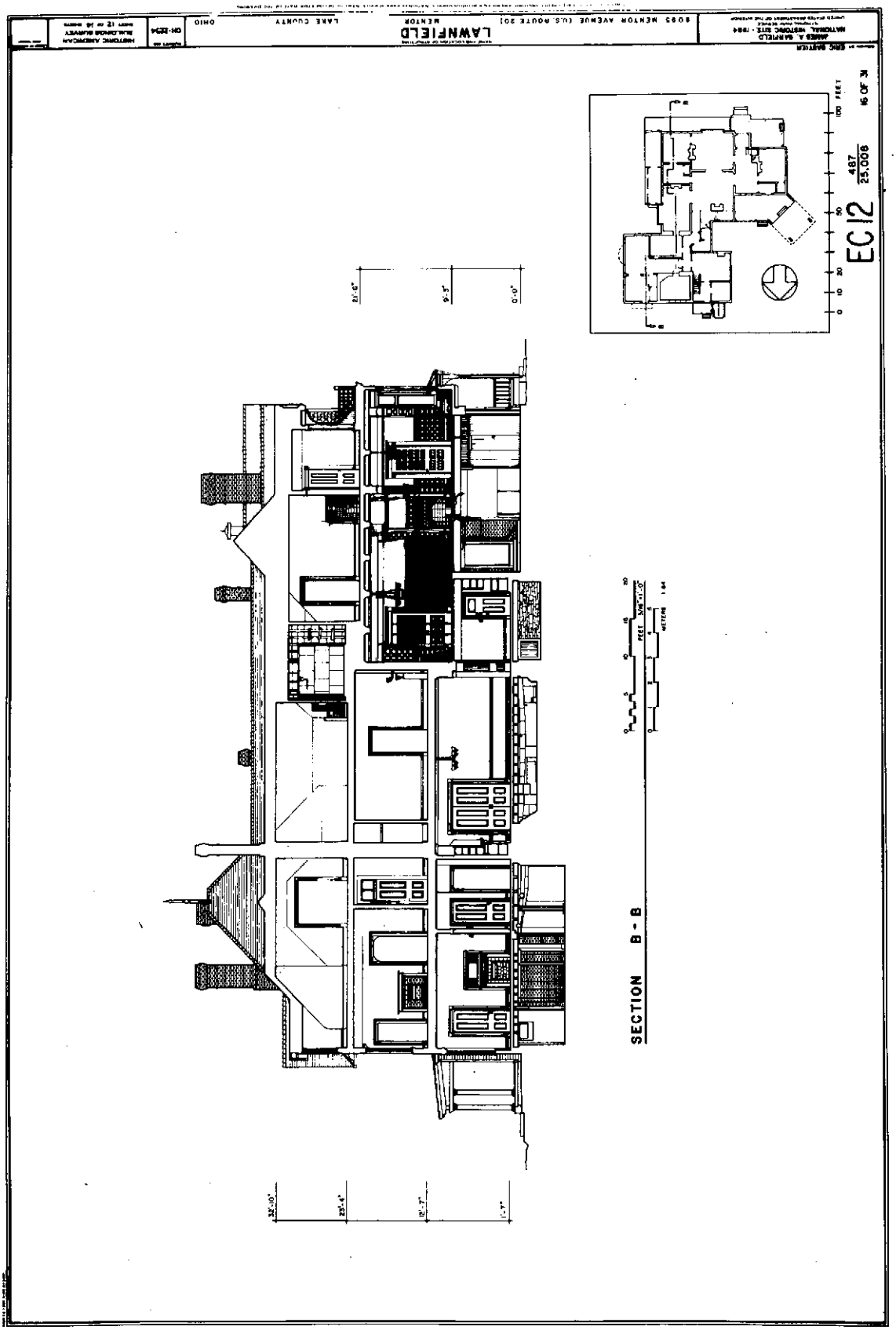
EC-10, Lawnfield, East Elevation

ON MICROFILM

ON MICROFILM

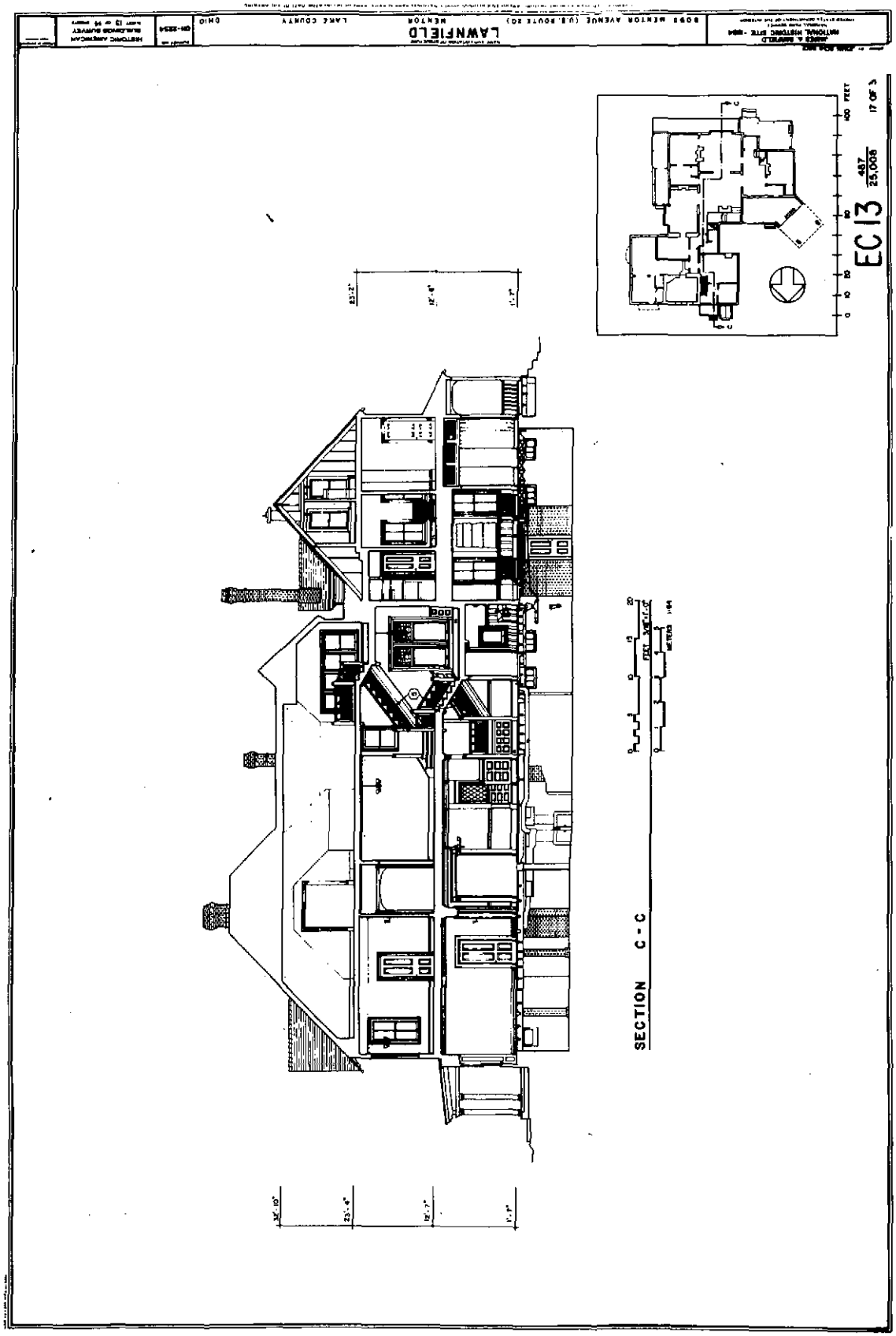


EC-11, Lawnfield, Section A



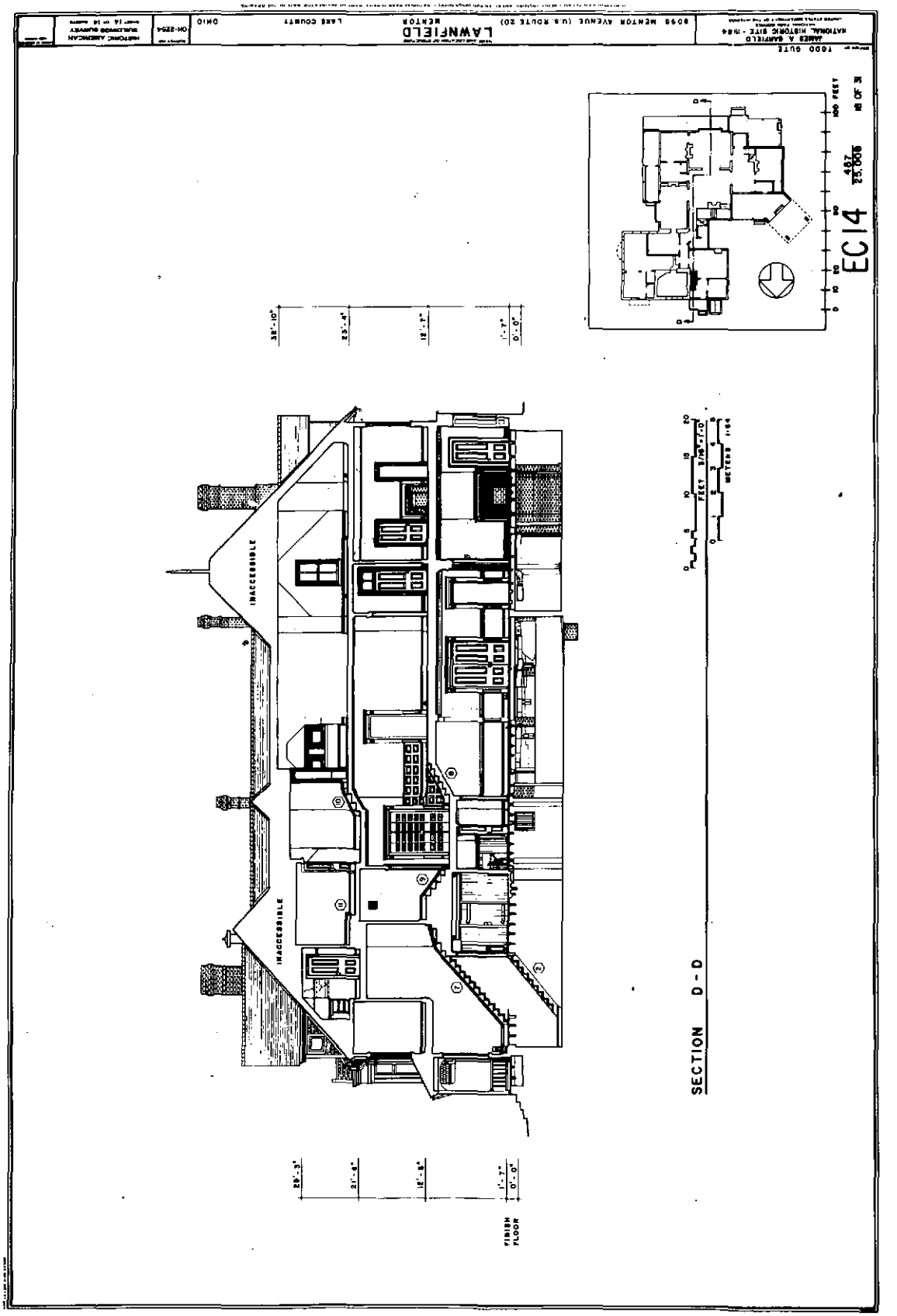
ON MICROFILM

EC-12, Lawnfield, Section B



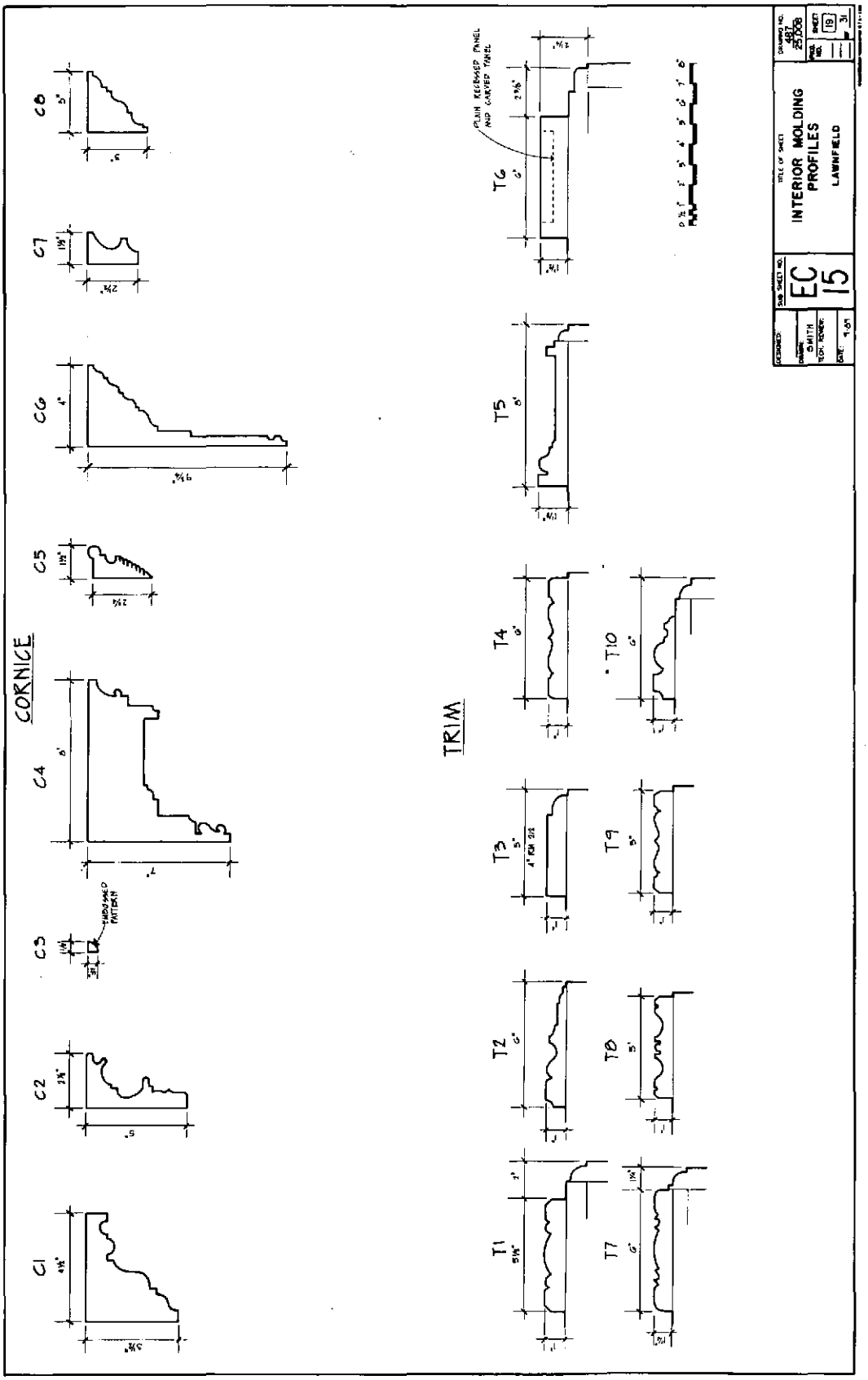
ON MICROFILM

EC-13, Lawnfield, Section C



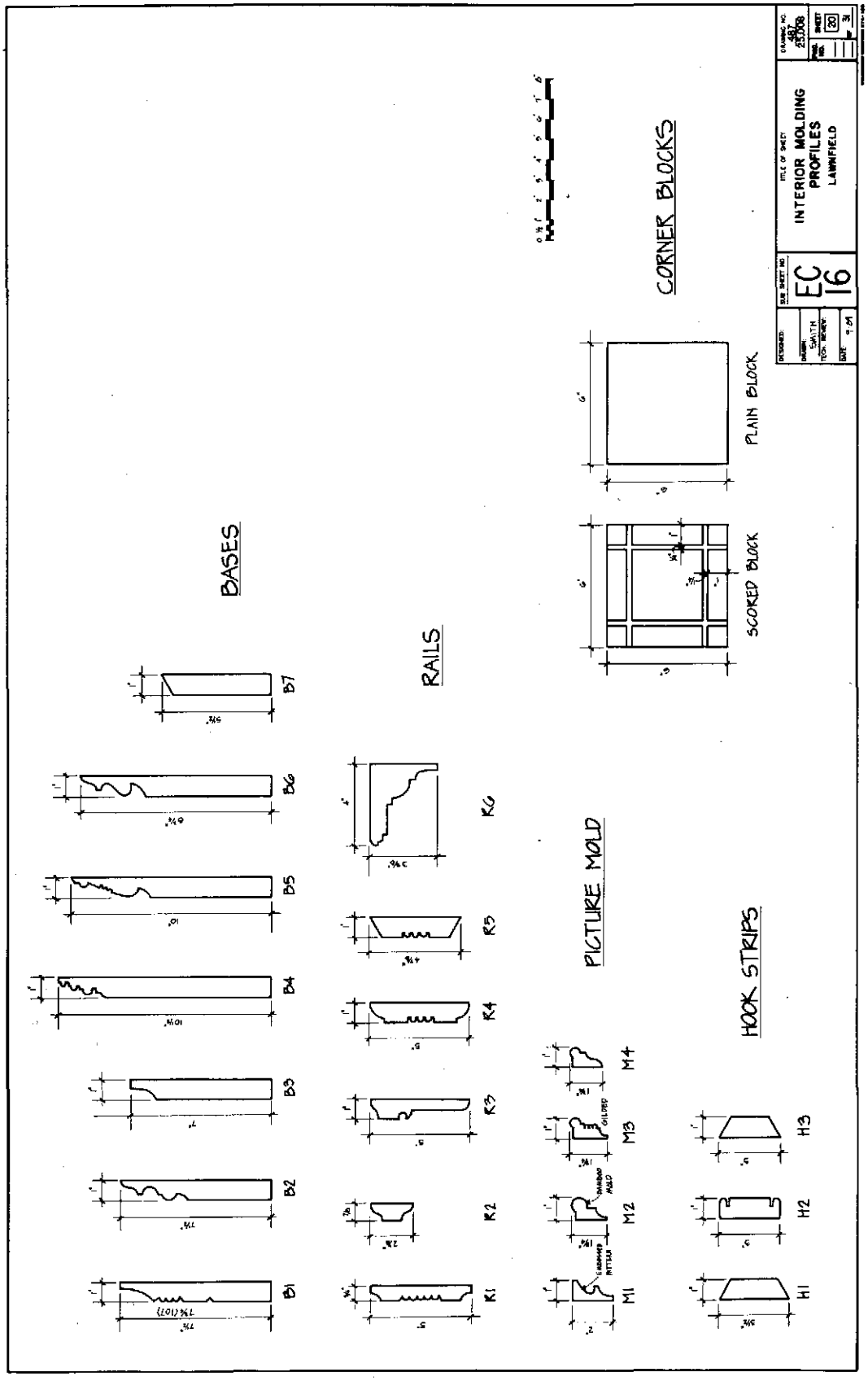
ON MICROFILM

EC-14, Lawnfield, Section D



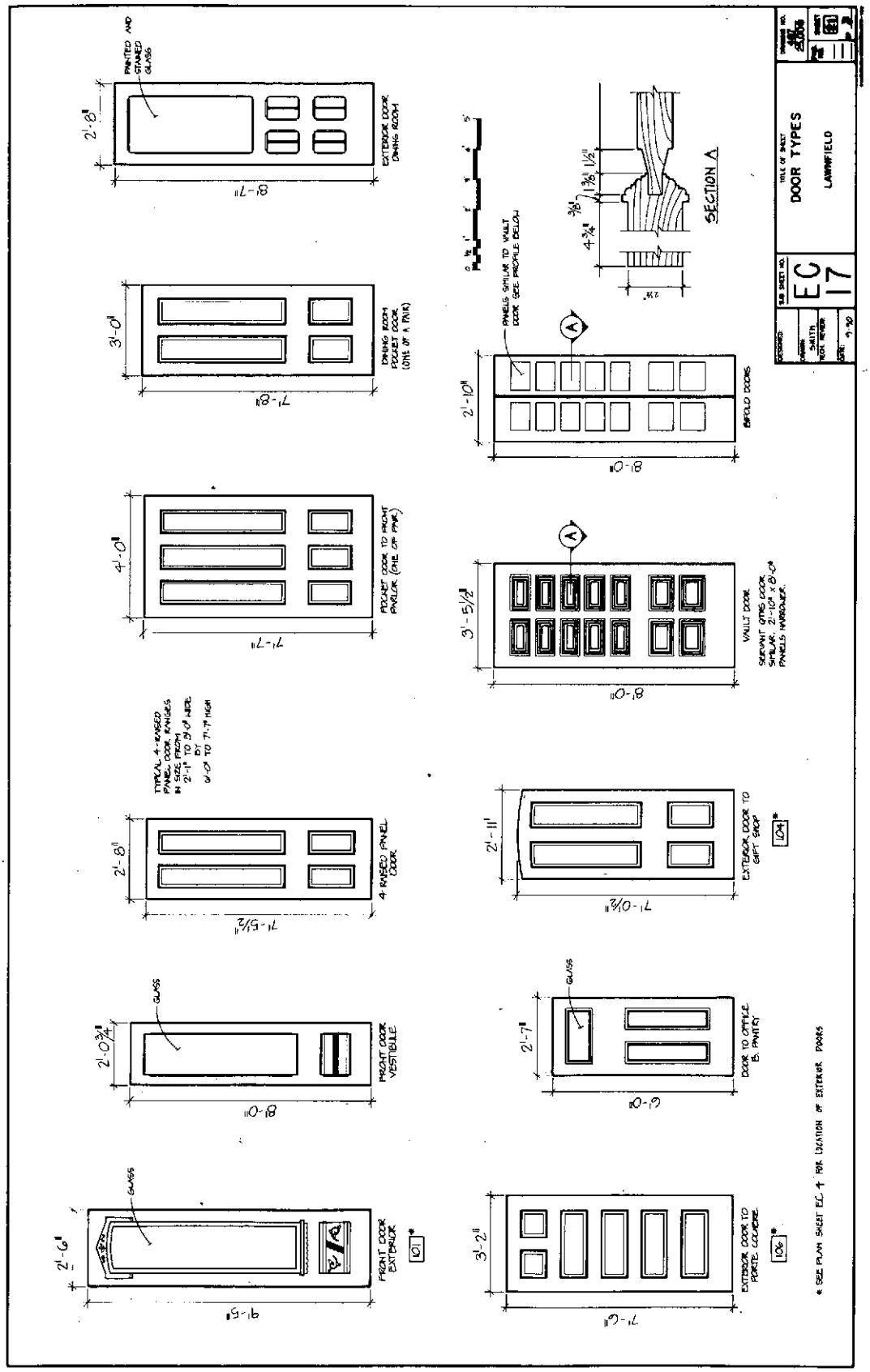
ON MICROFILM

EC-15, Lawnfield, Interior Molding Profiles



ON MICROFILM

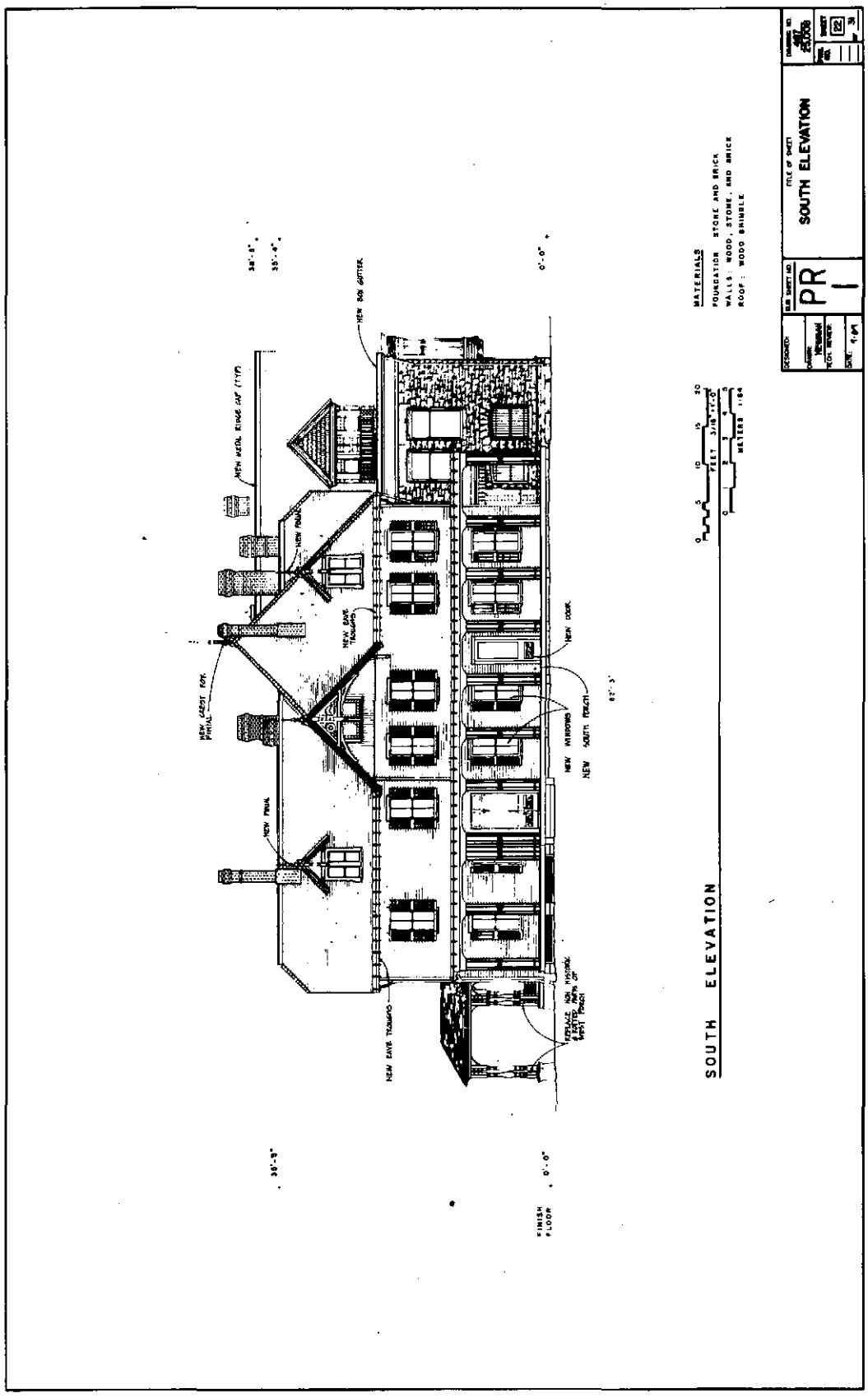
EC-16, Lawnfield, Interior Molding Profiles



EC-17, Lawnfield, Door Types

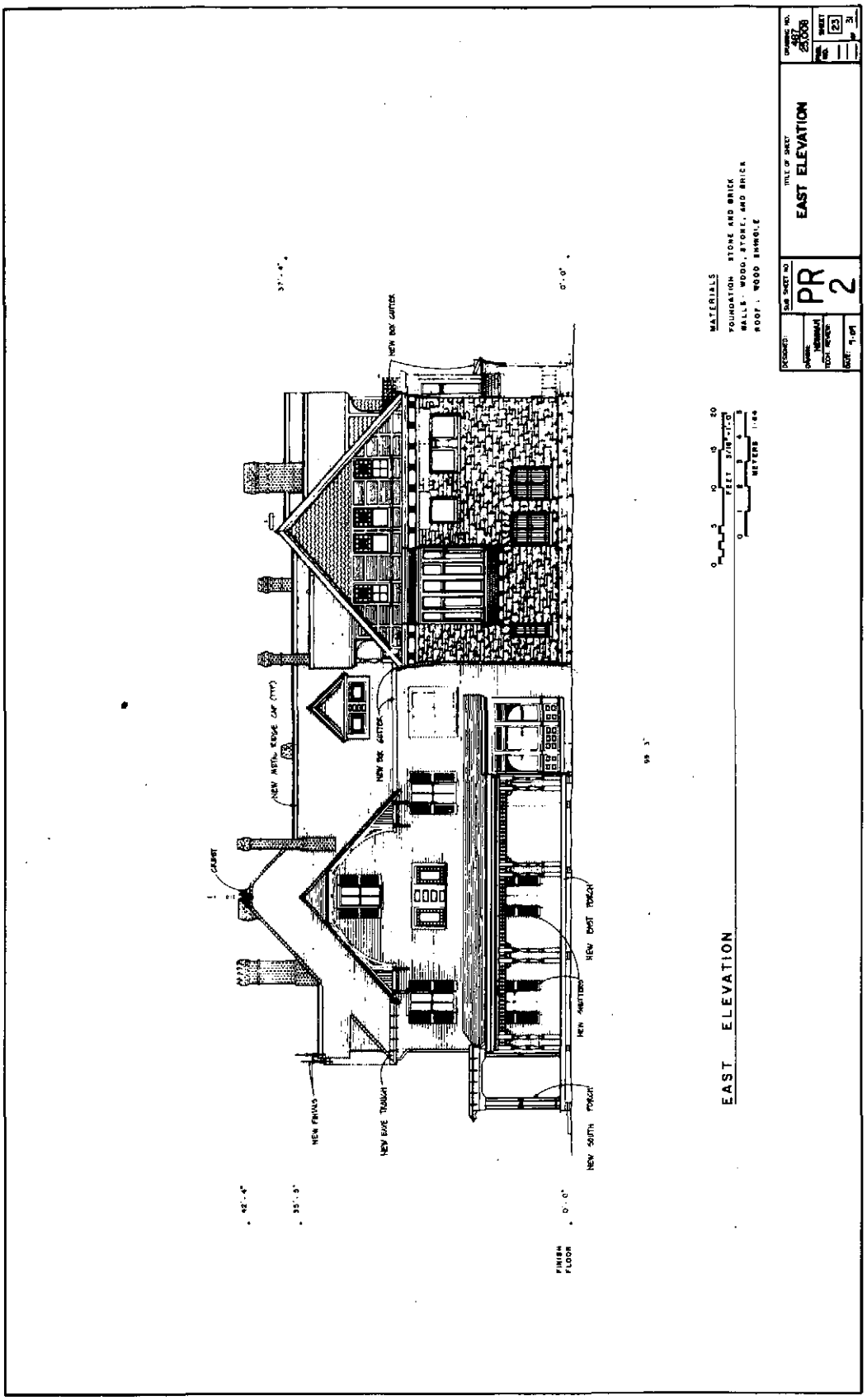
PROPOSED RESTORATION DRAWINGS, SEPTEMBER 1989 (PR)

There were few or no remains of these elements left.
The details were all generated from looking at historic photographs.



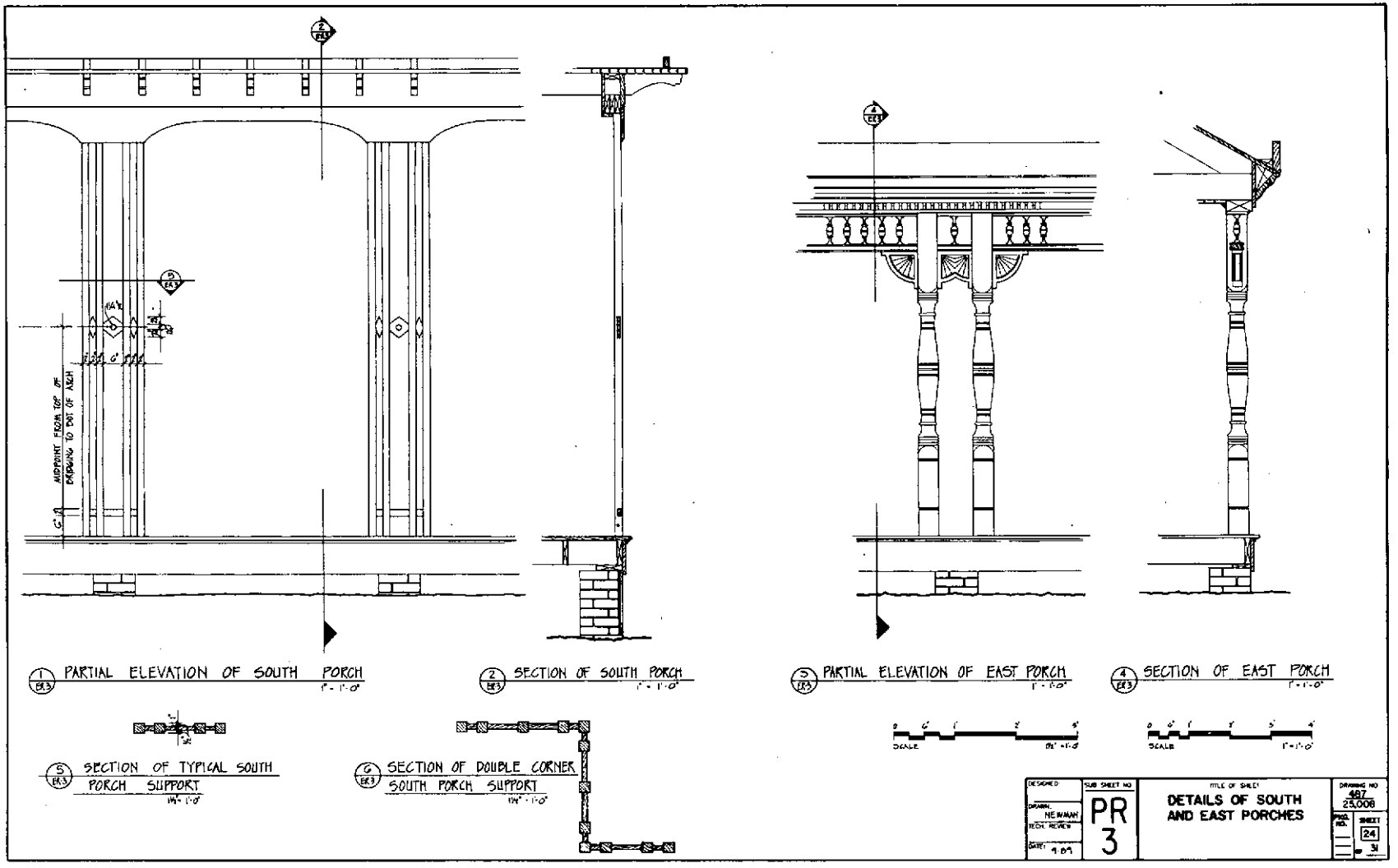
ON MICROFILM

PR-1, Lawnfield, South Elevation

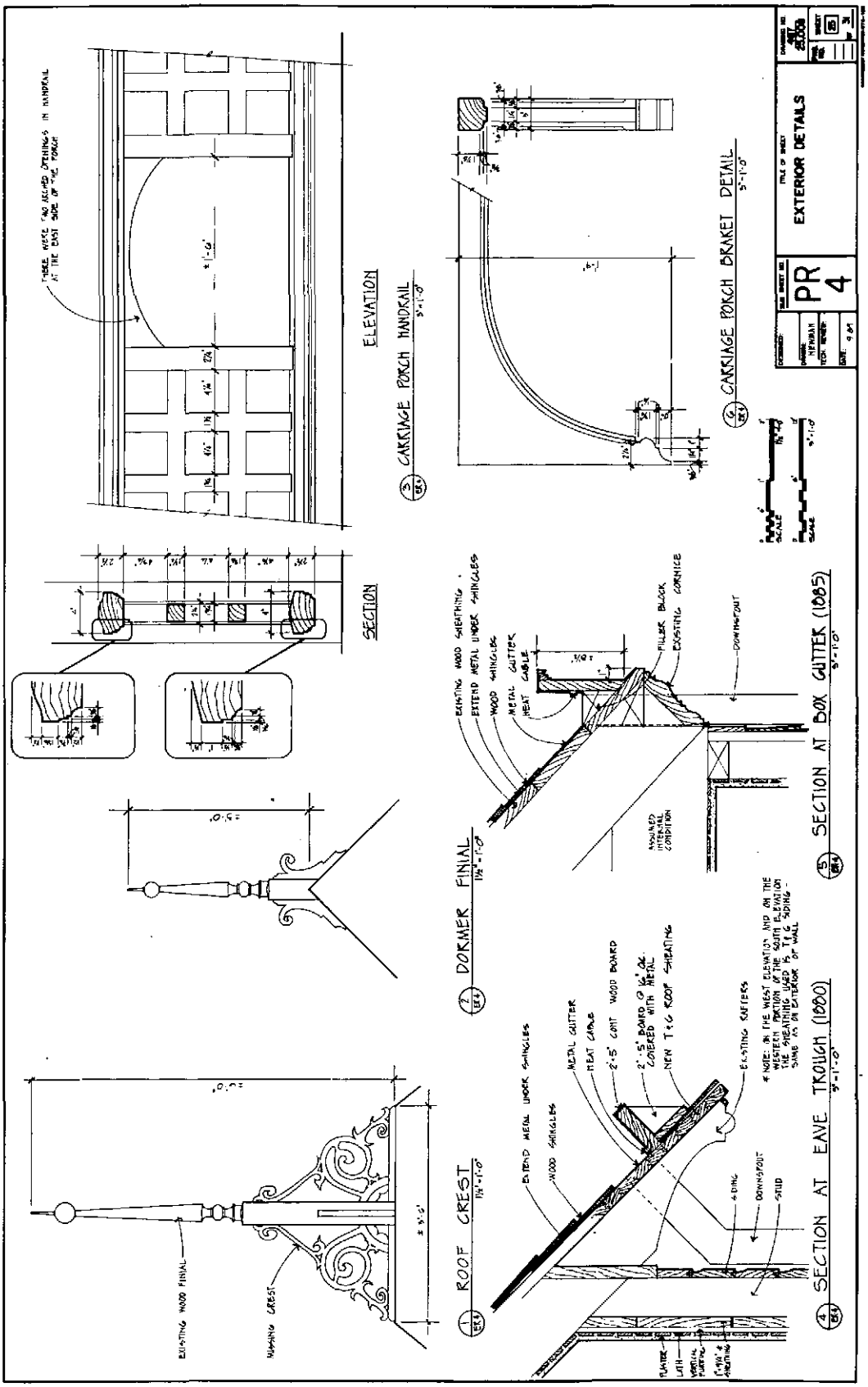


ON MICROFILM

PR-2, Lawnfield, East Elevation

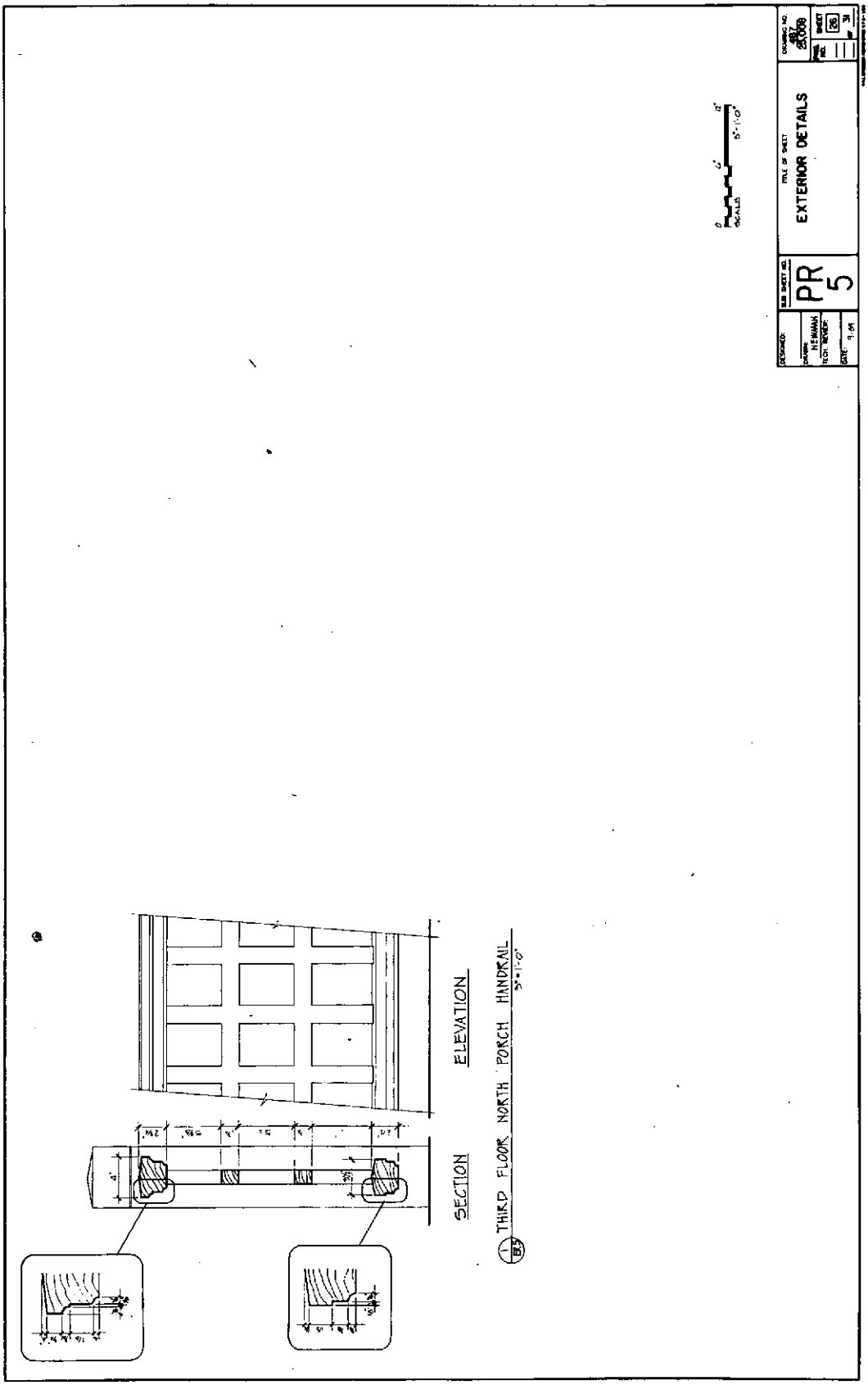


ON MICROFILM



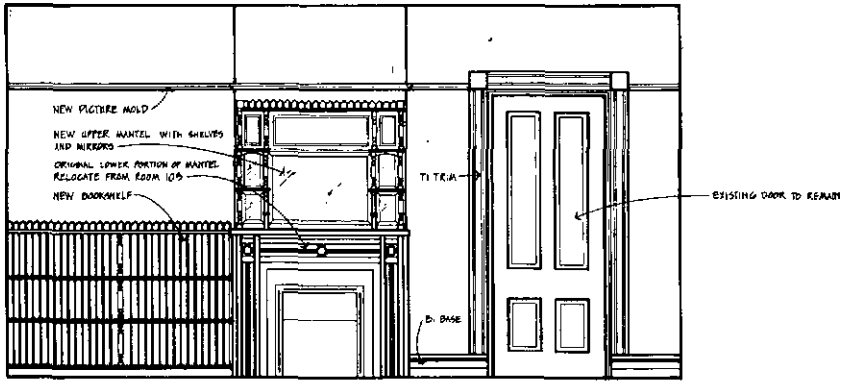
ON MICROFILM

PR-4, Lawnfield, Exterior Details

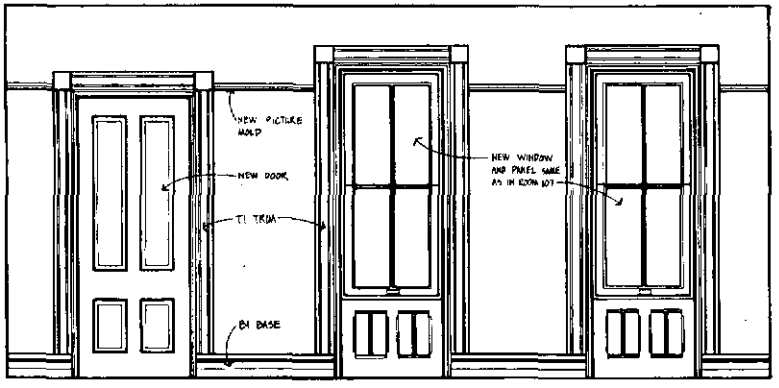


ON MICROFILM

PR-5, Lawnfield, Exterior Details



EAST ELEVATION



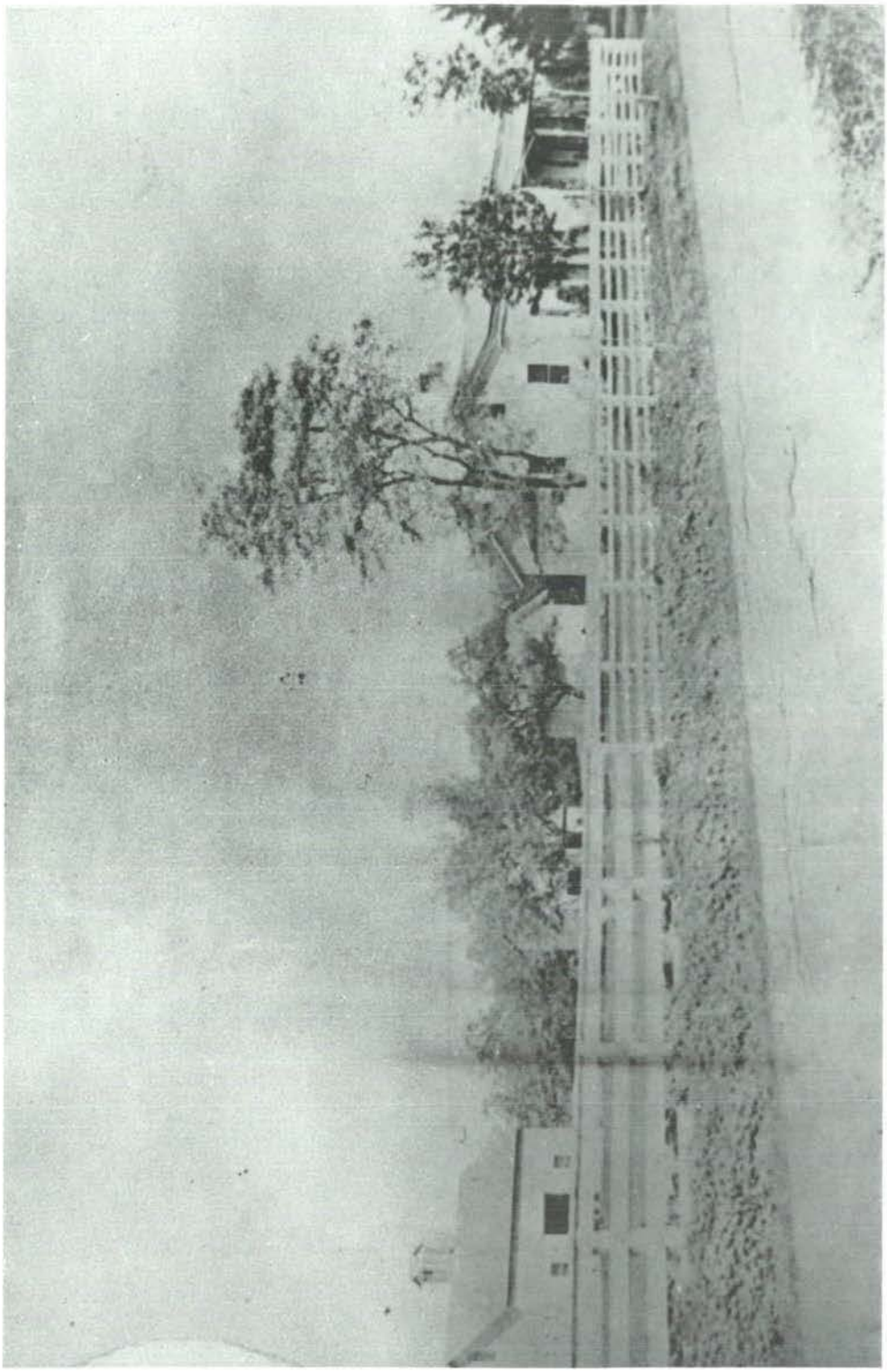
SOUTH ELEVATION

SCALE

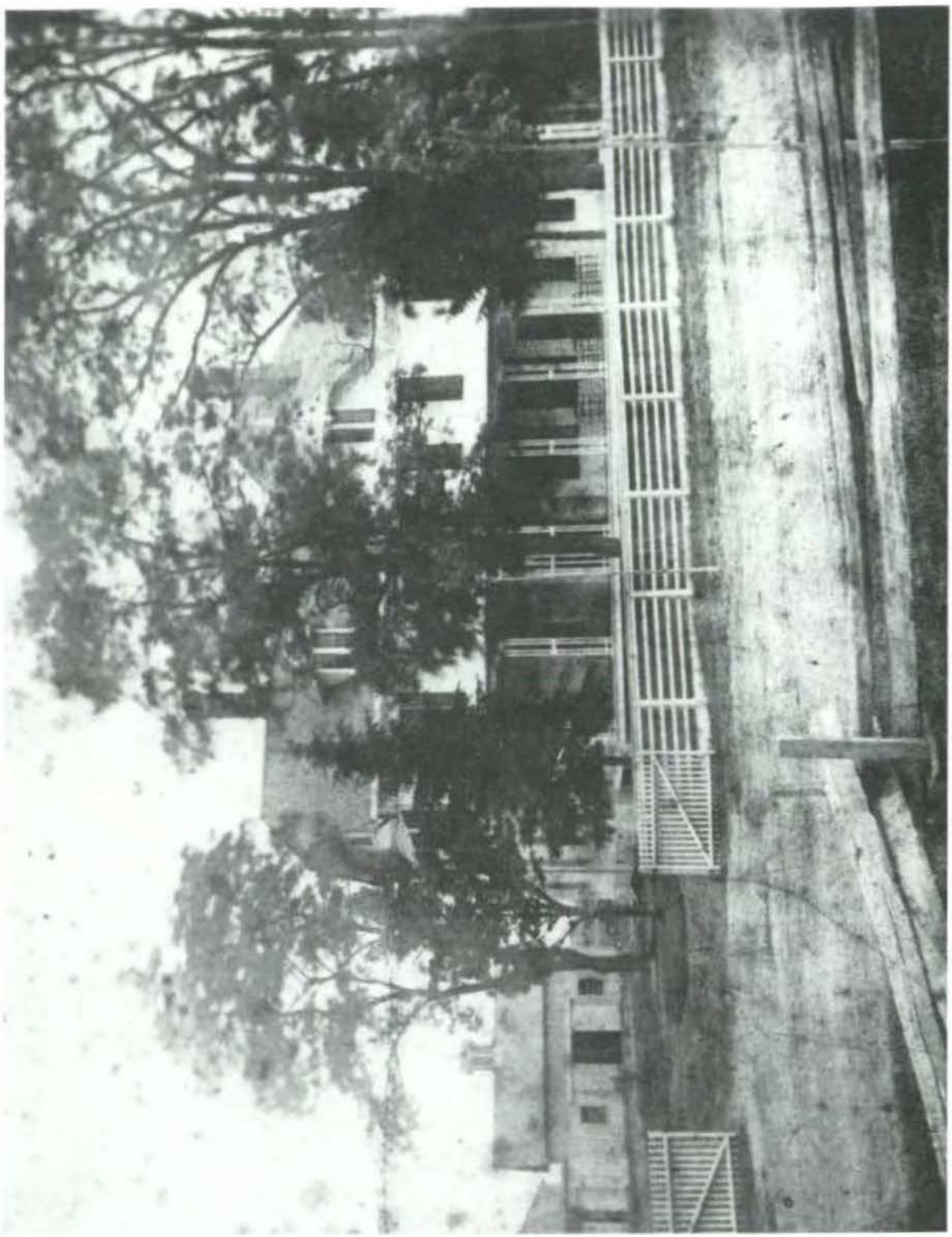
DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: SMITH	PR 6	INTERIOR ELEVATIONS PARLOR (RM. 106) LAWNFIELD	487 25,008
TECH. REVIEW:			SHEET 27 OF 31
DATE: 11 90			

ON MICROFILM

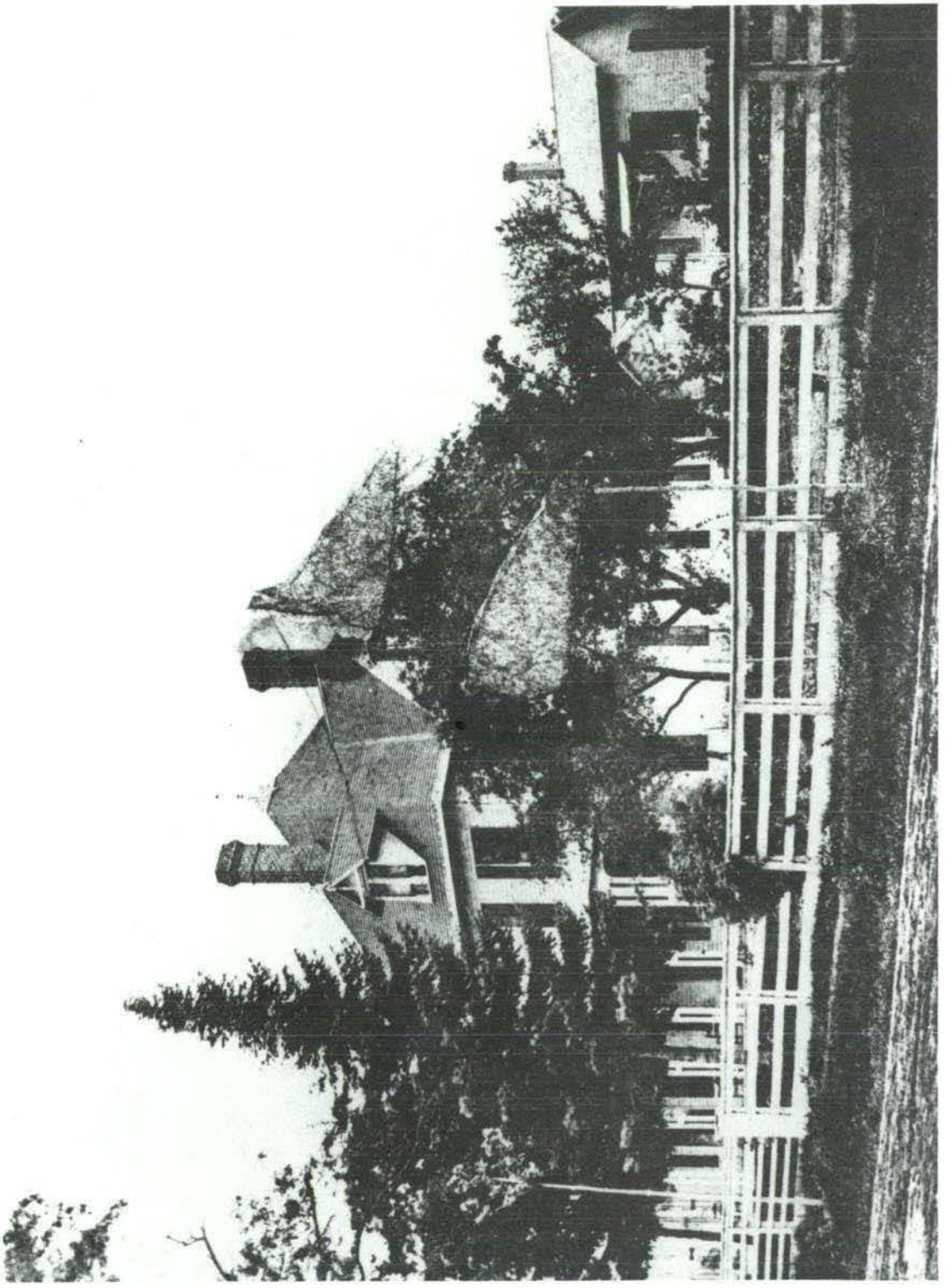
HISTORICAL PHOTOGRAPHS (HP)



HP-1, Garfield farm ca. summer 1877-summer 1879. Note office located just behind the house and the new horse barn at the left of the photo. Mentor Avenue is in the foreground. LCHS.



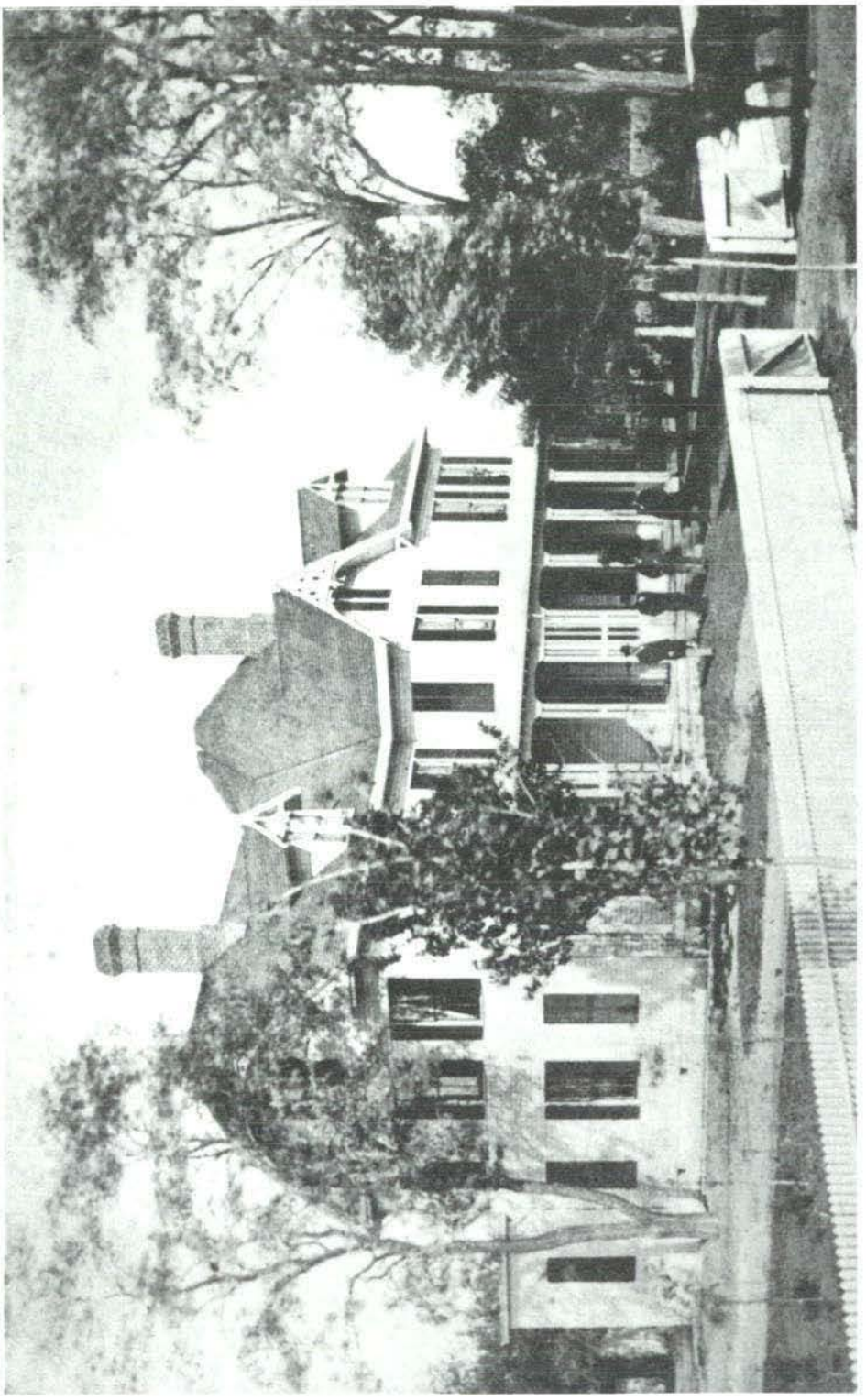
HP-2, Lawnfield, ca. spring/summer 1880, west and south sides. Note the development of the barn complex. New picket gates indicate the intention to change to all picket fence along the street (see plate HP-4). LCHS.



HP-3, Lawnfield, ca. spring/summer 1880, east and south sides. Office is to the rear of the house. LCHS.



HP-4, Lawnfield, ca. fall 1880, west and south sides. Note new picket fence with James A. Garfield at the gate. Photo by A. Austin, View Artist, Toledo, Ohio. LCHS.



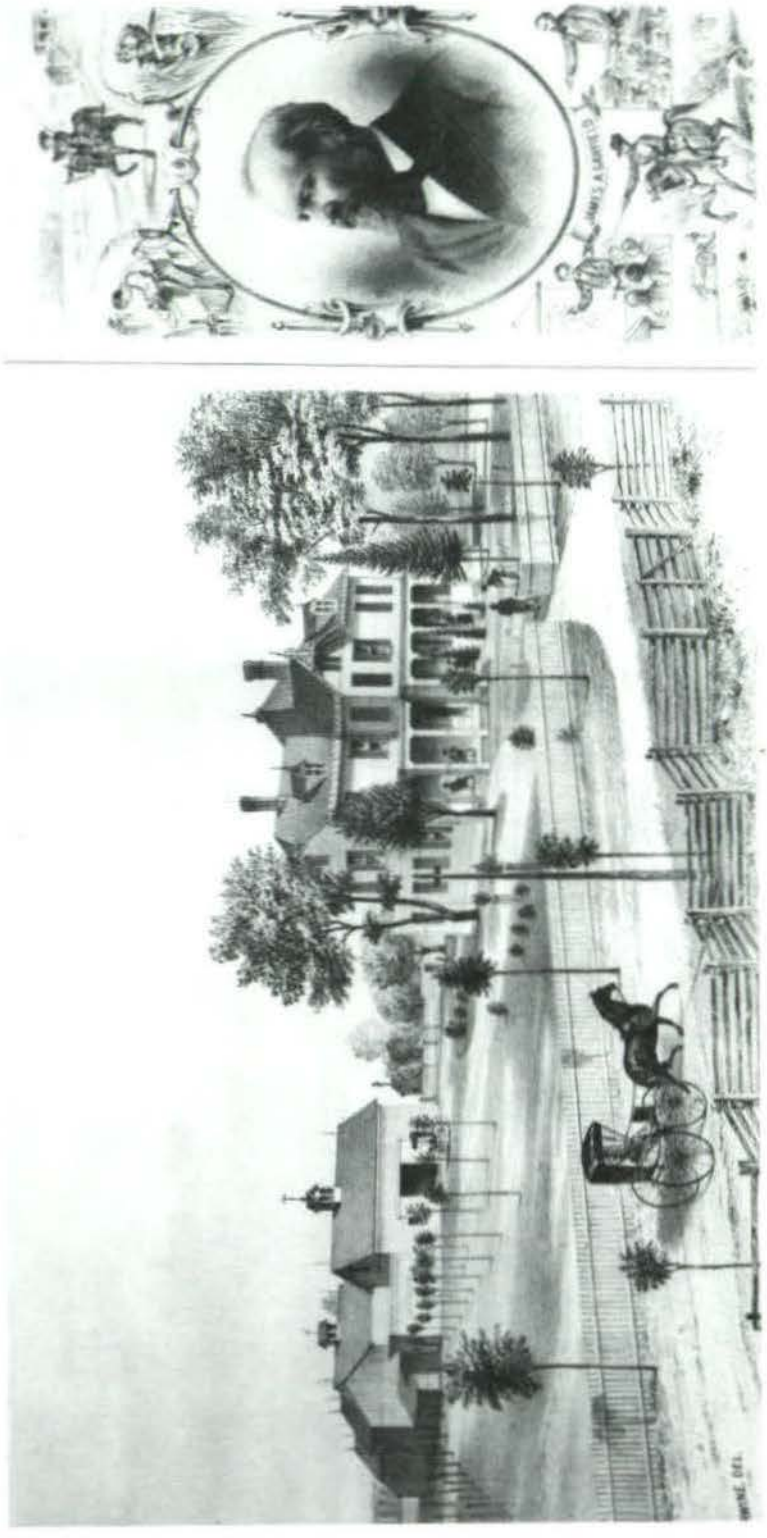
HP-5, Lawnfield, ca. fall 1880, west and south sides. Photo by J.F. Ryder, Cleveland, Ohio. LCHS.



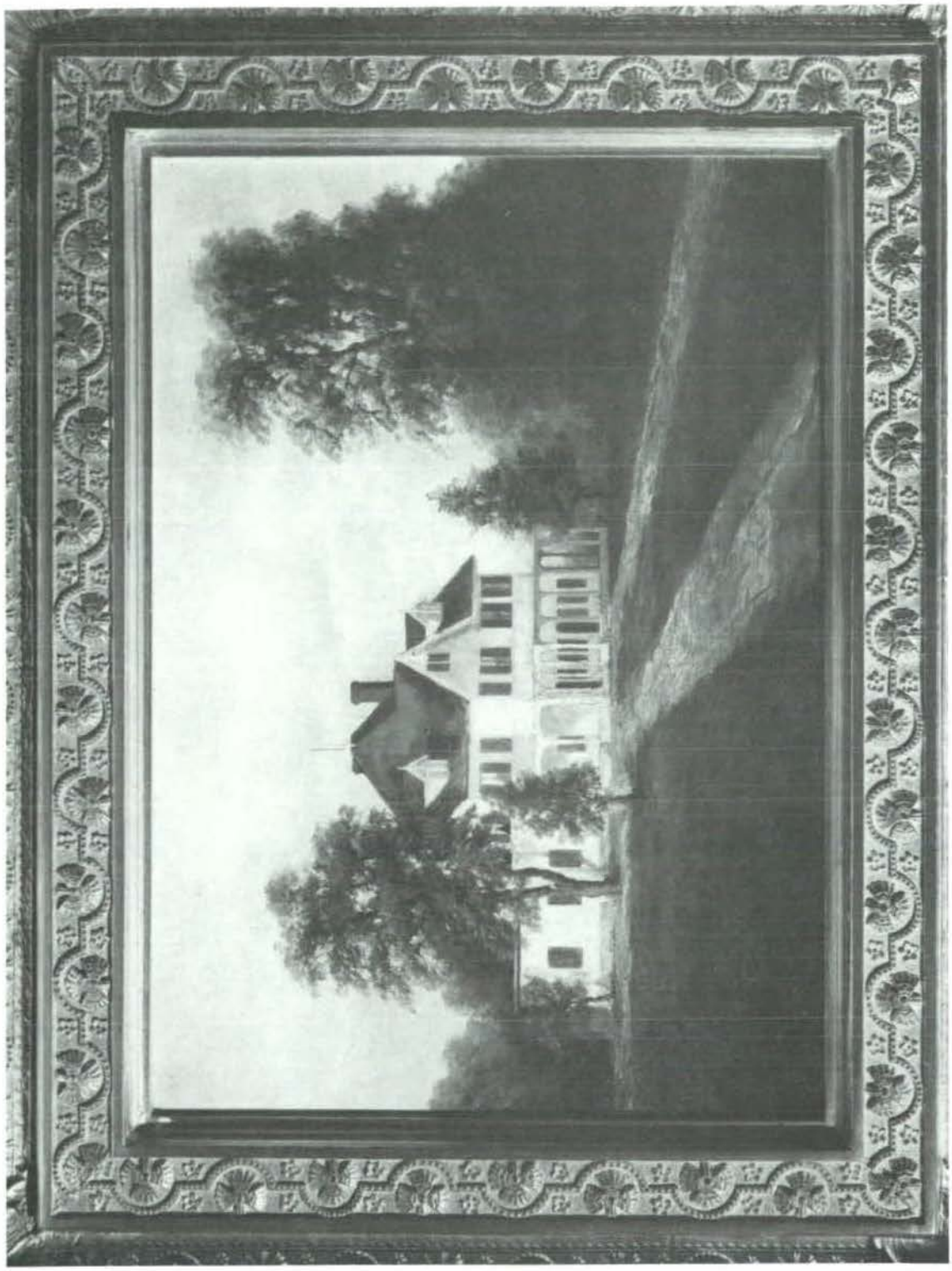
HP-6, Lawnfield, ca. summer/fall 1880, south side. From scrapbook of James R. Garfield. LCHS.



HP-7, Lawnfield, ca. fall 1880, west and north sides, campaign visitors. Photo by J.F. Ryder, Cleveland, Ohio. LCHS.



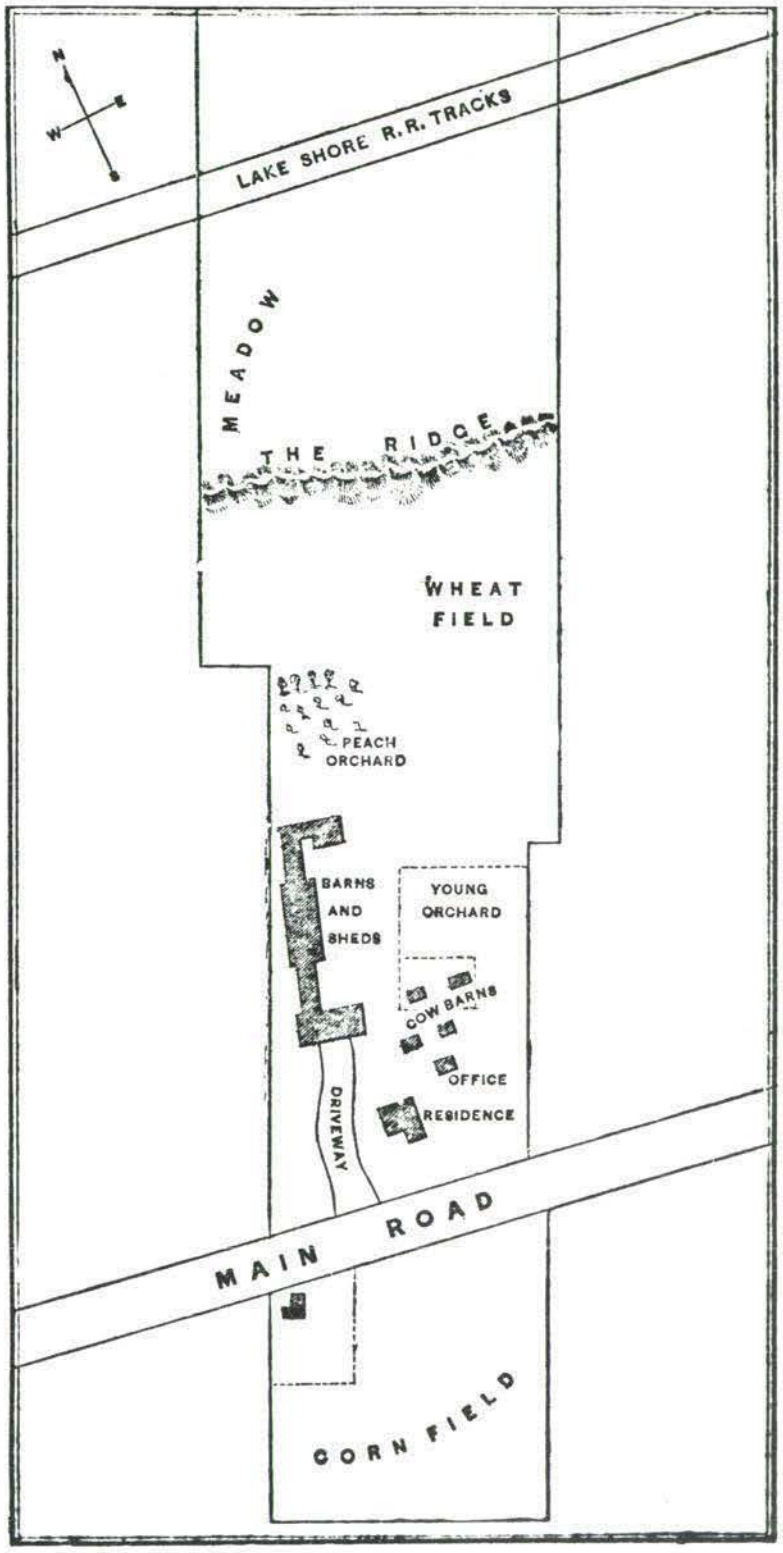
HP-8, Lawnfield, 1880, L.C. Corwine, delineator, "Residence of the House James A. Garfield, Mentor, Ohio."



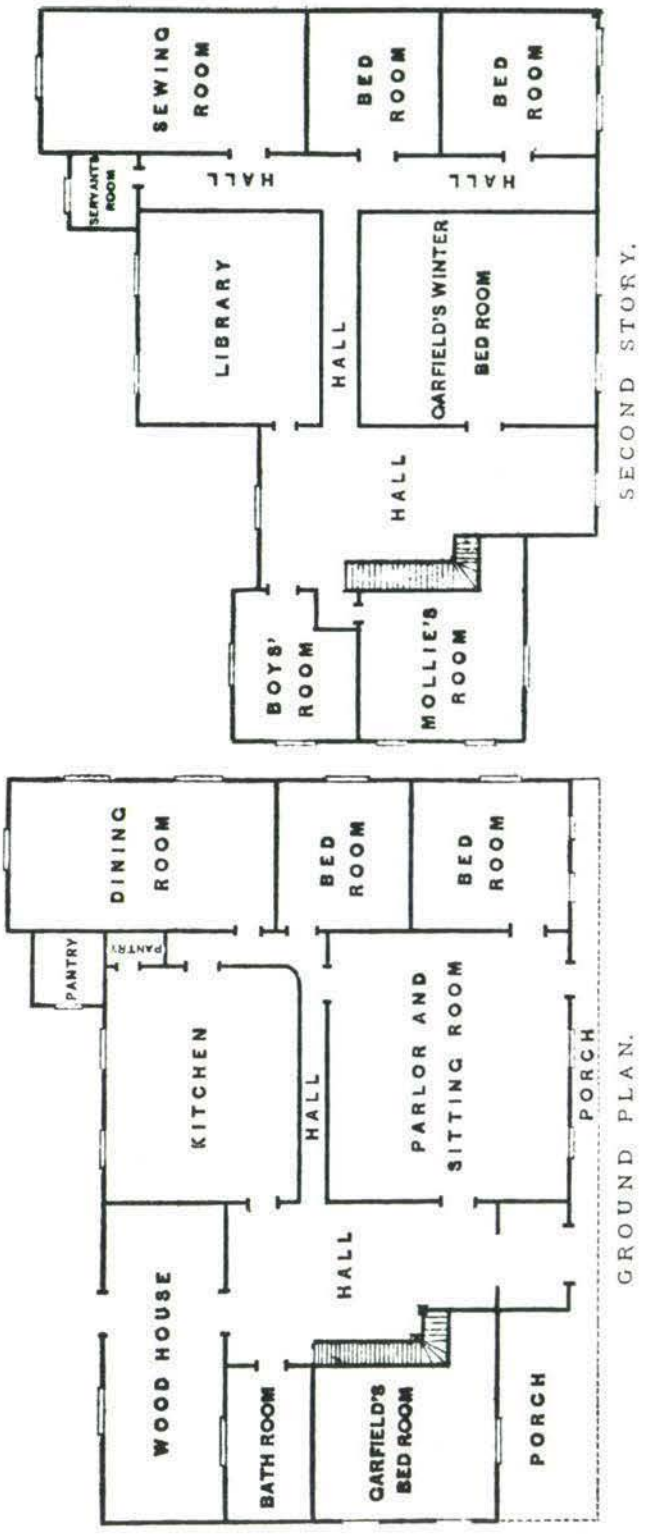
HP-9, Lawnfield, 1880, painting by Josephine D. Parke.



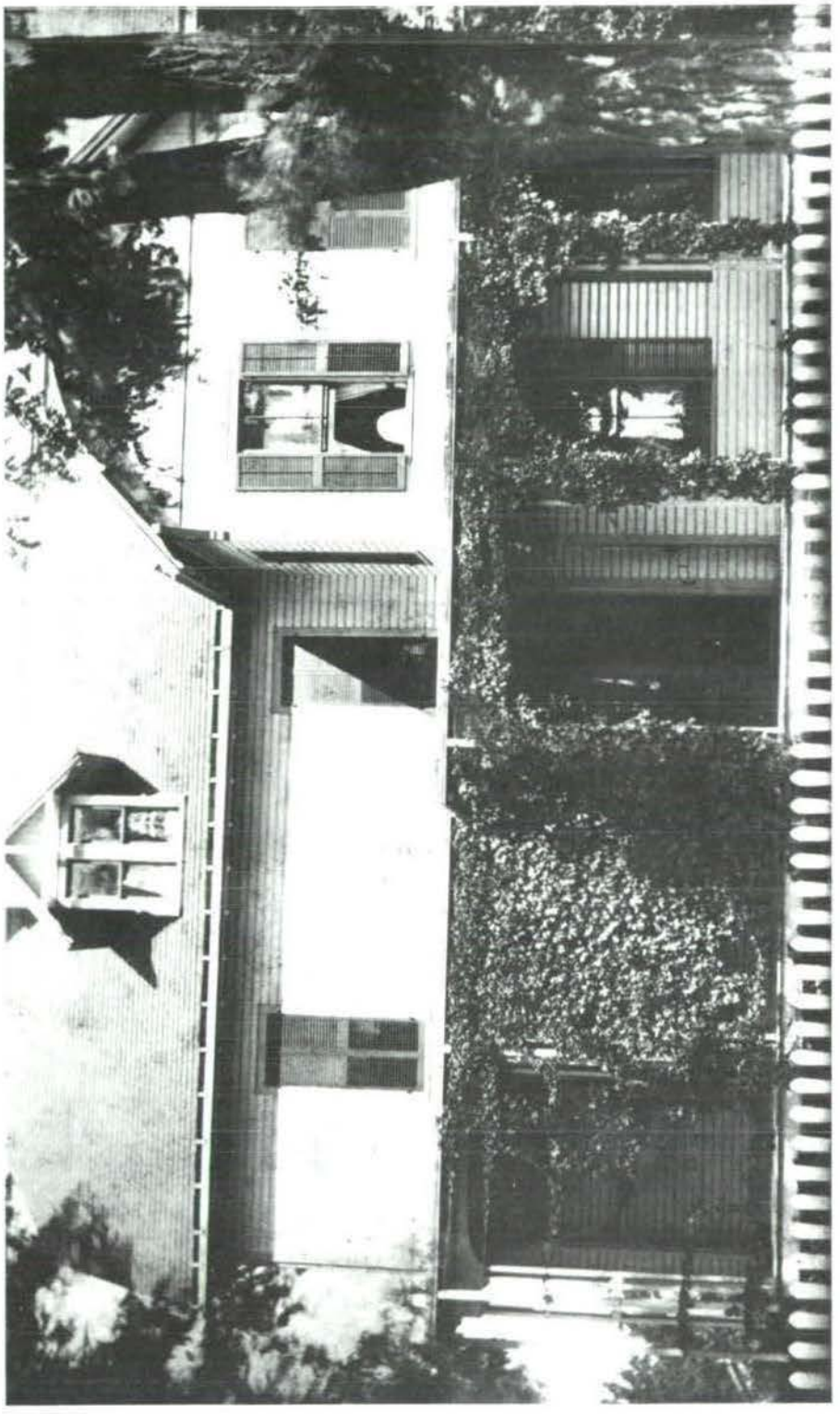
HP-10, Lawnfield, 1880, south side. "Ohio--The Busy Life of a President-elect of the U.S.--General Garfield at His Home at Mentor--Arrival of Visitors." *From Frank Leslie's Illustrated Newspaper.*



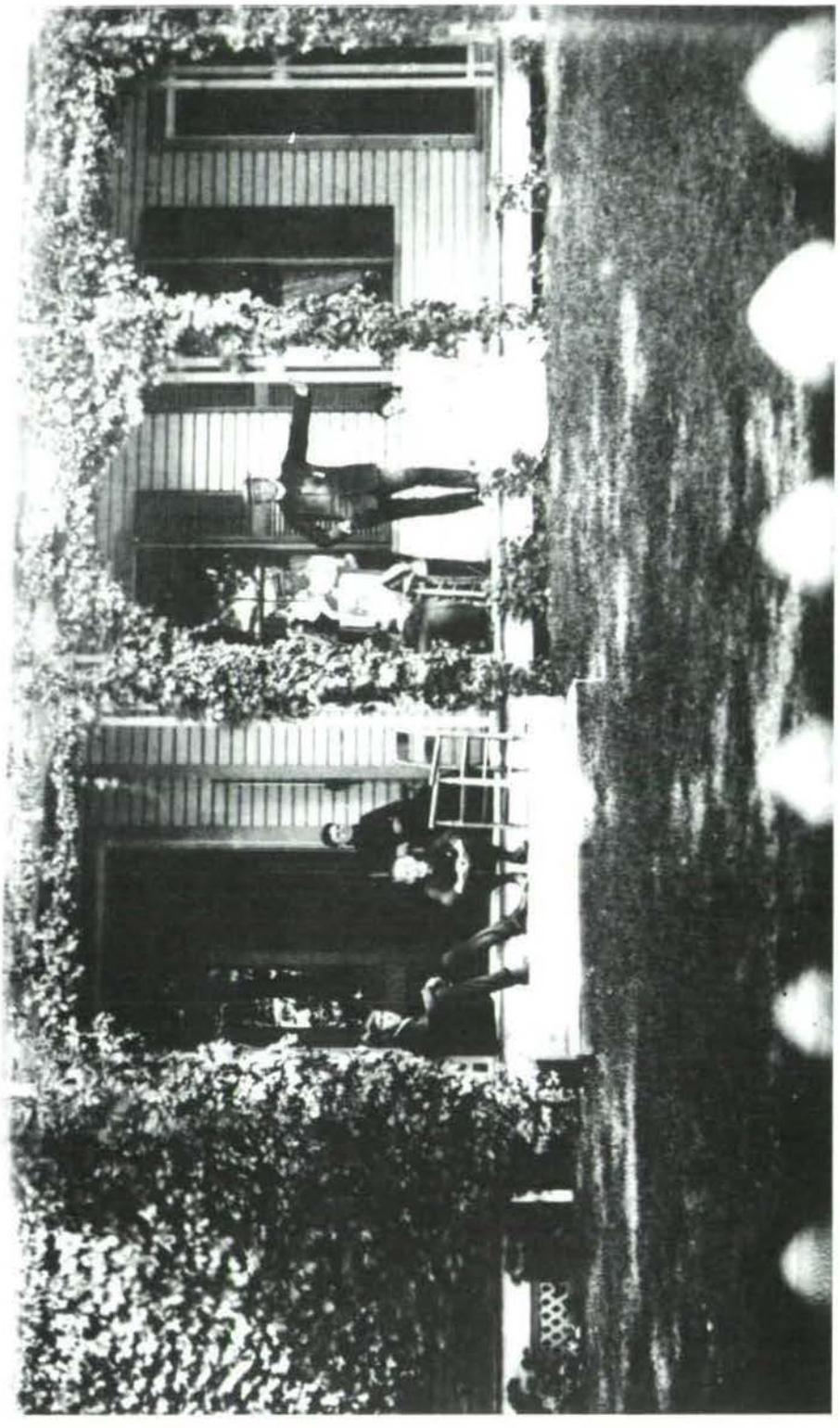
HP-11, Lawnfield, September 26, 1881, Plan of Property, "The Garfield Farm." From the *New York Herald*.



HP-12, Lawnfield, September 26, 1881, Floor Plans, "The Garfield Mansion." From the *New York Herald*. There are many inaccuracies on these plans. See plate BC-2.



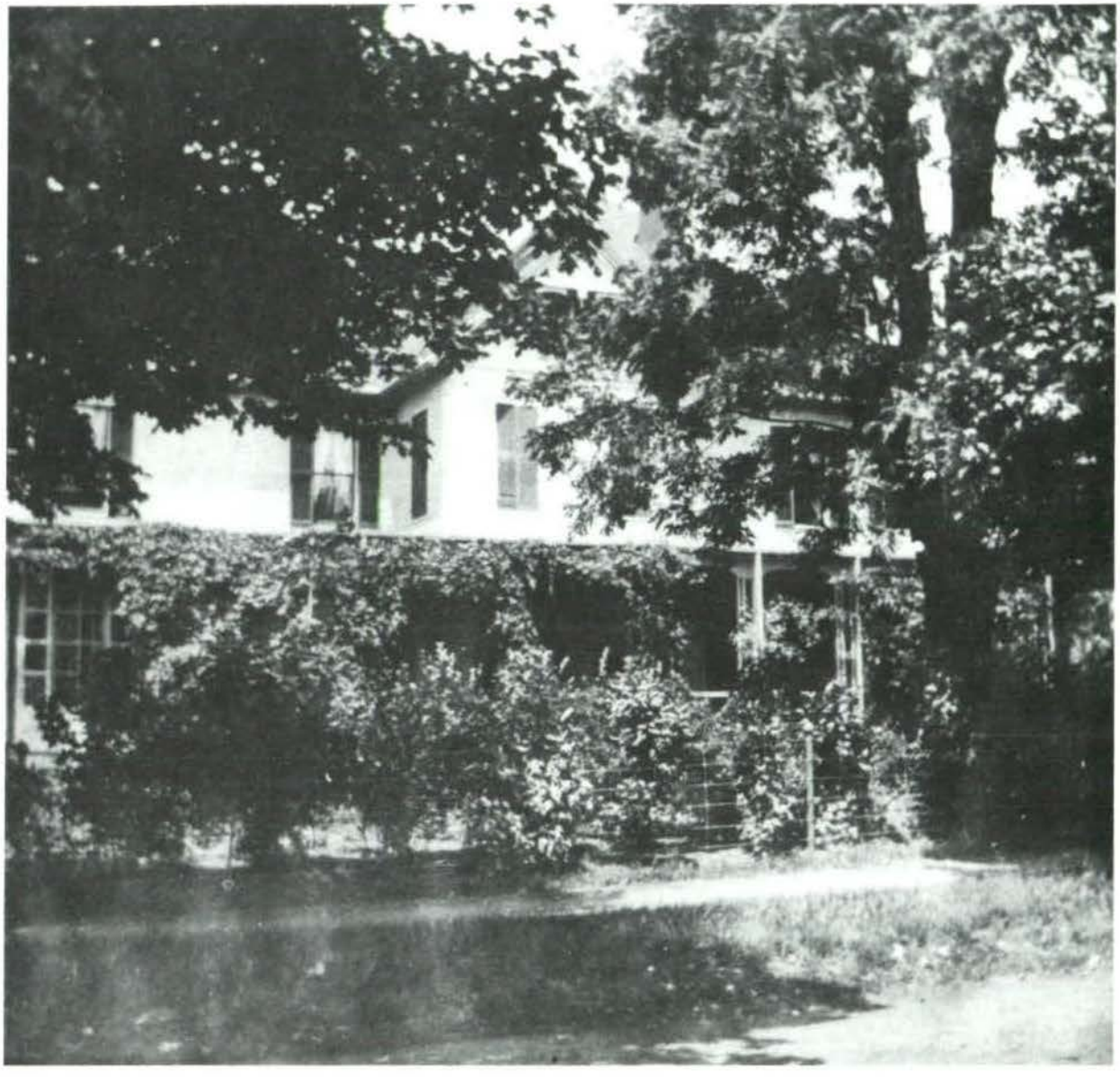
HP-13, Lawnfield, ca. 1881, south side. Note the hammock attached to the ring on the wall at the left side of the porch, and the doorbell at the right side of the entry door. LCHS.



HP-14, Lawnfield, ca. 1881, south side. Detail of front porch, original sitting room windows, and door.



HP-15, Lawnfield, ca. 1885. Detail of front porch support posts. Note hammock ring at upper right. Seated figure is Mollie Garfield. LCHS.



HP-16, Lawnfield, ca. 1903, south side from street. The door at the left side of the front porch is thought to be just leaning against the wall, possibly construction materials for the new 1904 east porch. The picket fence has been replaced by a wire fence.



HP-17, Lawnfield, ca. 1903, south side, front porch. LCHS.



HP-18, Lawnfield, ca. 1888, west and south sides. WRHS.

HP-19, Lawnfield, ca. 1886, east side. WRHS.



HP-20, Lawnfield, ca. 1886, east side. LCHS.

HP-21, Lawnfield, ca. 1888, east side. WRHS.



HP-22, Lawnfield, ca. 1903, east side. Note the window altered on the second floor (centered under gable), heavy ivy cover on the memorial library, and new paths to the porch and campaign office. Photo by F.M. Smith, Mentor, Ohio. LCHS.



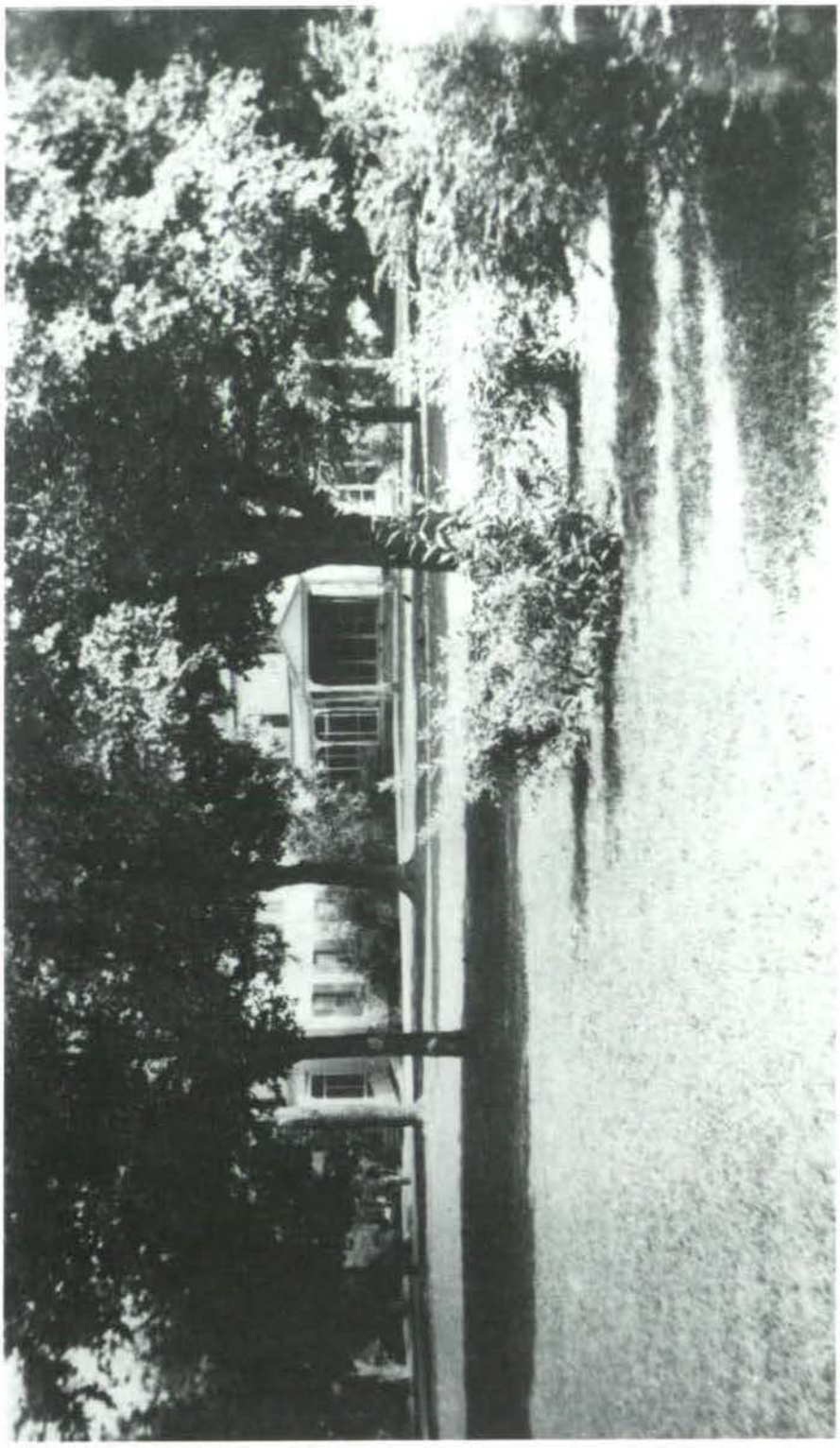
HP-23, Lawnfield, ca. 1903, east side. LCHS.



HP-24, Lawnfield, June 14, 1888. Detail of east porch and south side of the library addition. Group portrait on double wedding day of Harry A. Garfield and Belle Mason, and Mollie Garfield and Joseph Stanley-Brown. Standing left to right: Irvin M. Garfield, George Kannan. Sitting left to right: Bentley Warren, Mary L. Mason, Helen Newell, Lea Kennan, Nellie Window, and Lorenzo J. Hatch. Ground left to right: Bertha Rockwell, Mabel Kittridge, and Ethel Rickwell. LCHS.



HP-25, Lawnfield, ca. spring 1888. Detail of east porch and dining room window. Group portrait. Back row left to right: Belle Mason Garfield, Miss Markie, Joseph Rudolph. Middle row left to right: Zeb Rudolph (Lucretia's father), Lucretia Rudolph Garfield, Lide Rudolph, Mary Laura Mason, Mollie Garfield Stanley-Brown. Front row left to right: Joseph Stanley-Brown, Harry A. Garfield, and Max Rudolph. LCHS.



HP-26, Lawnfield, ca. 1900, north side. North porch and west porch (carriage porch) are screened. LCHS.



HP-27, Lawnfield, ca. 1904, north and west sides. Taken before the third floor window on the west side was altered and roof ventilators were added. Shows the shutters on the first and second floors of the 1885 addition. LCHS.



HP-28, Lawnfield, ca. 1900. Detail of screened west porch. Figures: Irvin M. Garfield, and Ruth and Peggy Stanley-Brown. LCHS.



HP-29, Lawnfield, ca. 1900, west porch. Figure: Joseph Stanley-Brown.



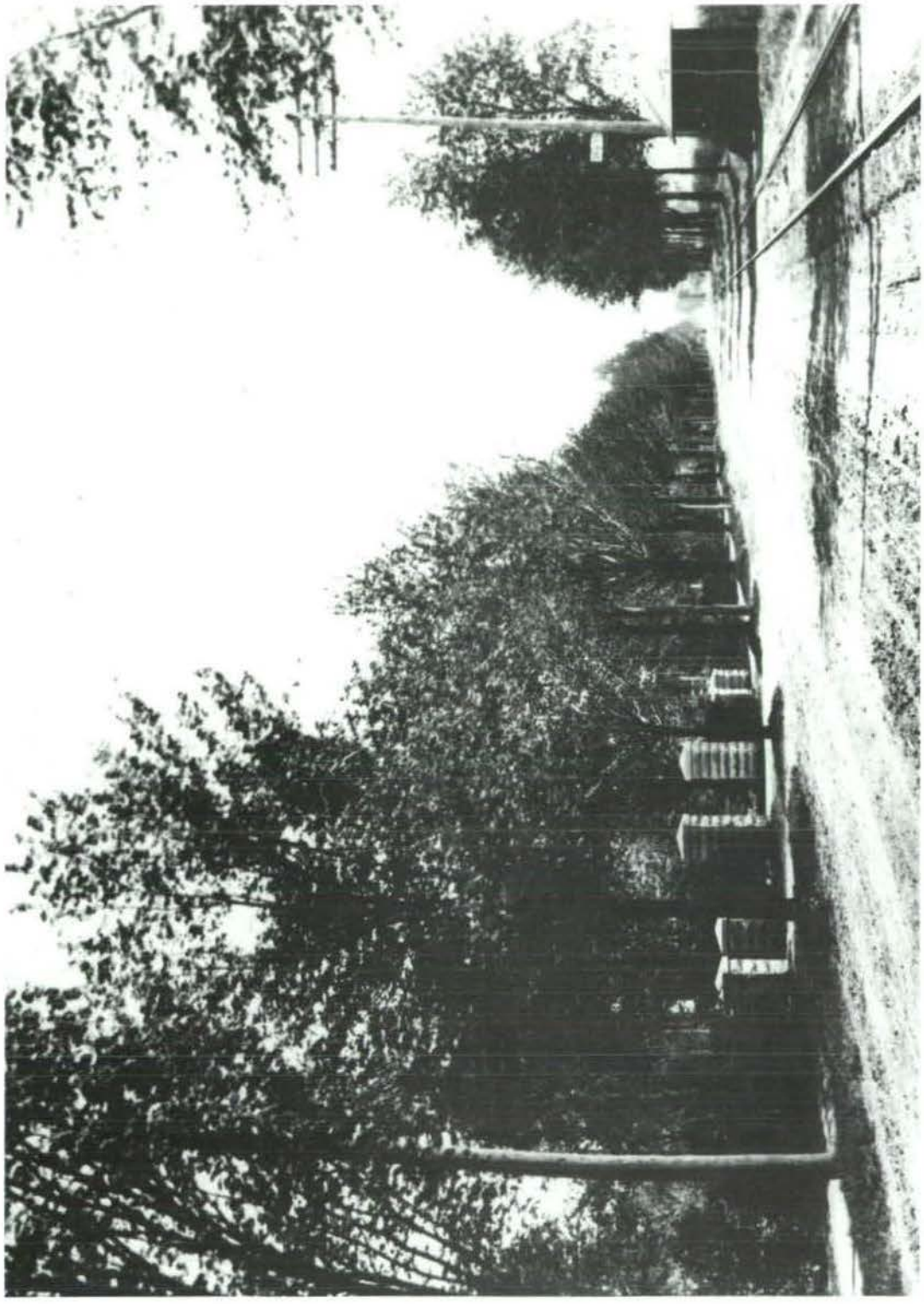
HP-30, Lawnfield, ca. 1905, north side. Note west porch enclosure has been removed. Garfield family portrait left to right: Irvin M. Garfield, James R. Garfield, Mollie Garfield Stanley-Brown, Lucretia R. Garfield, Abram Garfield, and Harry A. Garfield.



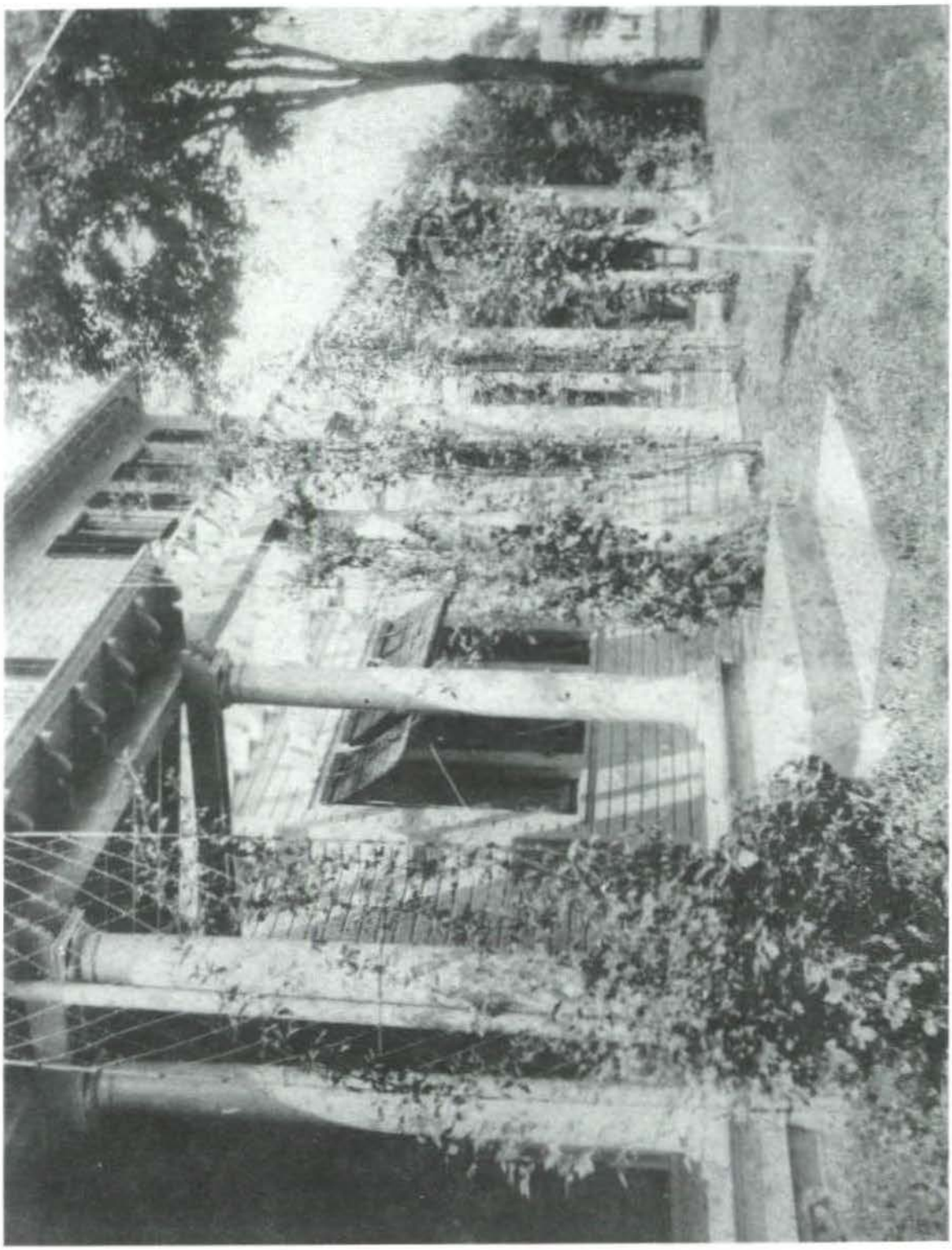
HP-31, Lawnfield, ca. 1936, west and south sides. Shows original woodwork of west porch. Best photo of original roof crest. Roofing replaced with asphalt shingles, lightning protection grounding wire visible, but not air terminals. New overhead electric service, and the bars are still on the basement windows. Shows alteration of third-floor west side rear gable end windows. LCHS.



HP-32, Lawnfield, ca. 1940, west and south sides. Note west porch altered posts and brackets, lightning system has been removed, log cabin in back yard, bars removed from basement windows, shutters removed on 1885 addition on first and second floors, additional electric meter added (April 23, 1940), and new electric conduit to the attic.



HP-33, Gate to Lawnfield, ca. 1900. Mentor Avenue opposite Stop 55 on the street railway line (Cleveland, Painesville, and Eastern). LCHS.



HP-34, Lawnfield, ca. 1904-51, south side. Detail view of south porch and arbor. LCHS.



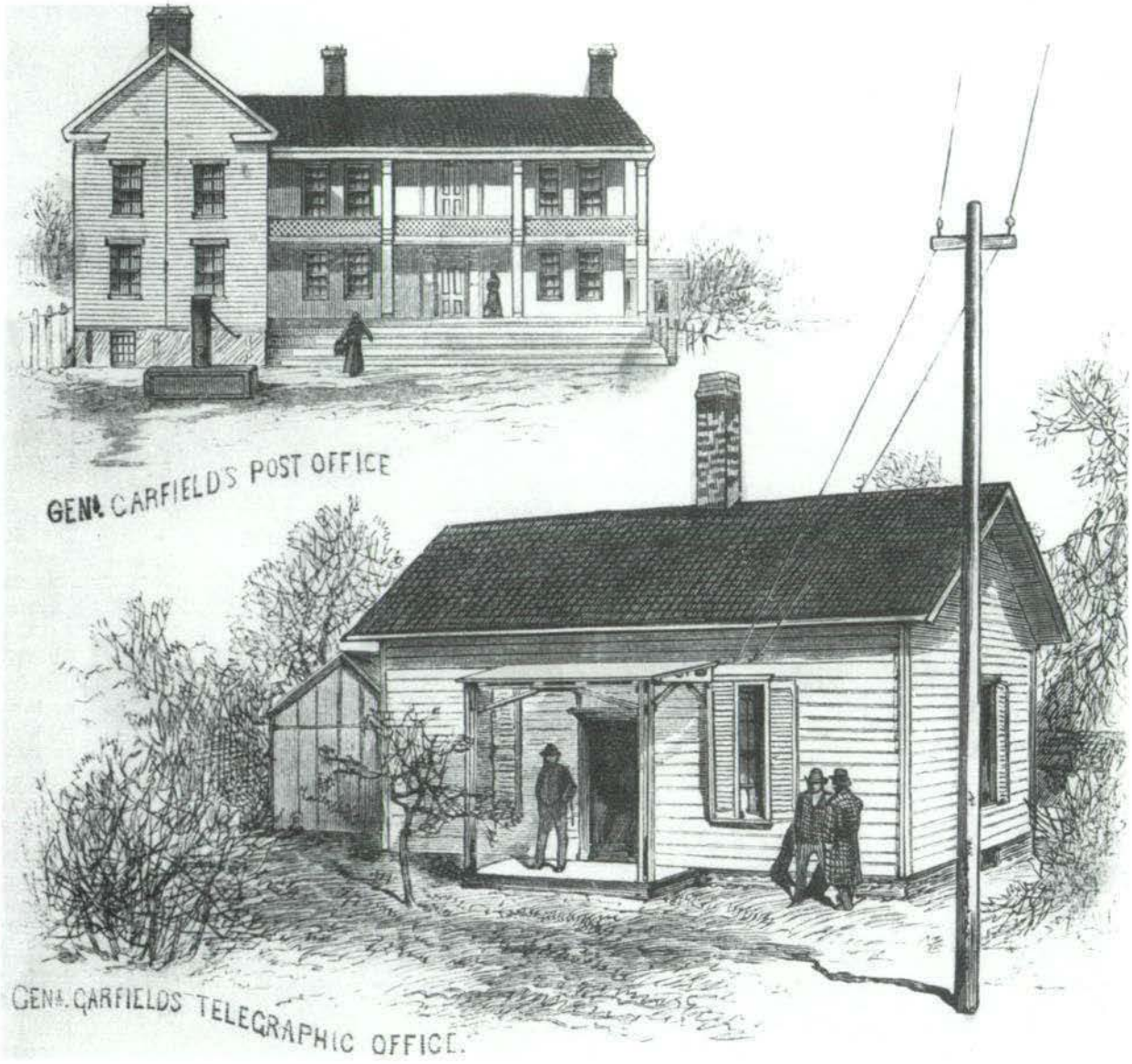
HP-35, Lawnfield, ca. 1936-51, east and south sides. Pavement of Mentor Avenue is brick. LCHS.



HP-36, Lawnfield, ca. 1961, west and south sides. Historic gutter system removed. Pergola removed 1951. Roof crest partially removed. Additional electric conduit runs from the closet on the first floor to the third floor. New flagpole, sign and lamppost. Shutters removed from the third-floor window, west side.



HP-37, Campaign office, ca. 1880, south and east sides. Note telegraph pole to the office, the ice house to the right rear, and cow barns to the left rear. From scrapbook of James R. Garfield. LCHS.



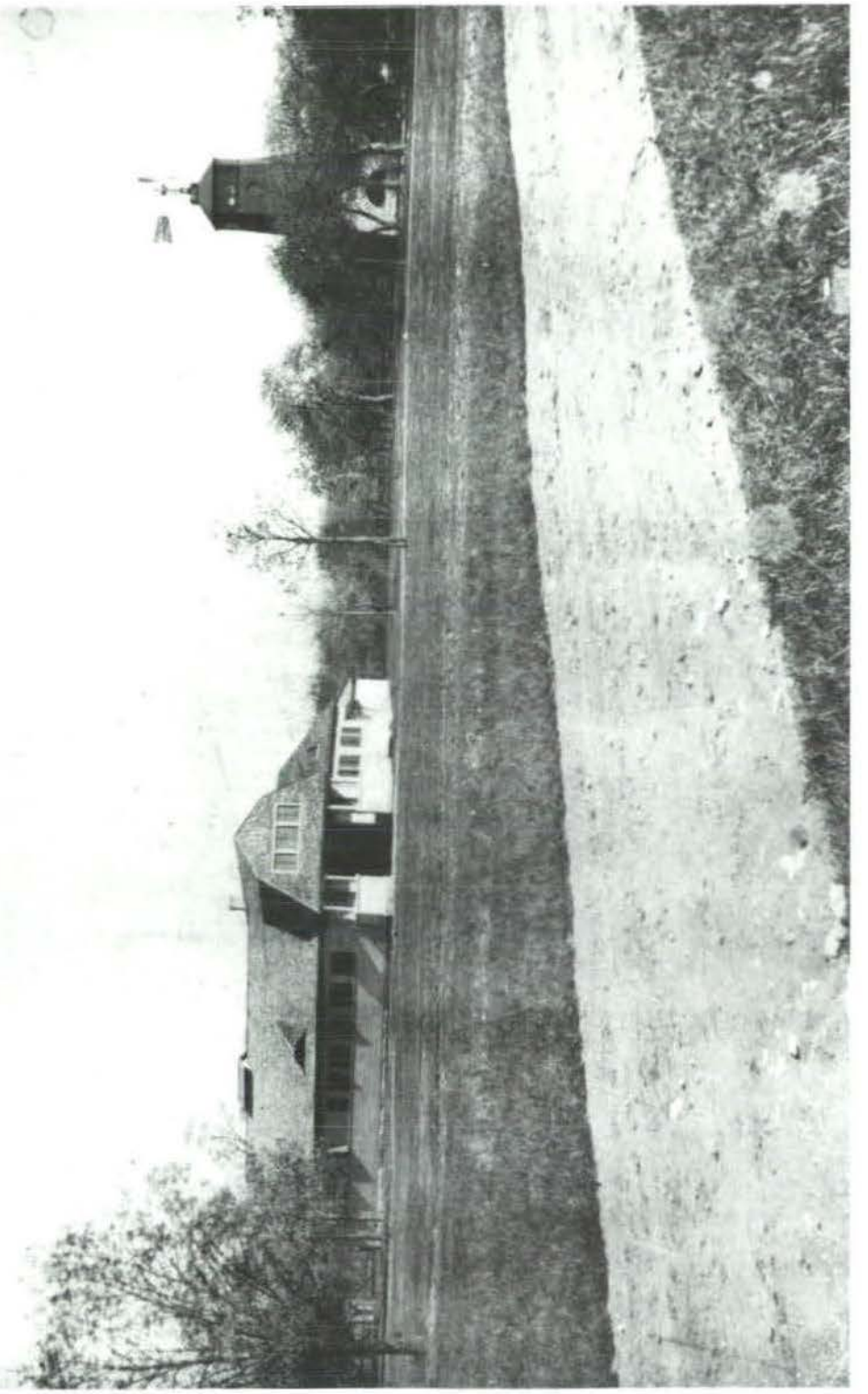
HP-38, Campaign office, 1880. "Ohio--The Busy Life of a President-elect of the U.S.–General Garfield at His Home at Mentor--General Garfield's Telegraphic Office." *Frank Leslie's Illustrated Newspaper.*



HP-39, Campaign office interior, ca. 1880. "Ohio--The Busy Life of a President-elect of the U.S.--General Garfield at His Home at Mentor--General Garfield's Business Office." *Frank Leslie's Illustrated Newspaper*.



HP-40, Carriage house, ca. 1908, main entrance and south side. "At farm of J.A. Garfield. Archibald Wilson – holding black horse. Richard Wilson – holding white horse...(ca. 1908." LCHS.



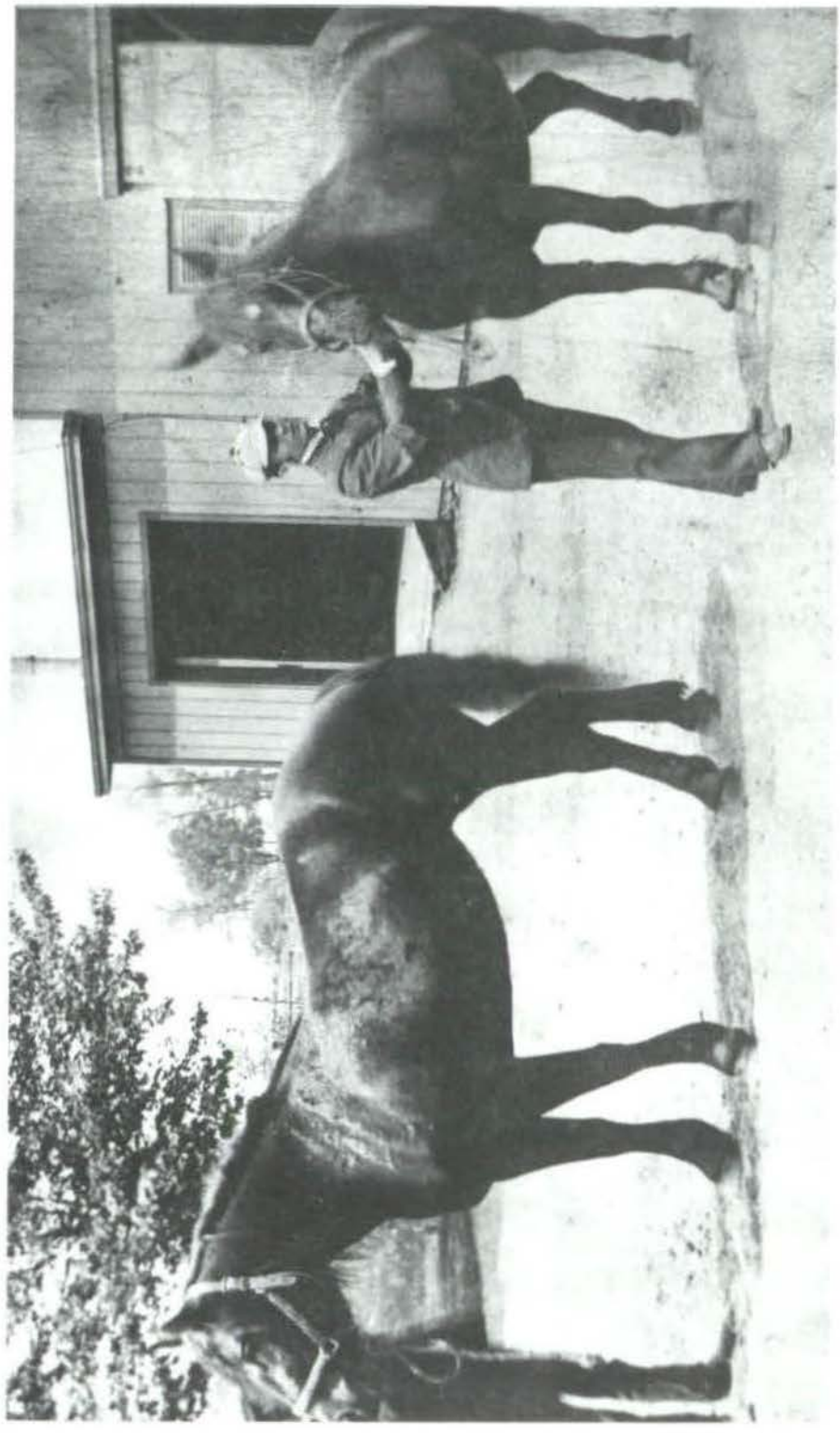
HP-41, Carriage house, west and south sides. LCHS or WRHS



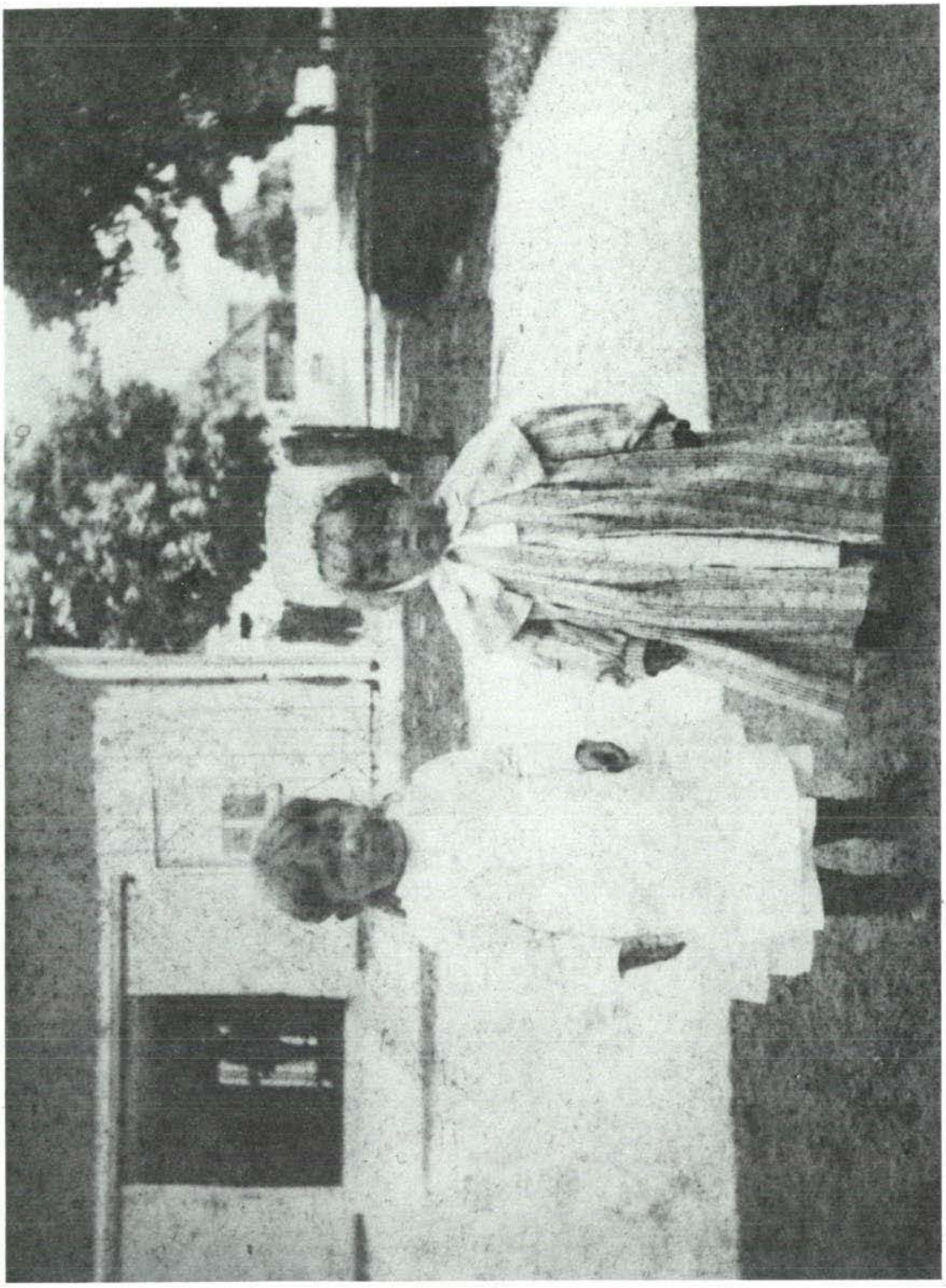
HP-42, Carriage house, as seen from over the tops of the trees in the apple orchard. LCHS.



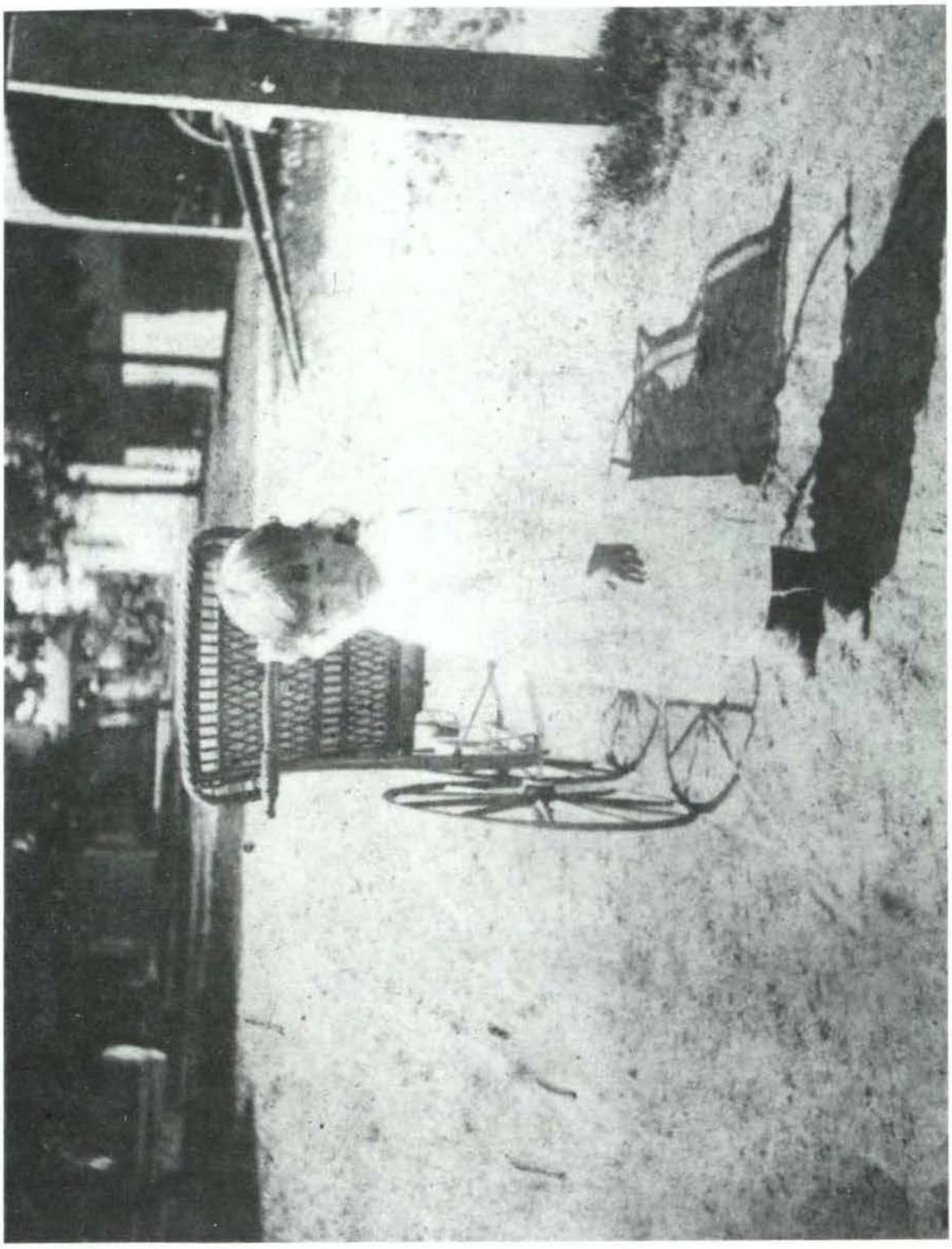
HP-43, Tenant house, south and east sides. Addition on the west side. Former open porch at southwest corner filled in. Door at grade, south side not original. LCHS.



HP-44, Barn (005), ca. 1890. Detail of southwest corner of the 1877 horse barn and 1880 carriage shed. Harry A. Garfield with farm horses. LCHS.



HP-45, Rudolph Stanley-Brown and James Garfield, ca. 1892, in the yard at Lawnfield, looking north. Background left: the barn (005). Background right: the tenant house (004). LCHS.



HP-46, Rudolph Stanley-Brown, ca. 1892, in the yard at Lawnfield, looking south. Background left: Lawnfield. Background right: the barn. LCHS.



HP-47, Windmill, north and west sides. It appears that work is being done when this photo was taken. The windows have been altered from HP-41. LCHS.

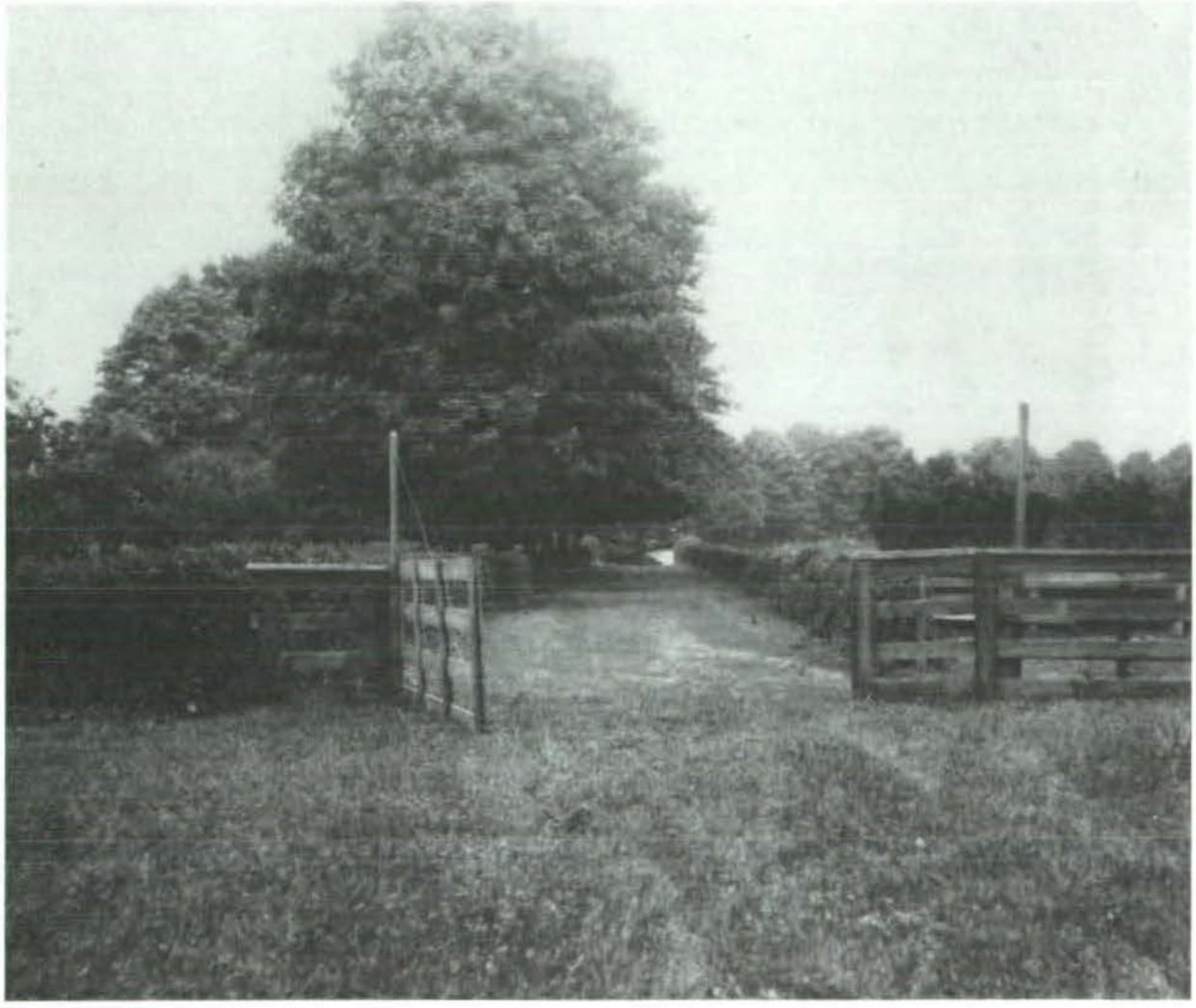
HP-48, Views of the Garfield estate. The ice house shows at the right rear of campaign office.



HP-49, Edward Garfield, ca. 1904, in the yard at Lawnfield. Background: playhouse made from a streetcar. Background right: northwest corner of the house. LCHS.



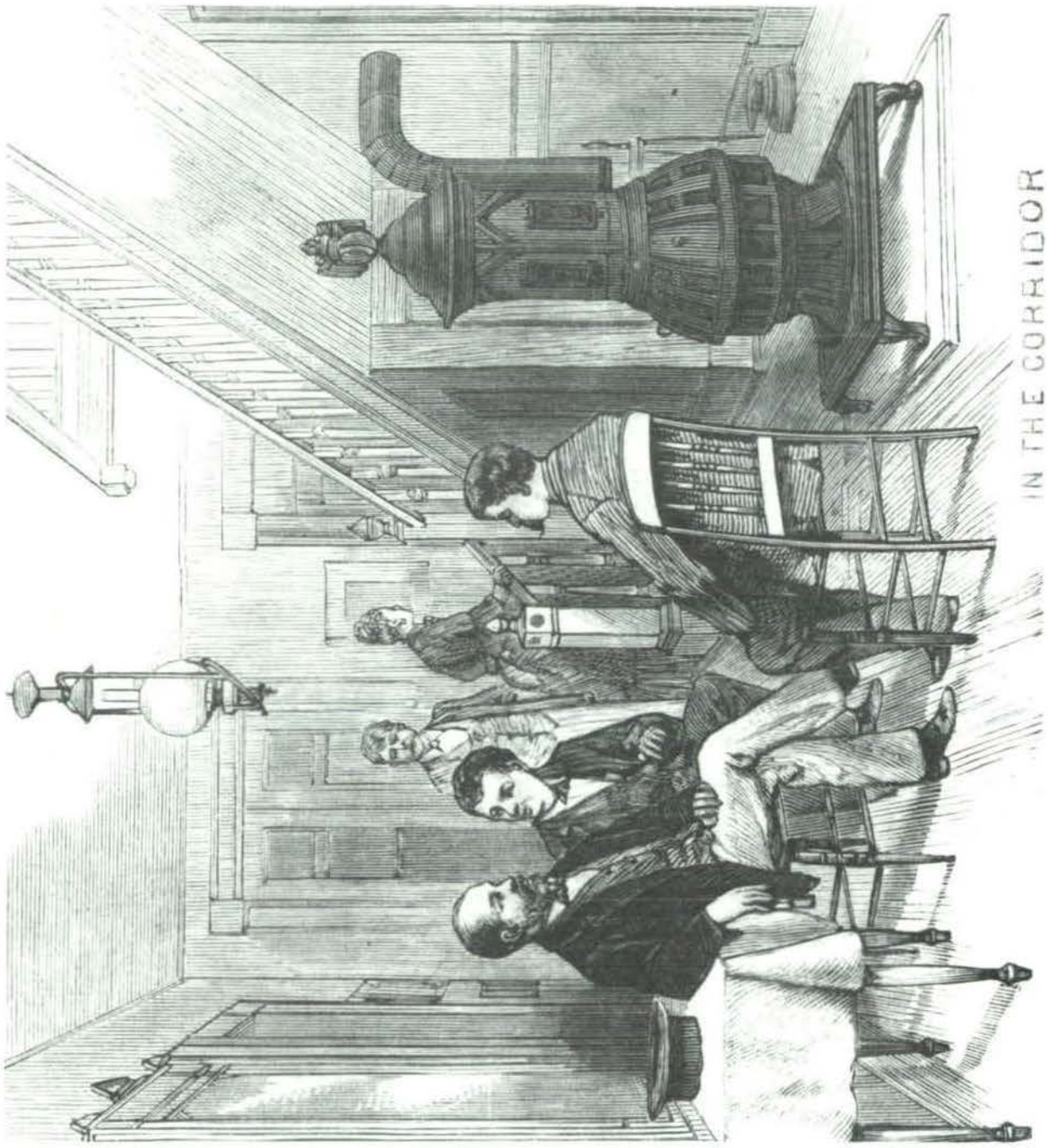
HP-50, Playhouse of the Garfield grandchildren. LCHS.



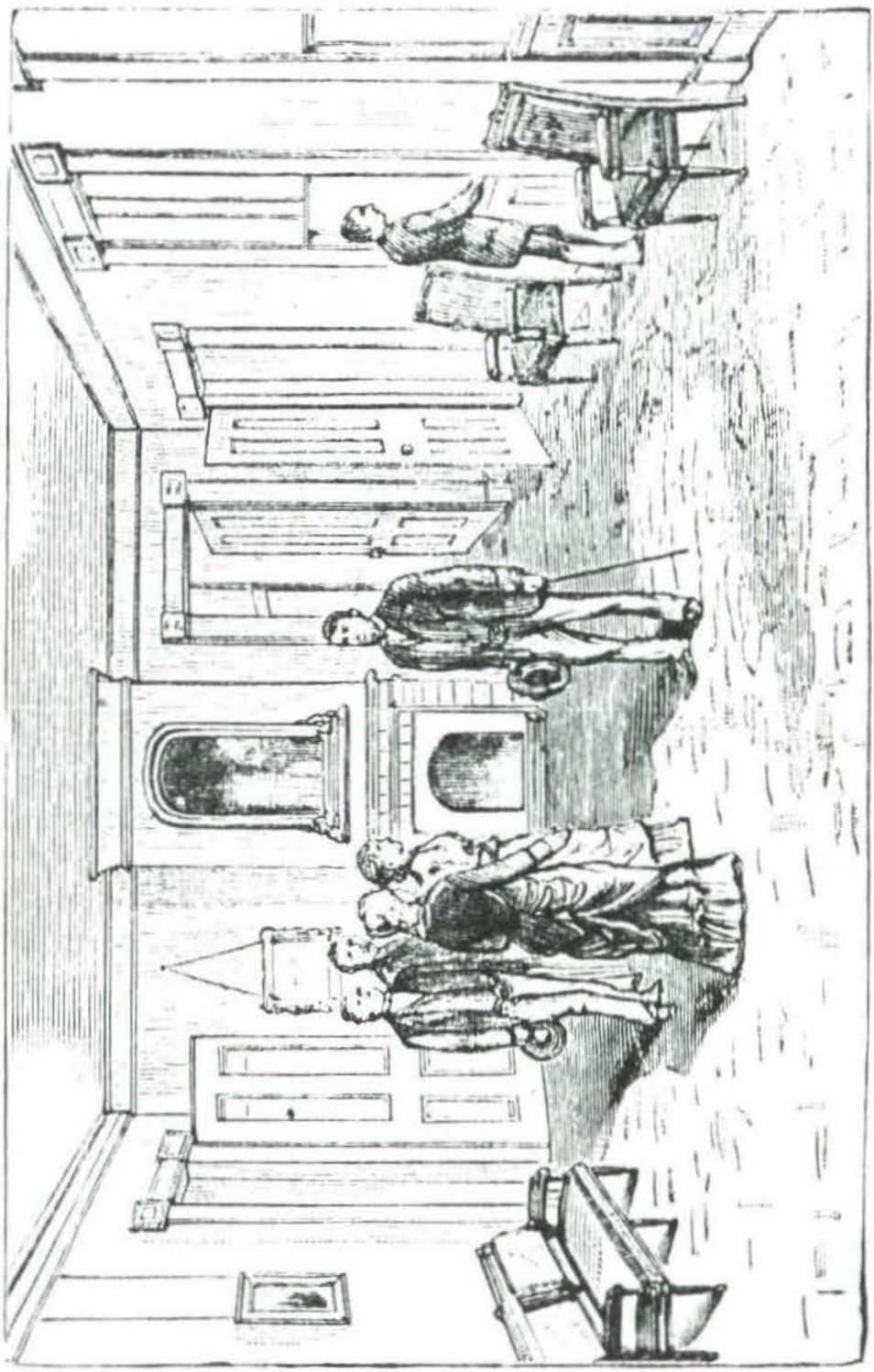
HP-51, Lane running north to the private railroad stop at Lawnfield on the Lake Shore and Michigan Southern Railroad. LCHS.



HP-52, View of ancient Lake Erie shoreline. WRHS.

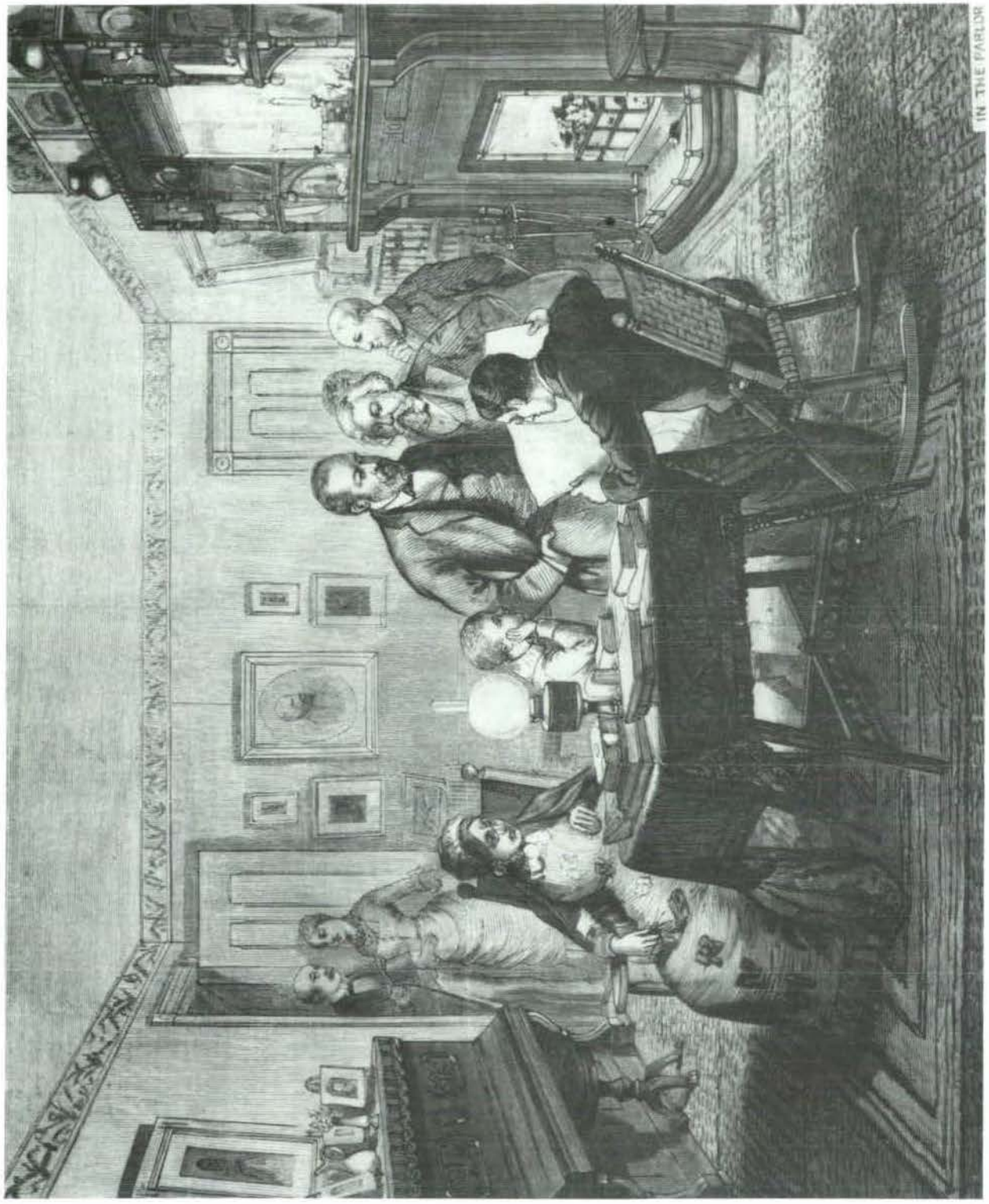


HP-53, Lawnfield interior, ca. 1880, hall (room 102). "Ohio--The Busy Life of a President-elect of the U.S.--General Garfield at His Home at Mentor--In the Corridor. *Frank Leslie's Illustrated Newspaper.*



PARLOR—GENERAL GARFIELD'S HOME.

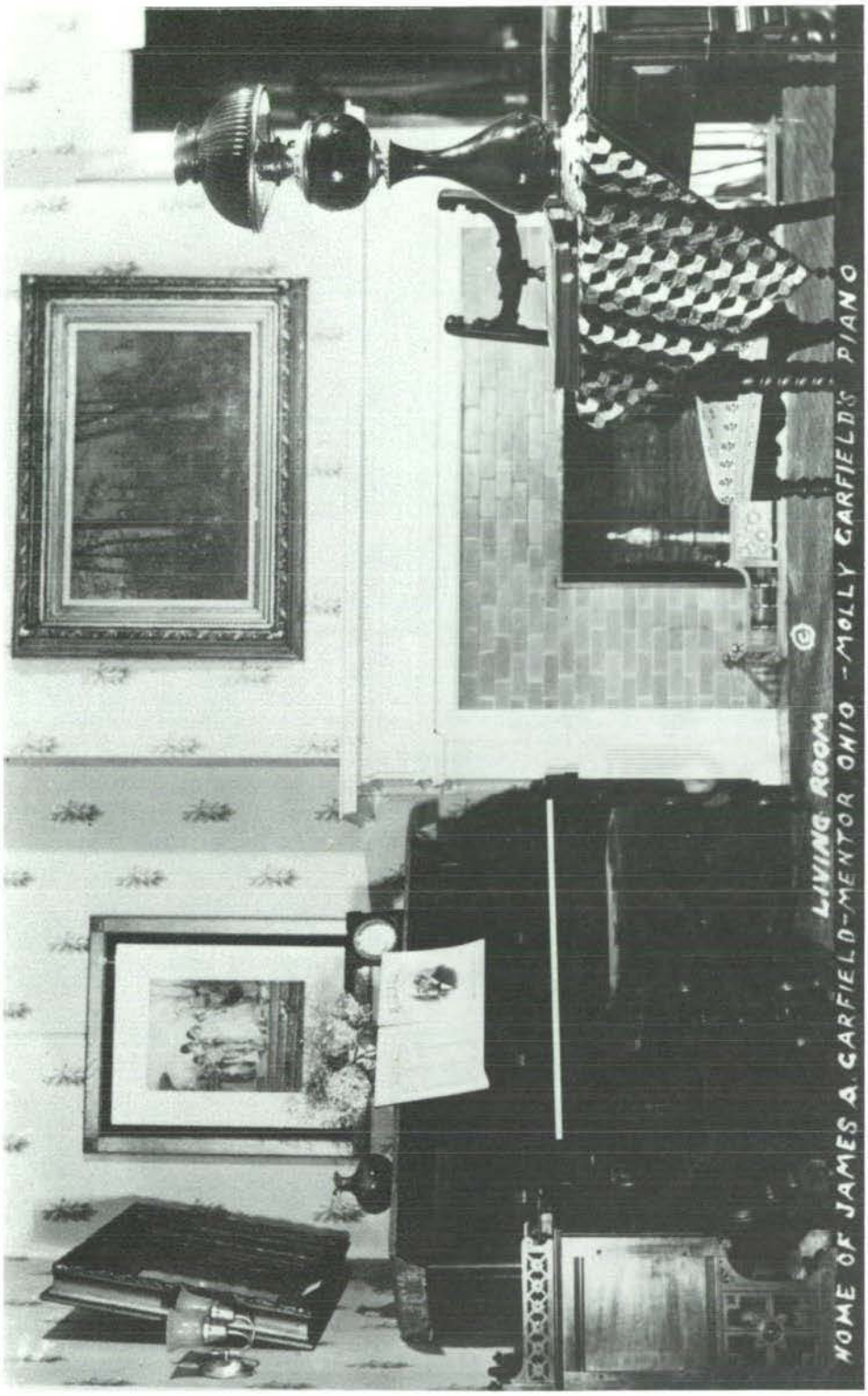
HP-54, Lawnfield interior, ca. 1880, parlor (room 106). From Biography by W.R. Balch, 1881.



HP-55, Lawnfield interior, ca. 1880, parlor (room 106). "Ohio--The Busy Life of a President-elect of the U.S.--General Garfield at His Home at Mentor--In the Parlor." *Frank Leslie's Illustrated Newspaper.*



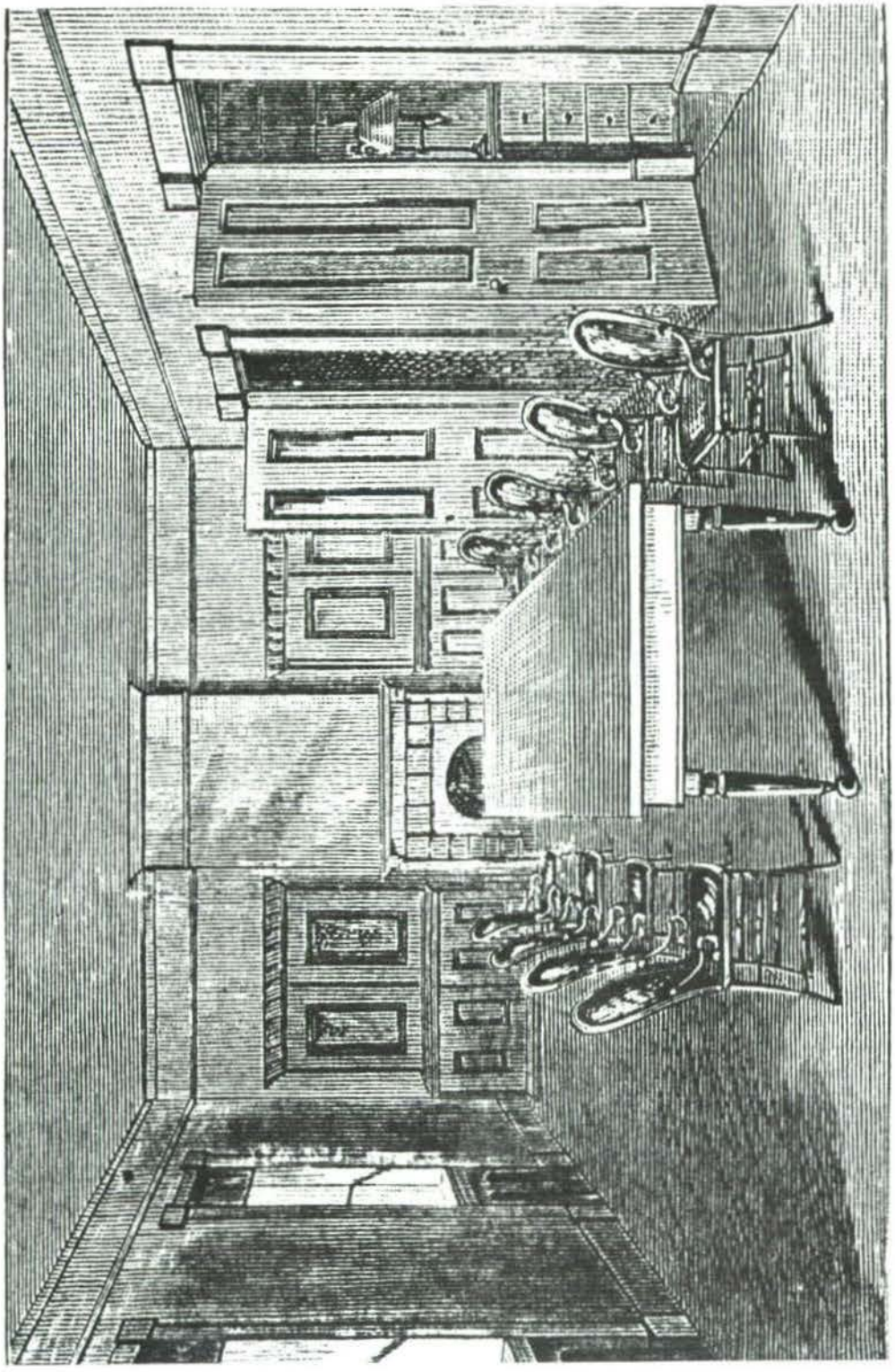
HP-56, Lawnfield interior, ca. 1887, parlor (room 106). Photo most likely by George N. Barnard. LCHS.



HP-57, Lawnfield interior, ca. 1944, parlor (room 106). WRHS.

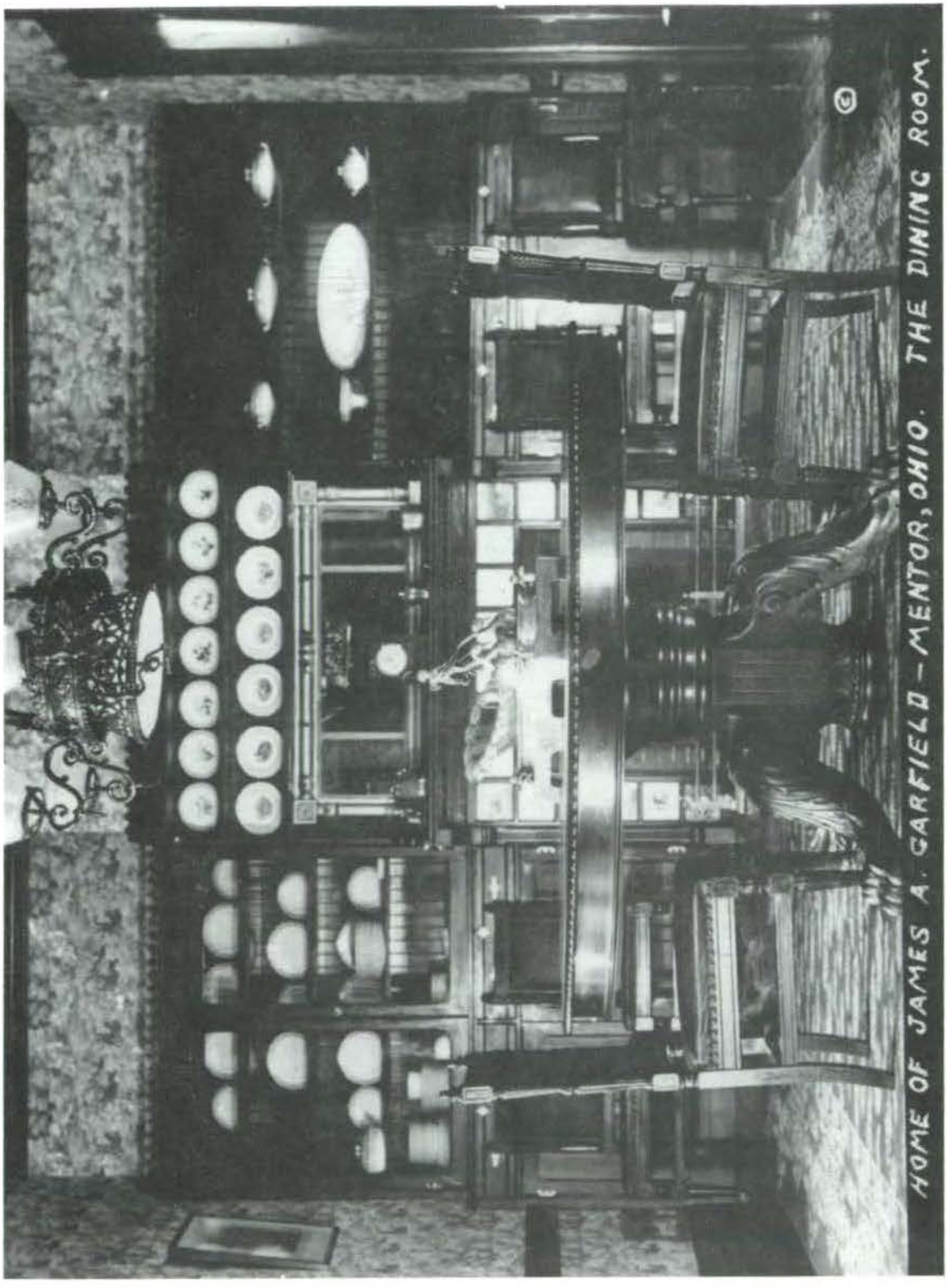


HP-58, Lawnfield interior, ca. 1944, parlor (room 106). WRHS.



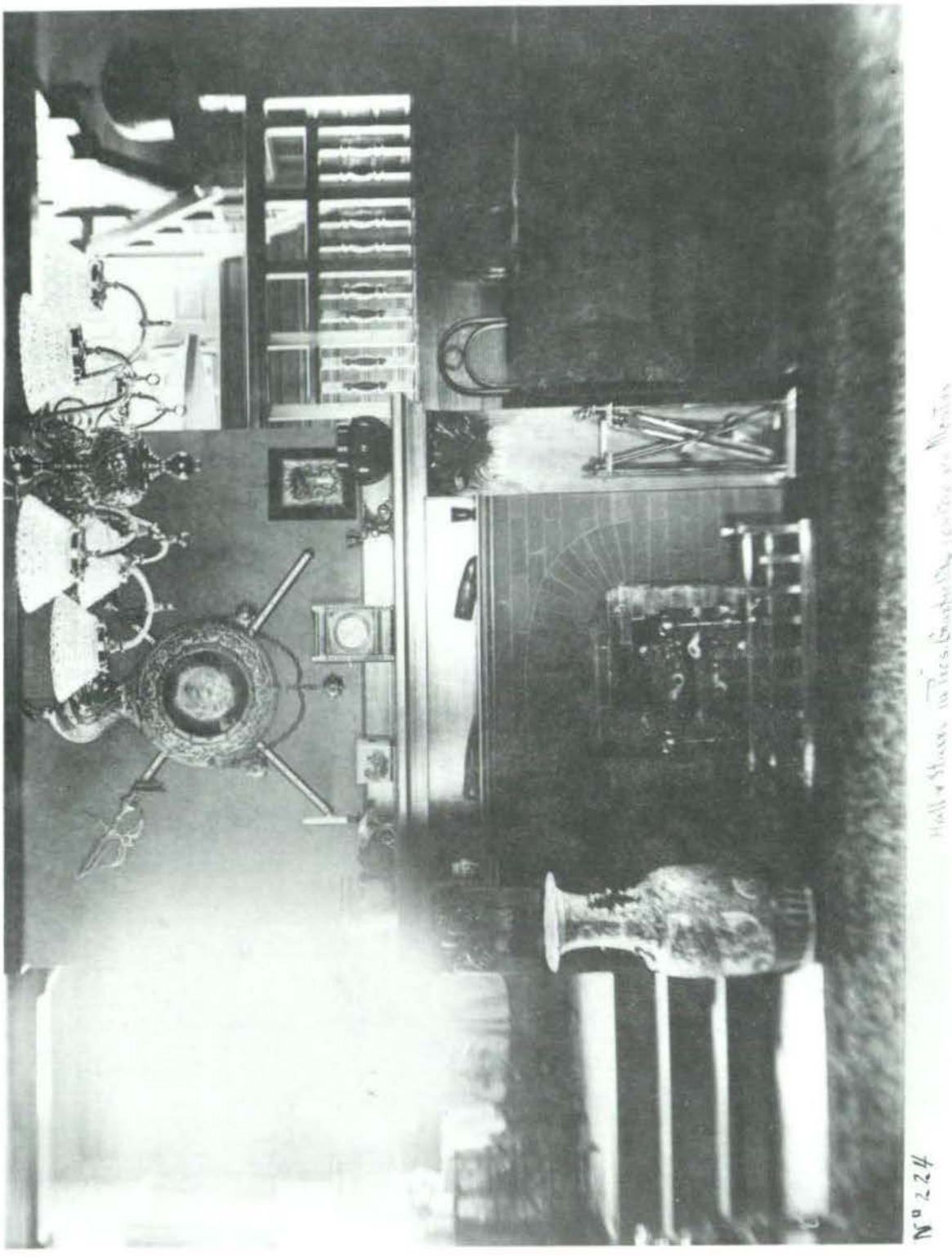
DINING-ROOM—GENERAL GARFIELD'S HOME

HP-59, Lawnfield interior, ca. 1880, dining room (room 111). From Biography by W.R. Balch, 1881.

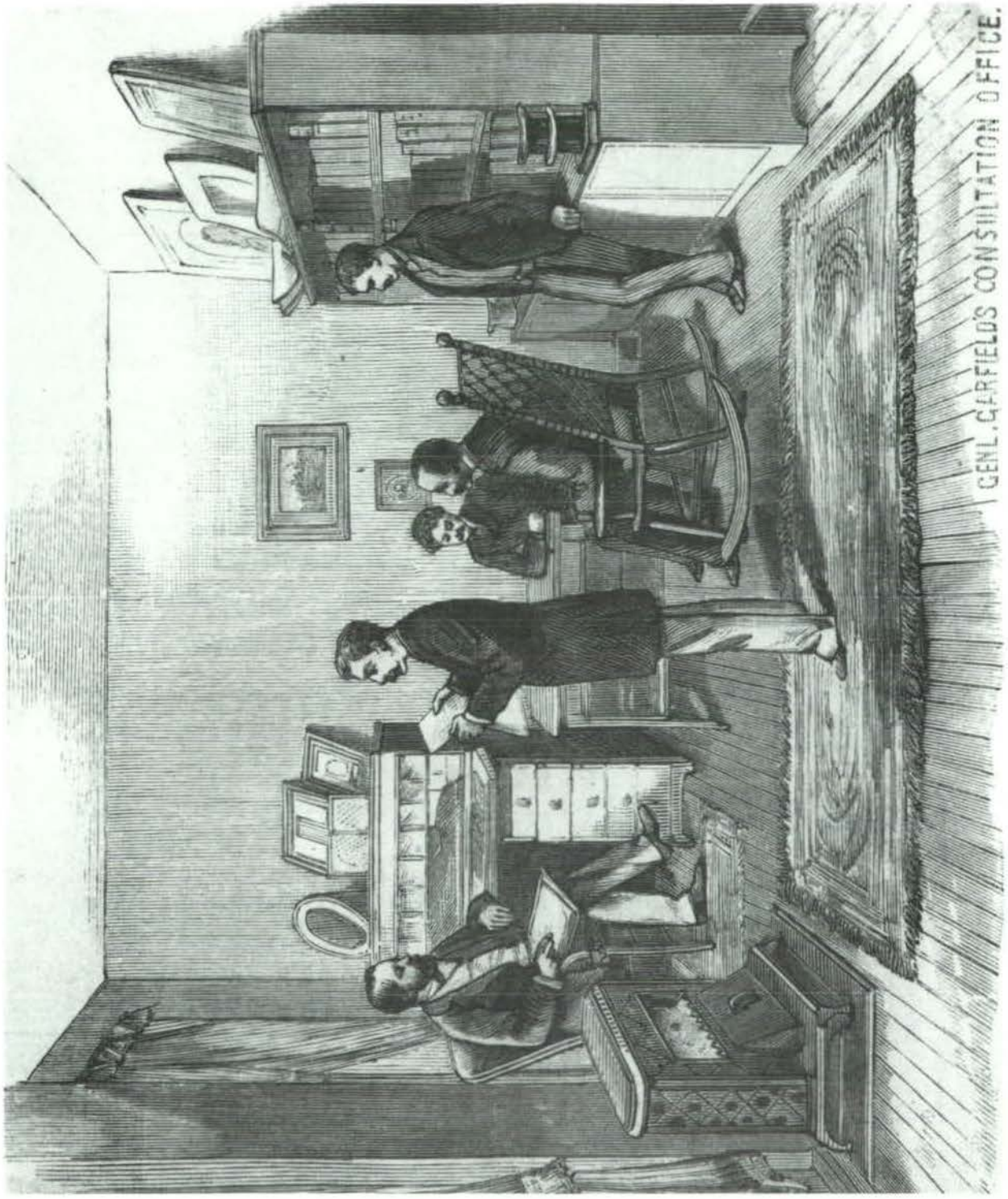


HP-60, Lawnfield interior, ca. 1944, dining room (room 111). Gas chandelier originally hung in the memorial library. WRHS.

HP-61, Lawnfield interior, ca. 1944, president's bedroom (room 103). WRHS.



HP-62, Lawnfield interior, ca. 1888, first-floor reception hall and stair (room 110). This gas chandelier is now in the dining room. WRHS.



HP-63, Lawnfield interior, ca. 1880, office (room 206). "Ohio--Busy Life of the U.S.--General Garfield at His Home at Mentor--General Garfield's Consultation Office." *Frank Leslie's Illustrated Newspaper.*



HP-64, Lawnfield interior, ca. 1887, office (room 206). Memorial fireplace and gas chandelier installed in 1885. Photo by George N. Barnard. LCHS.



HP-65, Lawnfield interior, ca. 1944, president's office (room 206). WRHS.

HP-66, Lawnfield interior, ca. 1944, Lucretia Garfield's bedroom (room 208). WRHS.



HP-67, Lawnfield interior, ca. 1944, the Garfield cradle. WRHS.



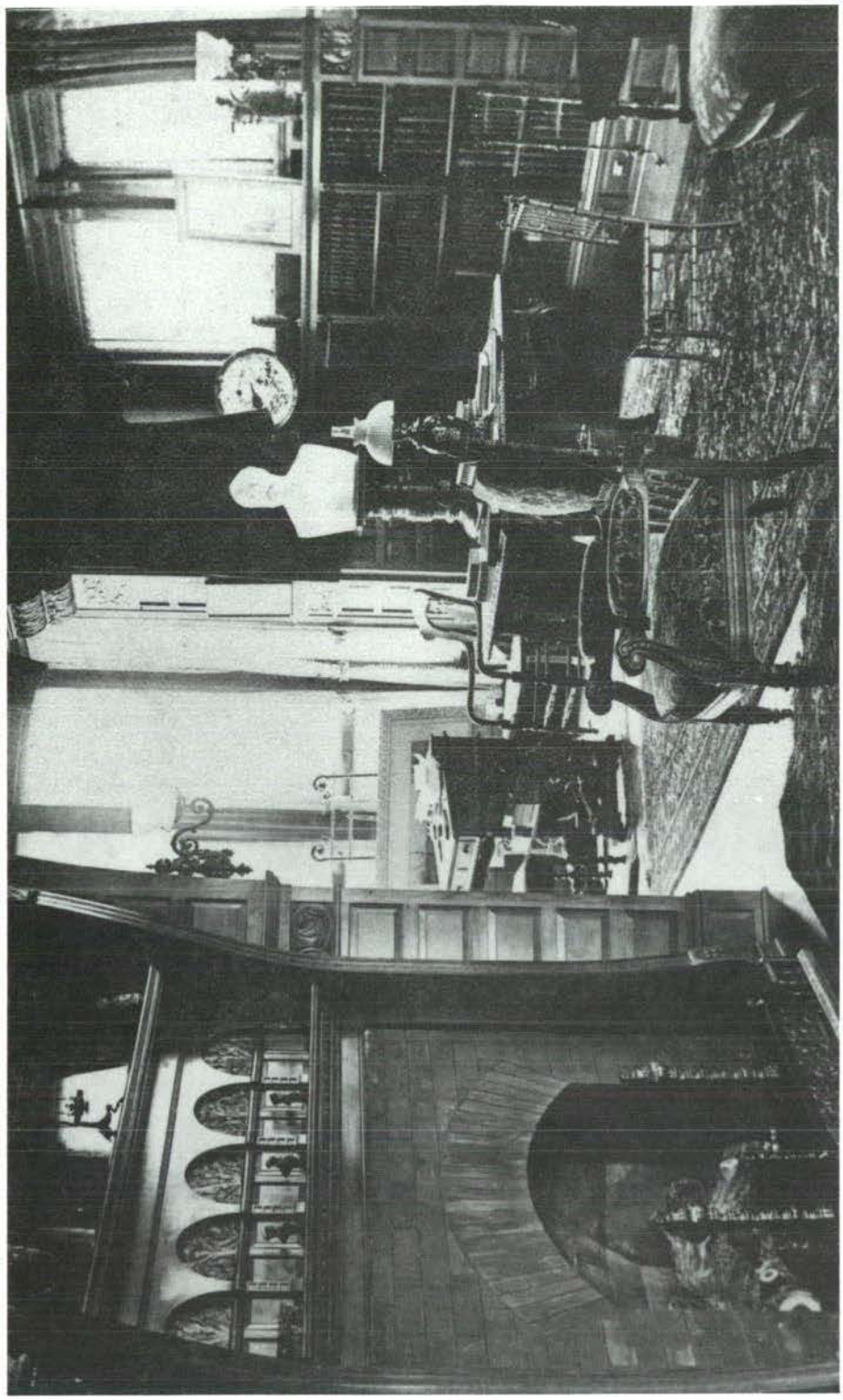
HP-68, Lawnfield interior, Mollie Garfield Stanley-Brown's bedroom. LCHS.



HP-69, Lawnfield interior, ca. 1888, landing outside the memorial library (room 218). LCHS.



HP-70, Lawnfield interior, July 8, 1888, memorial library (room 228).



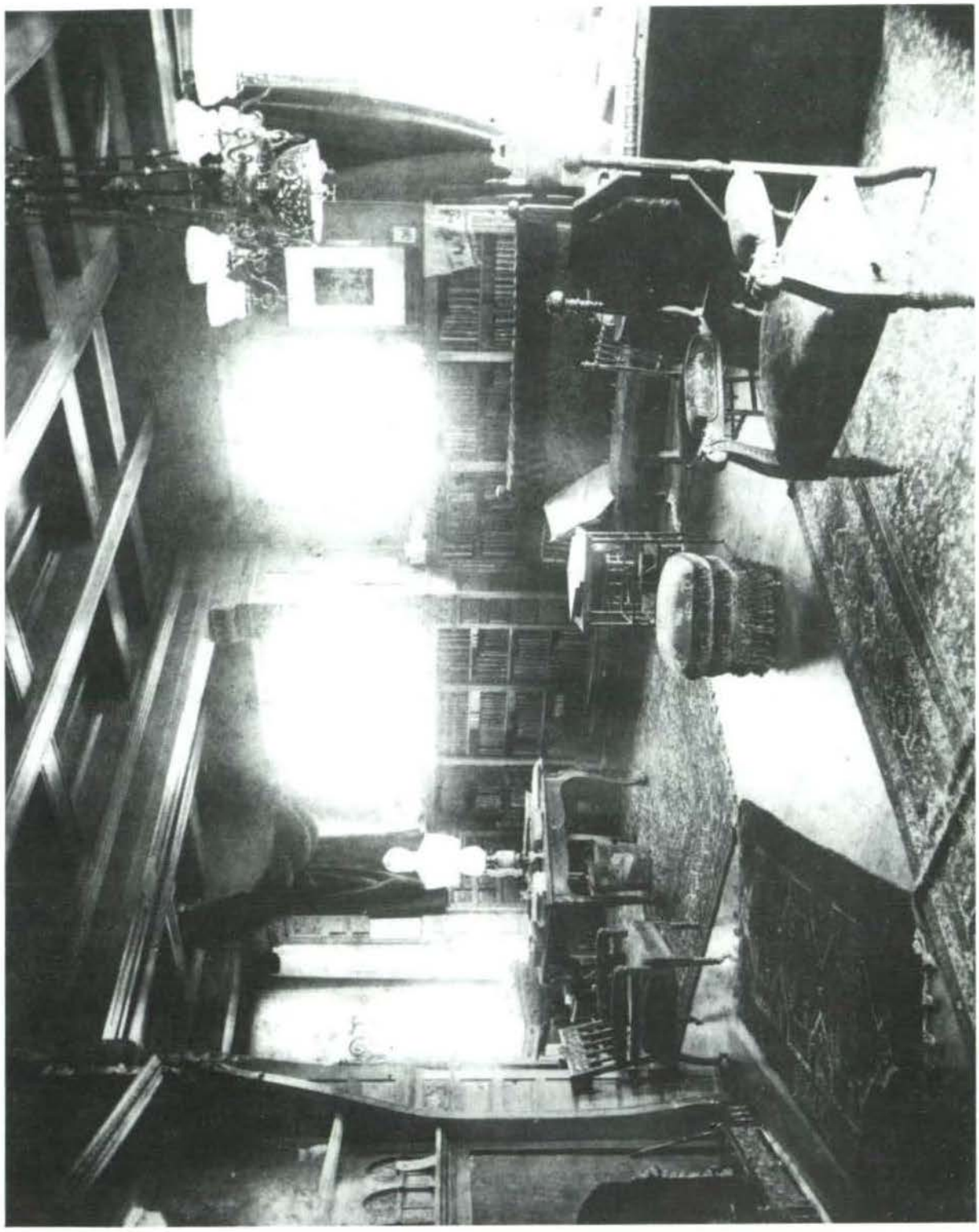
HP-71, Lawnfield interior, July 1888, memorial library (room 228). LCHS.



HP-72, Lawnfield interior, ca. 1891, memorial library (room 228). LCHS.



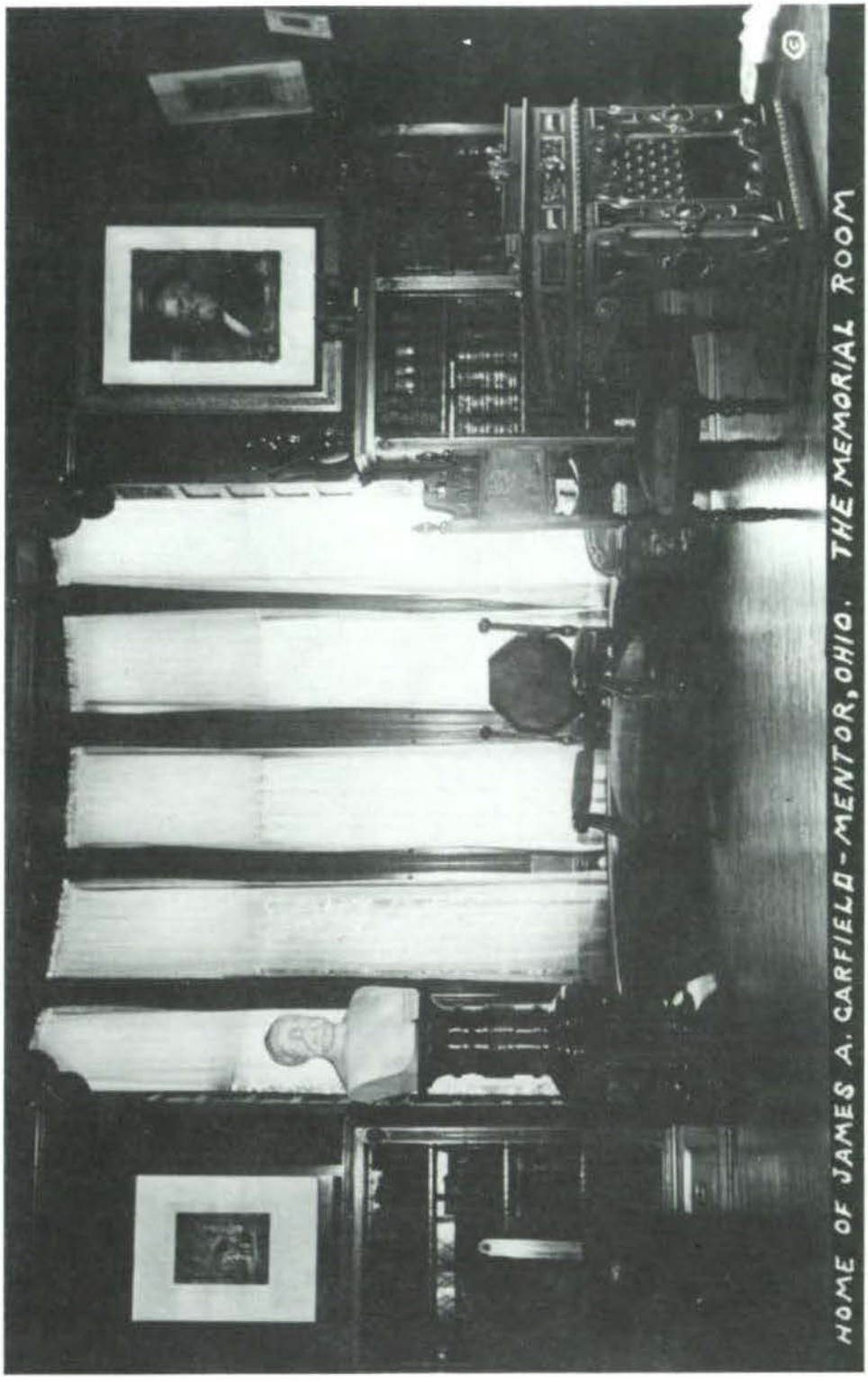
HP-73, Lawnfield interior, ca. 1891, memorial library (room 228). LCHS.



HP-74, Lawnfield interior, ca. 1891, memorial library (room 228). LCHS.



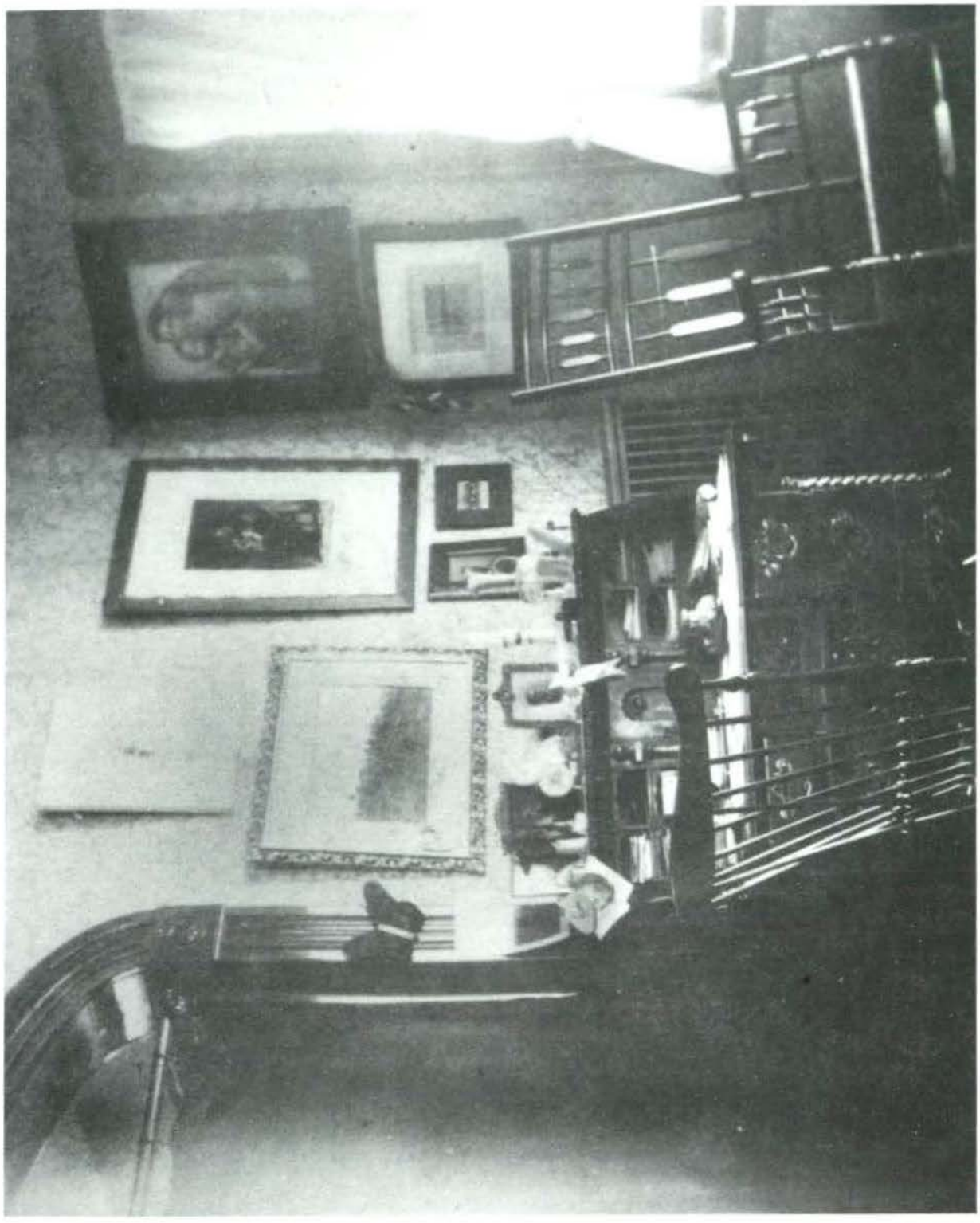
HP-75, Lawnfield interior, ca. 1891, memorial library (room 228). LCHS.



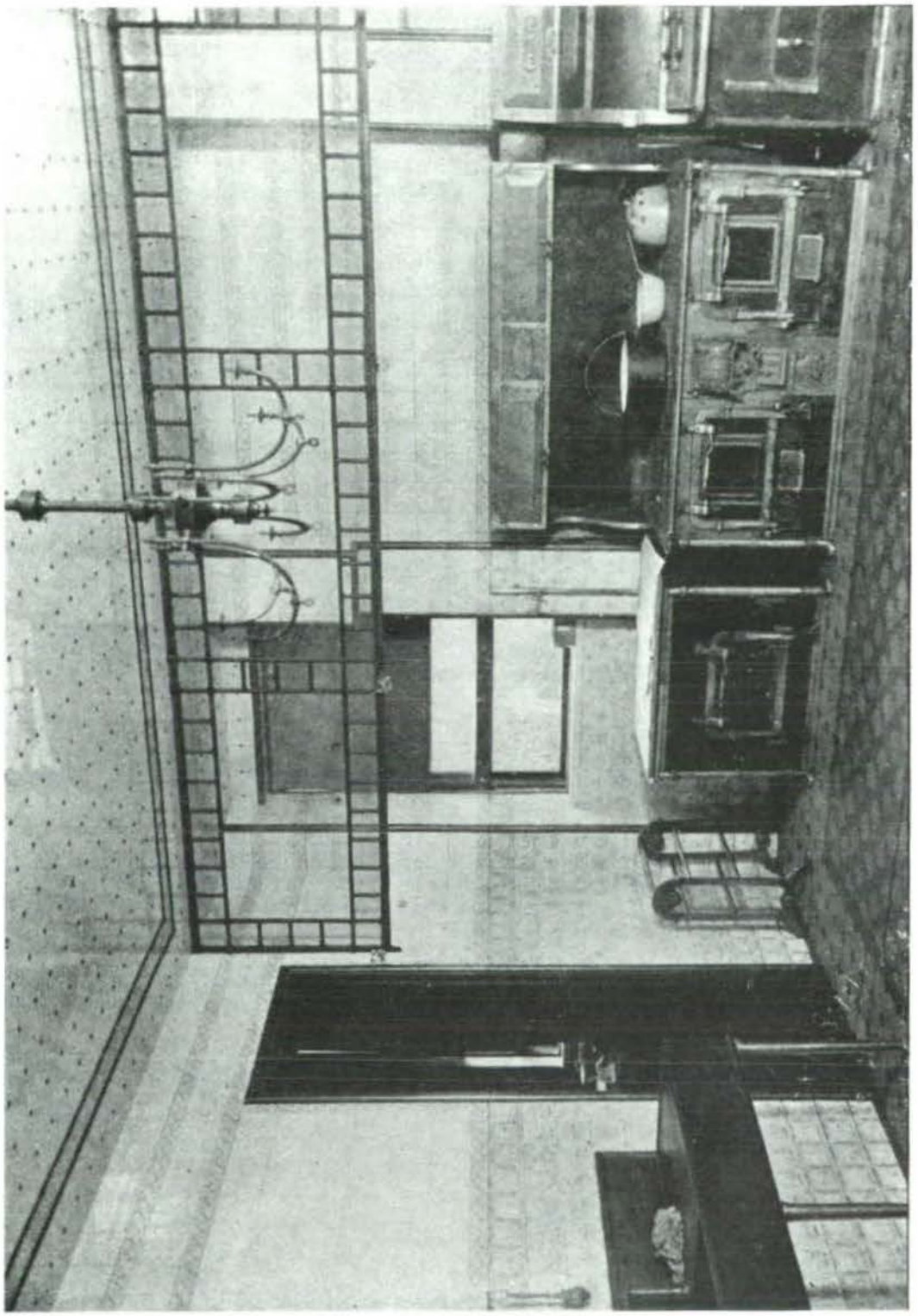
HP-76, Lawnfield interior, ca. 1944, memorial library (room 228). Cyclone fencing on bookcases was installed in 1936. WRHS.



HP-77, Lawnfield interior, ca. 1891, third-floor parlor (room 31). From the scrapbook of James R. Garfield. LCHS.



HP-78, Lawnfield interior, ca. 1891, third-floor parlor (room 31). From the scrapbook of James R. Garfield. LCHS.



Kitchen in Residence of Mr. J. H. Wade, Euclid Ave

HP-79, Plate from "Some Selections from the Book of Coburn and Barnum Architects." This is from a house built in the same period and by the same architects as the library addition to Lawnfield.



HP-80, Third-floor hall looking northwest, January 1962.



HP-81, Third-floor hall looking south, January 1962.



HP-82, Third-floor hall looking west, January 1962.



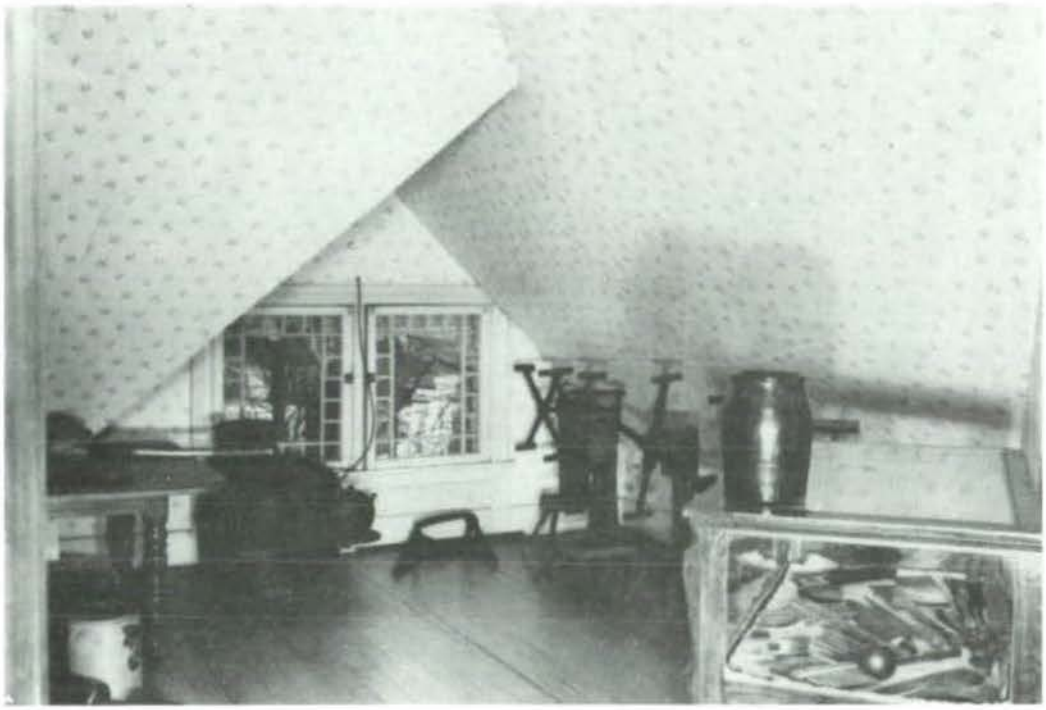
HP-83, Third-floor hall looking southeast, January 1962.



HP-84, Third-floor bedroom no. 3 looking southwest, January 1962.



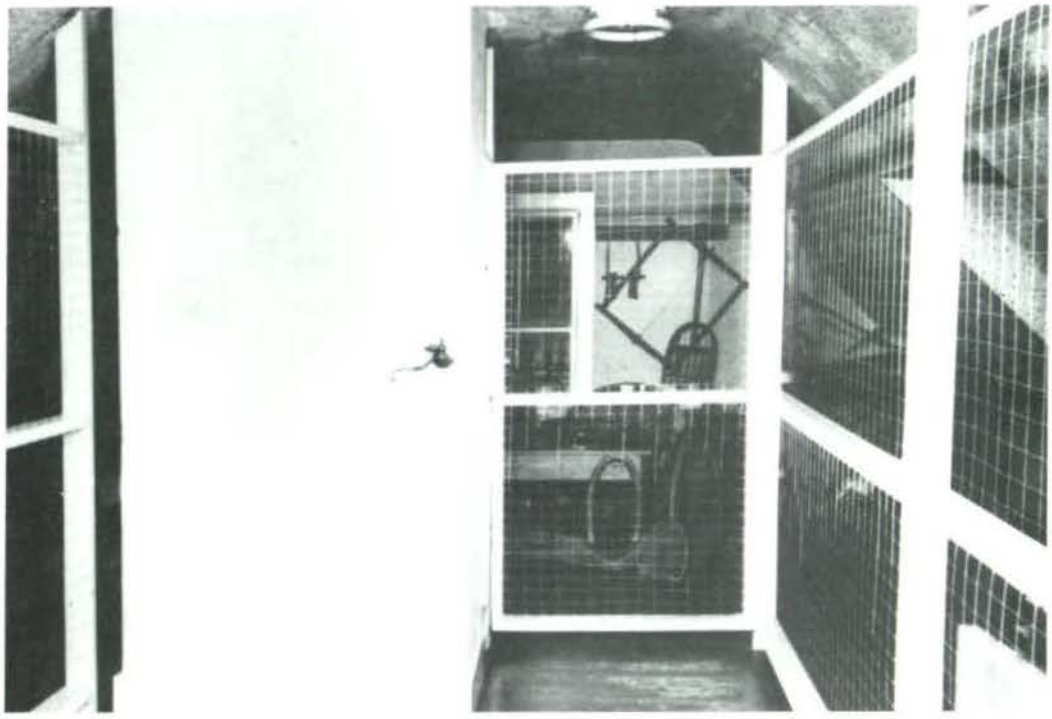
HP-85, Third-floor bedroom no. 2 looking south, January 1962.



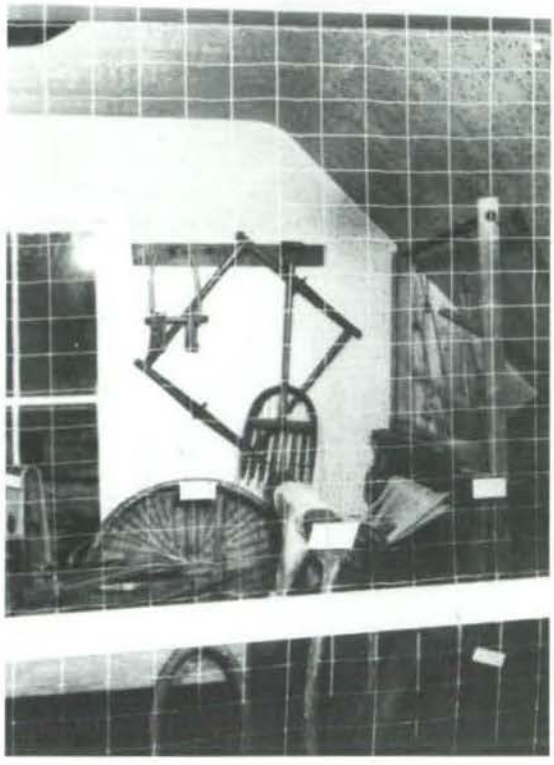
HP-86, Third-floor bedroom no. 2 looking southwest, January 1962.



HP-87, Third-floor bedroom no. 1 looking east, January 1962.



HP-88, Third-floor bedroom no. 1 looking west, January 1962.



HP-89, Third-floor bedroom no. 1 looking west, January 1962.

CONTEMPORARY PHOTOGRAPHS, 1984-85 (CP)



CP-1, South side from street. Only 1880 part of the house is apparent from the street.



CP-2, West and south sides



CP-3, West side.



CP-4, West side.



CP-5, West side.



CP-6, North side.



CP-7, East side, memorial library addition.



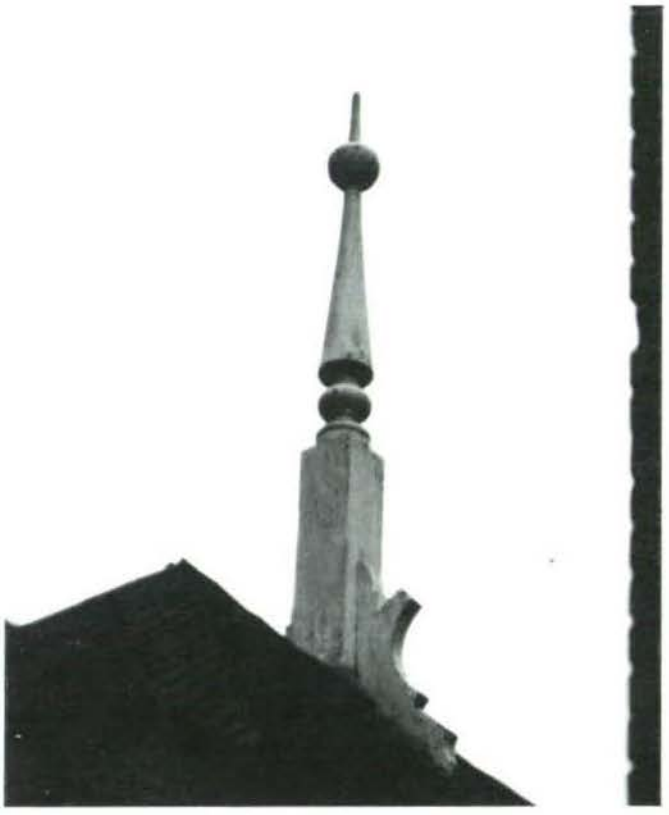
CP-8, East side.



CP-9, Typical tall chimney unsupported above the roof. All chimneys need repainting.



CP-10, Detail of corbeled chimney top. Severe weathering and leaching of mortar occur on of the chimneys.



CP-11, Remains of the top crest on the roof. Four side scrolls are missing.



CP-12, Fret detailing of the large gable on the south side. Finial above the roof is missing as well as the lower half of the right hand circle.



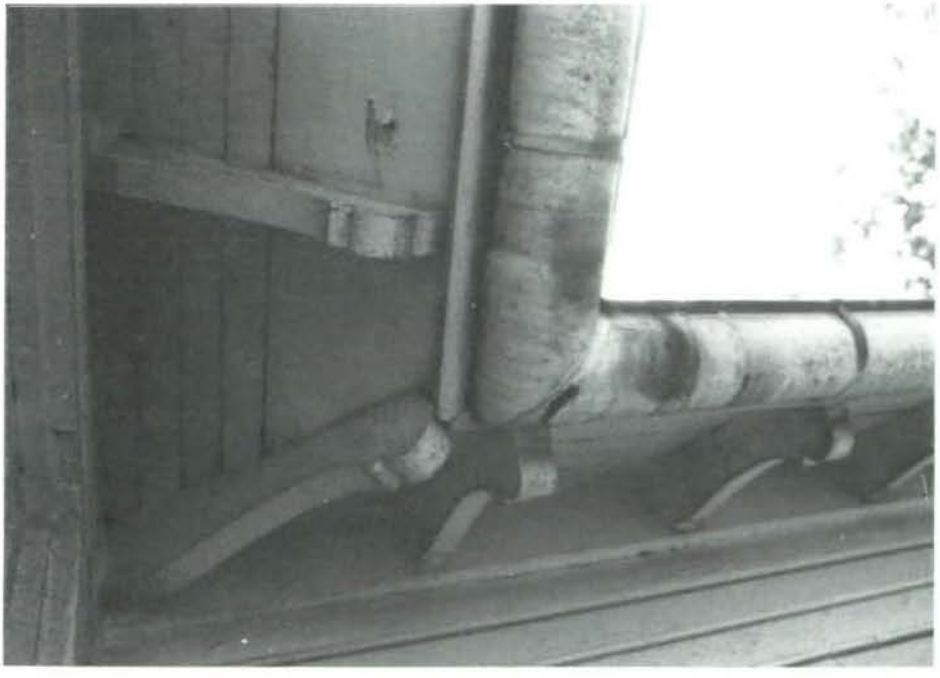
CP-13, Typical dormer on the 1880 portion of the house. Finial above the roof is missing.



CP-14, Gable detail on the west and east sides of the 1880 part of the house.



CP-15, Eave detail at the downspout. The hole through the roof sheathing at the right is from the original downspout. Half-round gutter at the left has replaced the original trough gutter system. Pigeons on the bracket soil the building with waste.



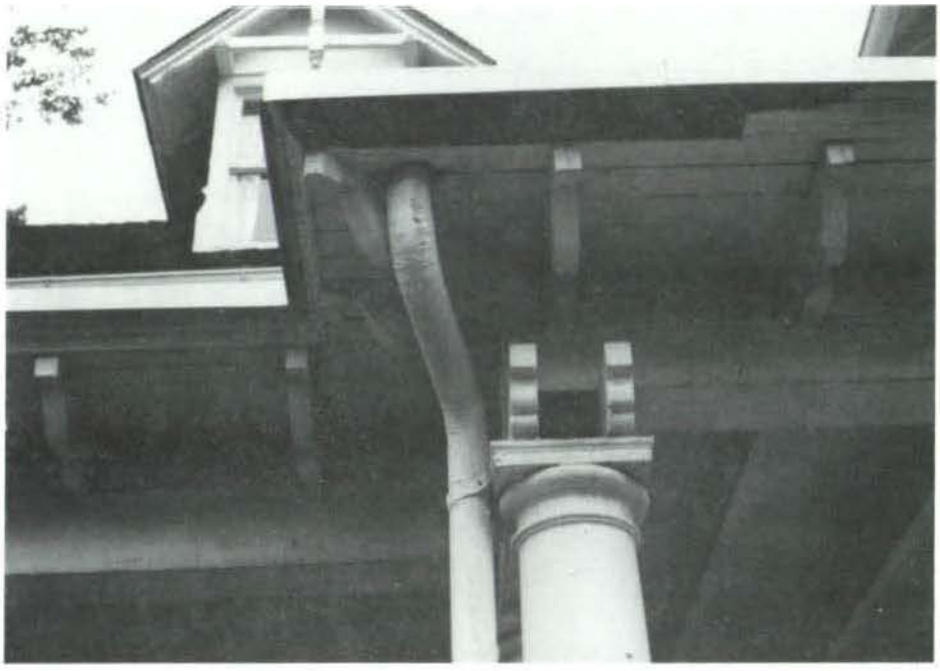
CP-16, Original narrow exposed eave sheathing boards replaced with wide board, probably at the time of gutter replacement. Note the rafter tip splice repairs.



CP-17, South porch was built in 1904. The arbor was removed in 1951.



CP-18, Deteriorated roofing of the east porch.



CP-19, Rot and insect infestation in the roof structure of the porch has been caused by roofing deterioration and blocked downspouts.



CP-20, Several of the column bases exhibit rot at the bases.



CP-21, 1904 bay window replace the original windows and door to the sitting room. Joist pockets of removed arbor are visible above the side windows.



CP-22, Tiled floor of the arbor is washing out, causing dangerous walking conditions.



CP-23, Detail of the south porch roof. The east porch roof is similar.



CP-24, 1904 east porch with enclosed entrance area to dining room.



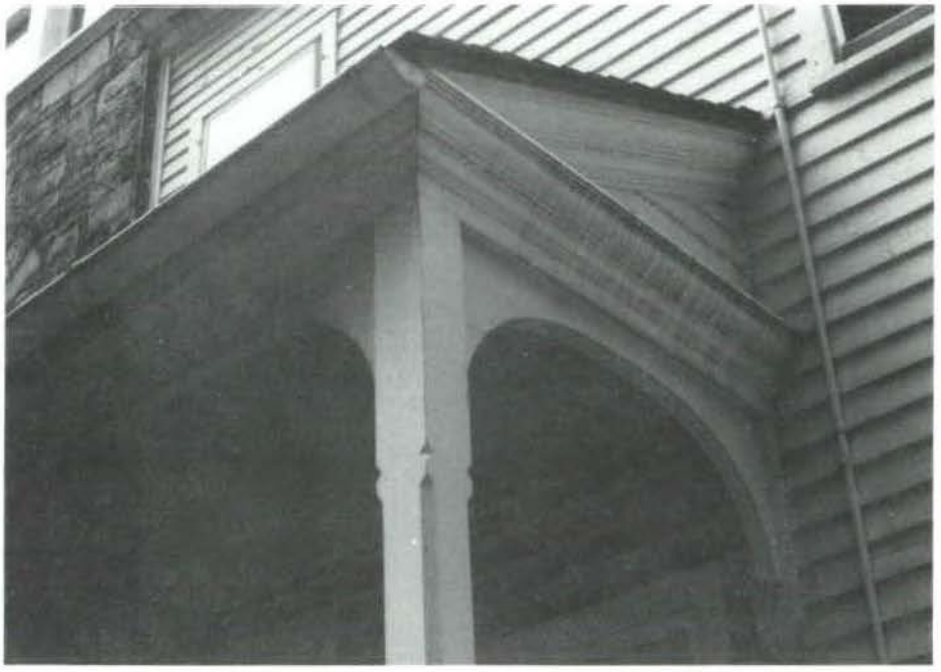
CP-25, East porch exhibits the same problems as the south porch.



CP-26, North portion of the east porch deck may date back to 1885.



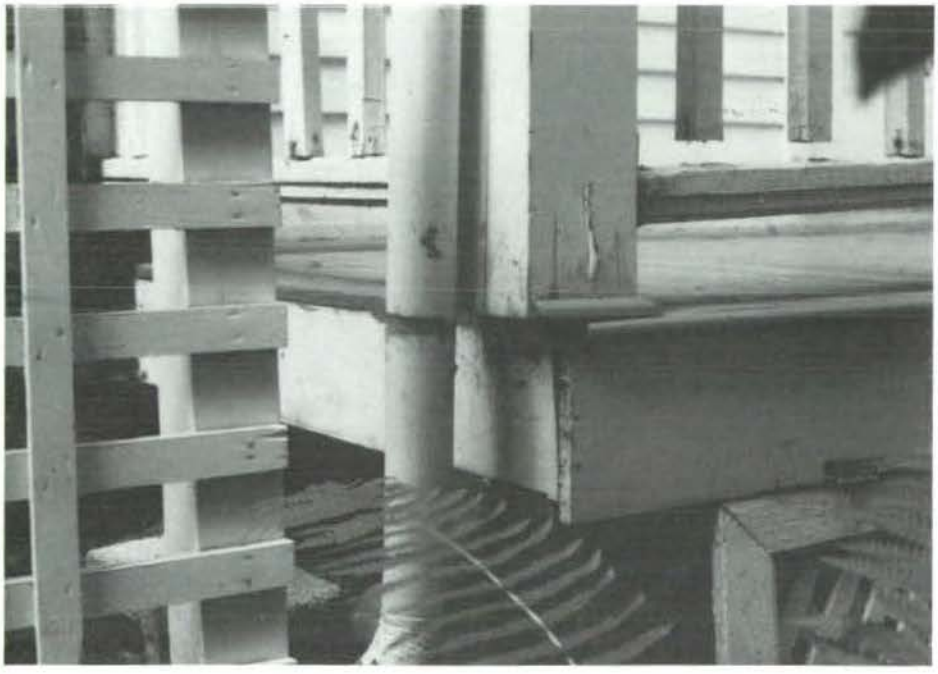
CP-27, North porch of the former entry to the servants quarters of the house is now the entry for the curator's apartment.



CP-28, Detail of the north porch roof.



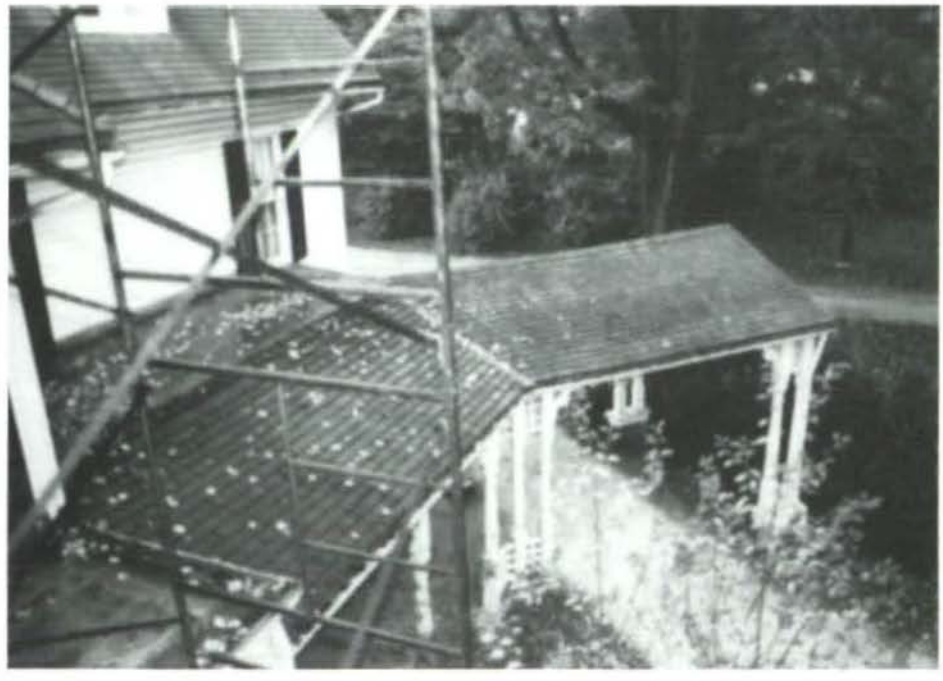
CP-29, North porch deck and cellar door.



CP-30, Rotted rail, post and trim boards at the north porch.



CP-31, West porch (porte cochere).



CP-32, Roof of west porch with a hidden flat area.



CP-33, West porch, left column is original.



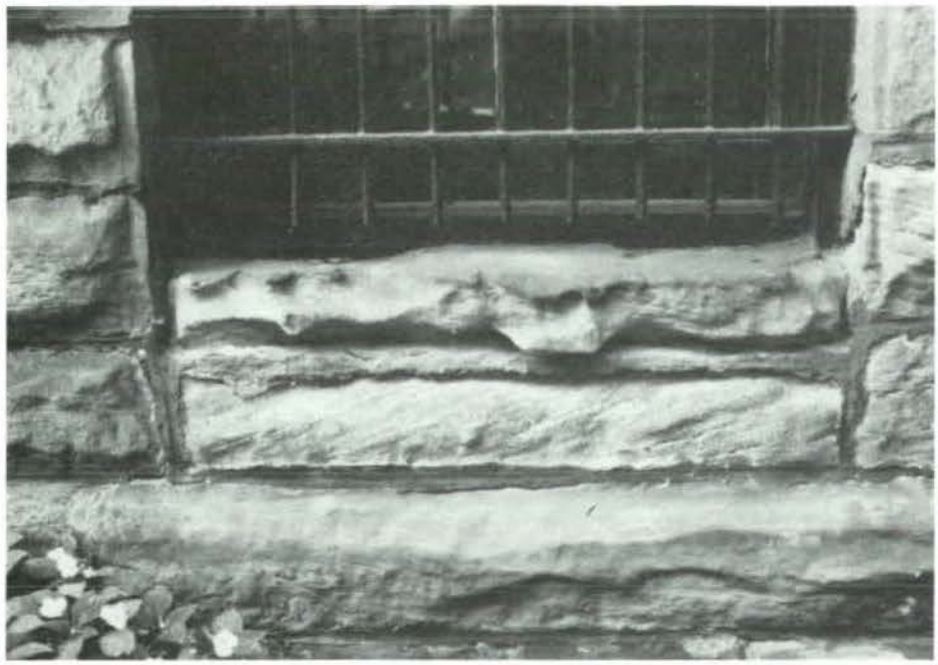
CP-34, West porch, shadow of original porch brackets is visible below the replacement.



CP-35, Roof and flashing problems have caused severe deterioration at the exterior of the parlor stair and west porch. Engaged porch column, siding, trim are rotted. Porch rail is missing entirely.



CP-36, Another view of the rotted siding at the parlor stair. There is most likely structural damage within the wall as well.



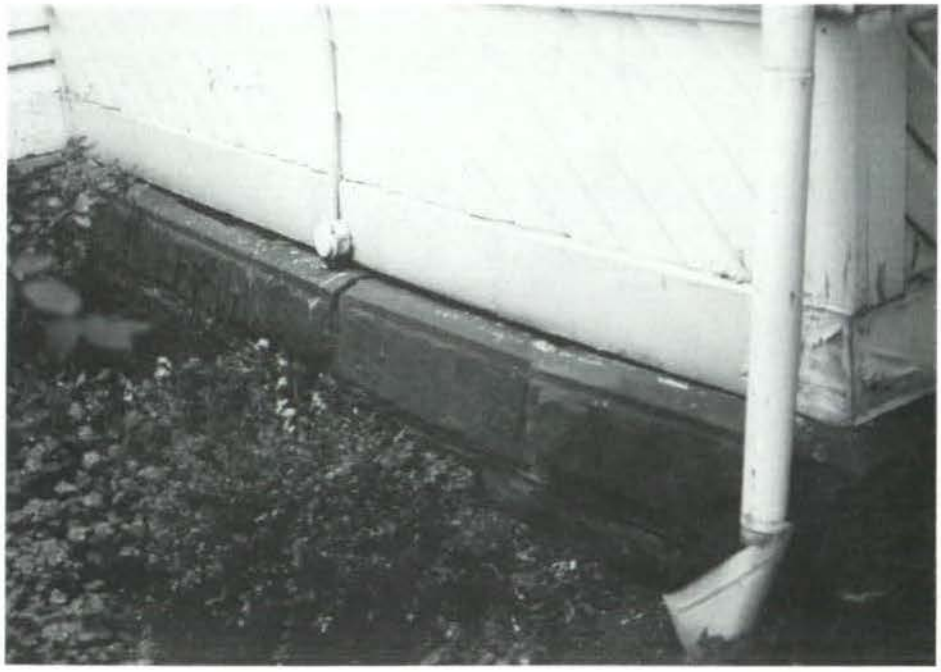
CP-37, Severe sandstone erosion at the memorial library first-floor window (W:114). This sill requires replacement.



CP-38, All ground level memorial library stone window openings have stone problems, although not as severe as the above window.



CP-39, An often blocked drain and separated stone veneer channeling into the foundation wall have caused deterioration of the brick masonry.



CP-40, Typical separation of sandstone foundation veneer channels moisture into the masonry.



CP-41, Inside corner at 1885 kitchen. Water intrusion in the wall from the gutter above has caused severe deterioration from roof to foundation.



CP-42, Downspout is not connected to the drain and the back side seam is open allowing water to wash over the stone, leaching mortar from the joints.



CP-43, Dormer on the memorial library addition. Decorative shingle work on this gable is one of several types used on other dormers, gables, walls, and bay windows.



CP-44, Bow window at the memorial library. Beside decorative shingles, the window exhibits carved cantilevered beam ends and a carved cornice frieze.



CP-45, Typical shuttered window is the 1880 portion of the house. Latches for shutter closure show at the center of the sill.



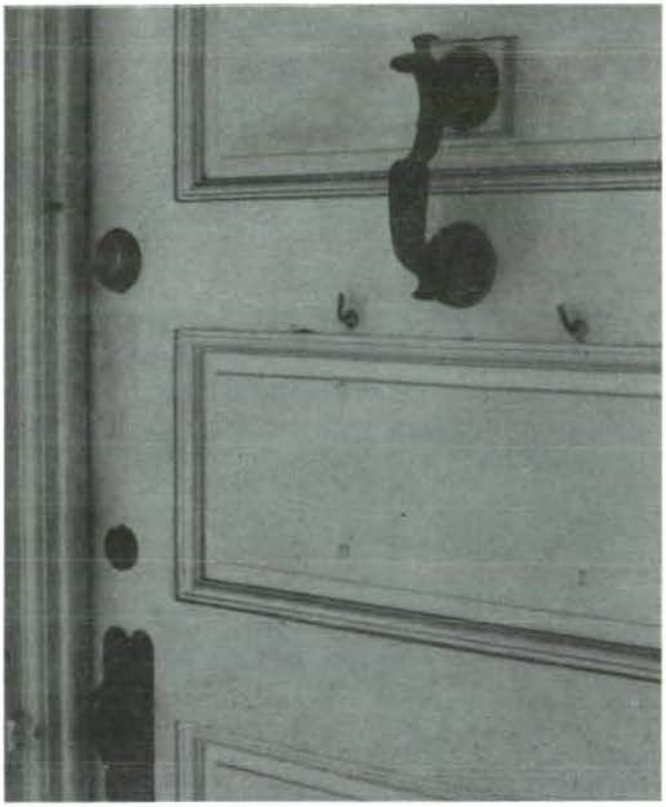
CP-46, Paint clogged surface on mounted self-locking type cast-iron shutter hinges. Several types are found on the house. Most of the shutters are original to the 1880 period (see discussion, "Wall Openings, Shutters"). The clip above the hinge was to hold later storm windows in place.



CP-47, Typical deteriorated basement window. The grade is too high and the foliage is too close to the wood frames, keeping them continuously damp.



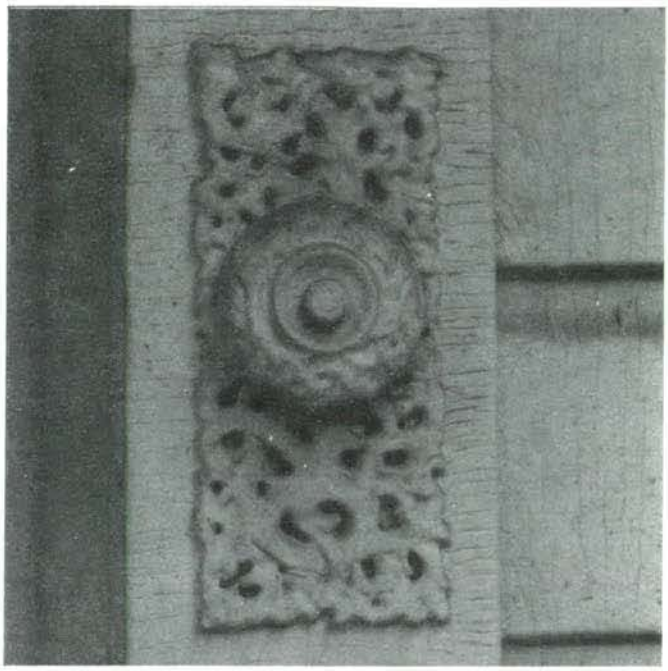
CP-48, Wood doors and stone walls of the cellar entrance are in poor condition, allowing moisture to enter and providing little security.



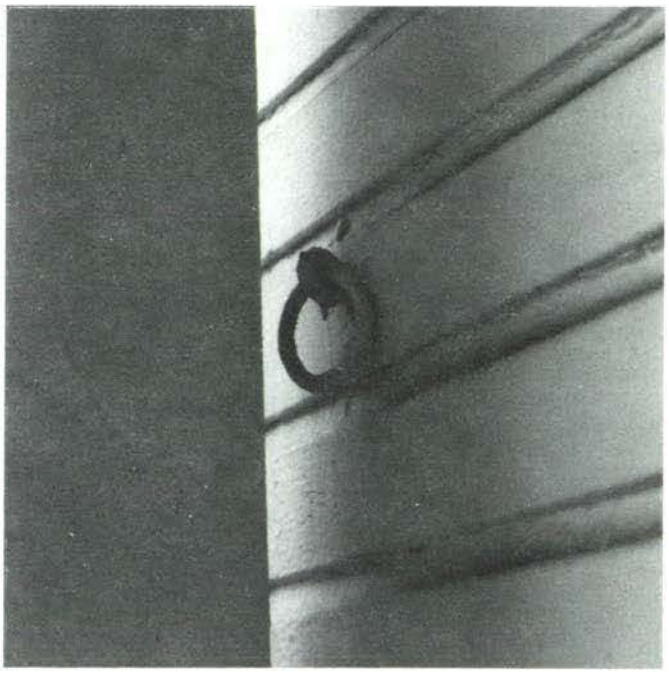
CP-49, Large bronze knocker and thumb latch at the west porch entry may date back to 1885. The two-cylinder locks are newer.



CP-50, Cast-iron spring hinge on the screen door of the front entry.



CP-51, Victorian-era doorbell at the front entrance. A doorbell was installed in 1880 at this location, according to Garfield's diary. A doorbell is visible in HP-13.



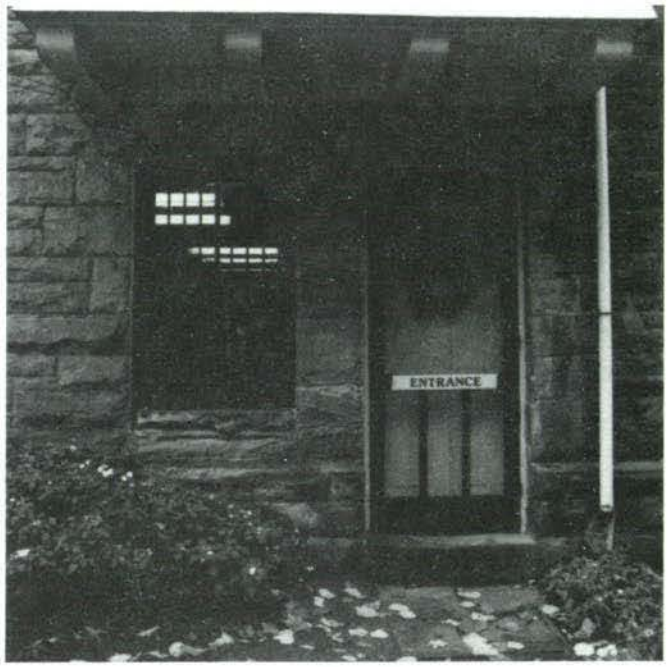
CP-52, A screw ring for supporting a hammock from the late 1880s or 1890. Located behind the column on the front porch. Also visible in HP13 and HP-16.



CP-53, One of a pair of coach lights at the front door. May date as early as 1885.



CP-54, Coach light at the west porch entrance probably dates to the time after screen enclosure was removed. Left of light fixture is letter holder mounted on door trim.



CP-55, Entrance to the gift shop and house tour. The high stoop is a barrier to wheelchairs.



CP-56, Use of flagstone walks have historic precedent, but uneven and irregular open joints are an impediment to wheelchairs.



CP-57, Entrance to the rest room is too narrow for handicapped accessibility.



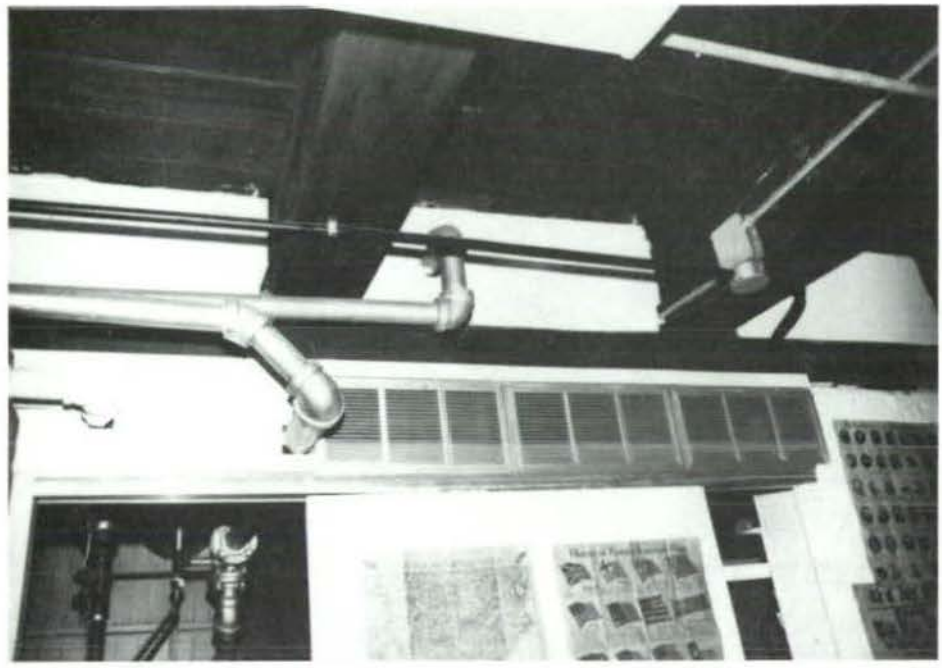
CP-58, Rest room itself is minimally accessible. The installation of grab bars will be required at the toilet.



CP-59, A three-riser stair from the gift shop to the first-floor of the house is a barrier for wheelchair bound visitors.



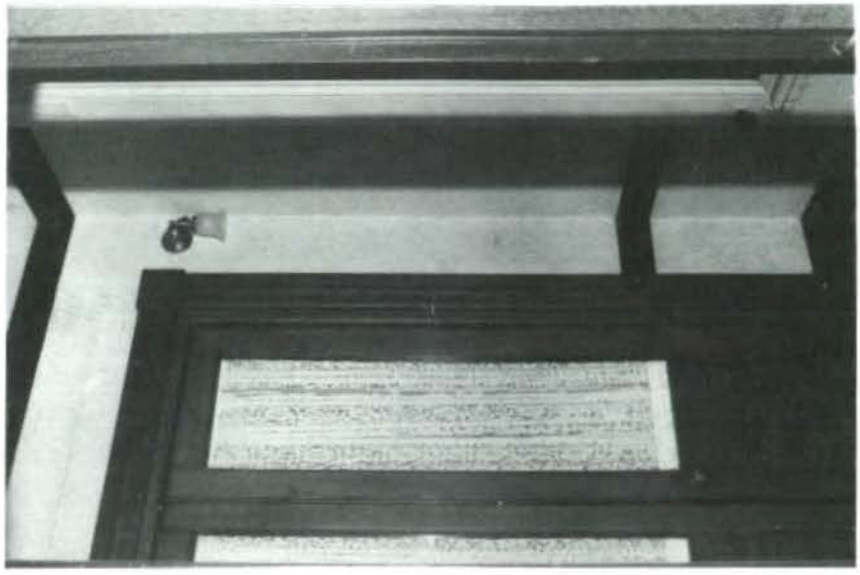
CP-60, Solution to the stair is a ramp to the hallway to meet accessibility standards.



CP-61, Steam boiler is not separated by a fire-rated enclosure..



CP-62, Steam boiler has friable asbestos insulation which needs to be removed.



CP-63, Vestibule, room 101, looking northeast.



CP-64, Vestibule, room 105, looking northwest.



CP-65, Hall, room 102, looking south.



CP-66, Hall, room 102, looking north.



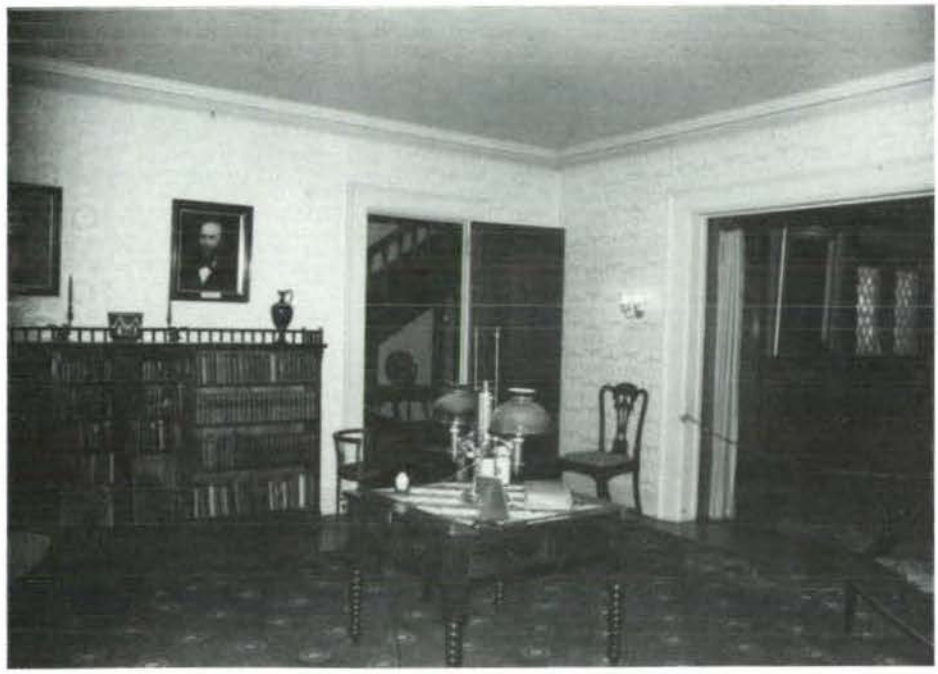
CP-67, James A. Garfield bedroom, room 103, looking northwest.



CP-68, James A. Garfield bedroom, room 103, looking southeast.



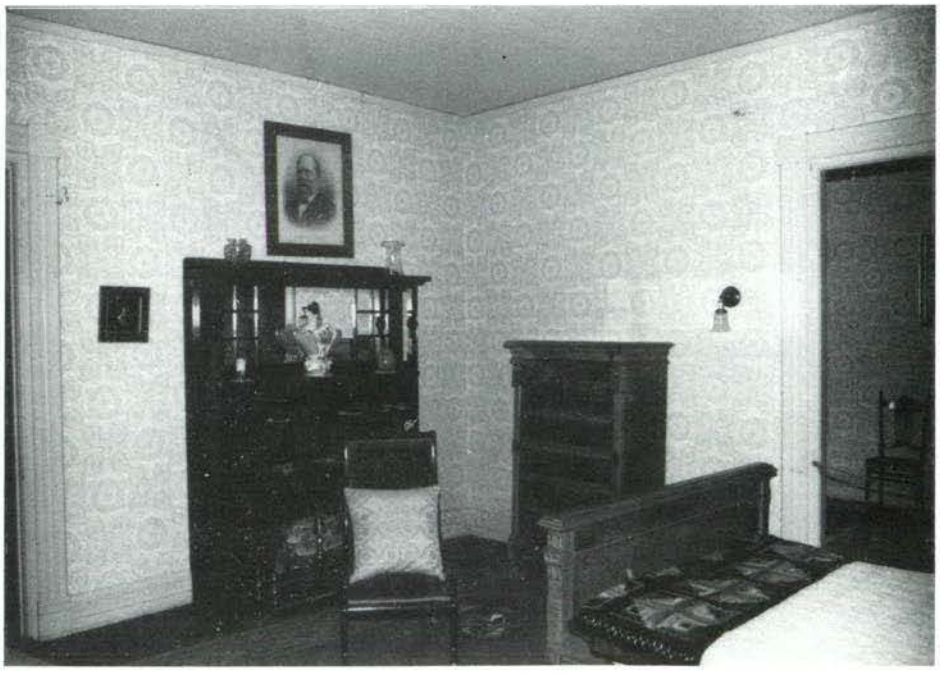
CP-69, Parlor, room 106, looking southeast.



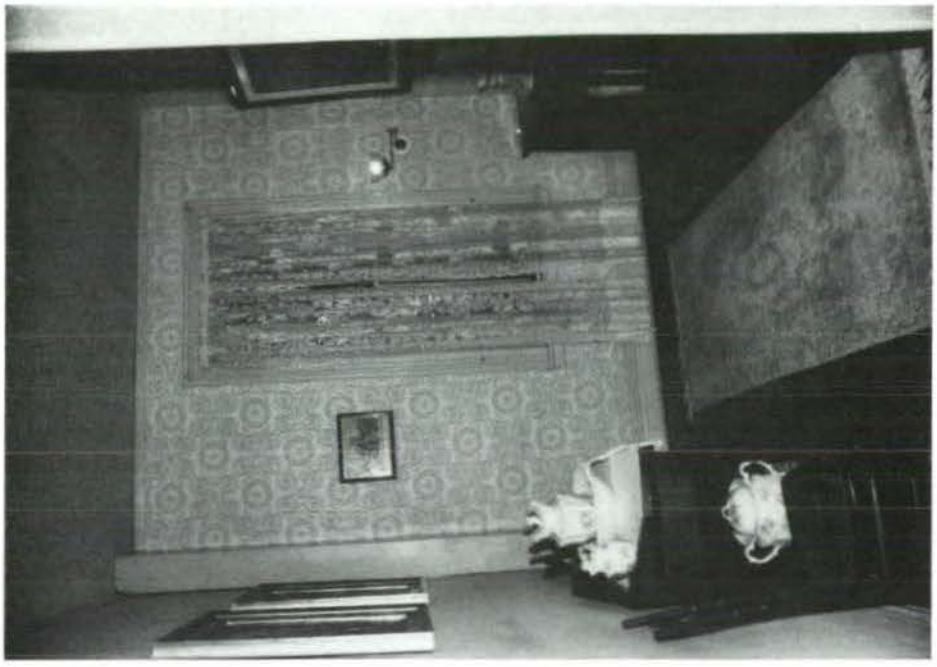
CP-70, Parlor, room 106, looking northwest.



CP-71, Mother's bedroom, room 107, looking southeast.



CP-72, Mother's bedroom, room 107, looking northwest.



CP-73, Sitting room, room 108, looking northwest.



CP-74, Sitting room, room 108, looking east.



CP-75, Reception hall, room 110, looking northwest.



CP-76, Reception hall, room 110, looking southeast.



CP-77, Main stair, room 110, looking north.



CP-78, Main stair, room 110, looking east.



CP-79, Dining room, room 111, looking south.



CP-80, Dining room, room 111, looking northeast.



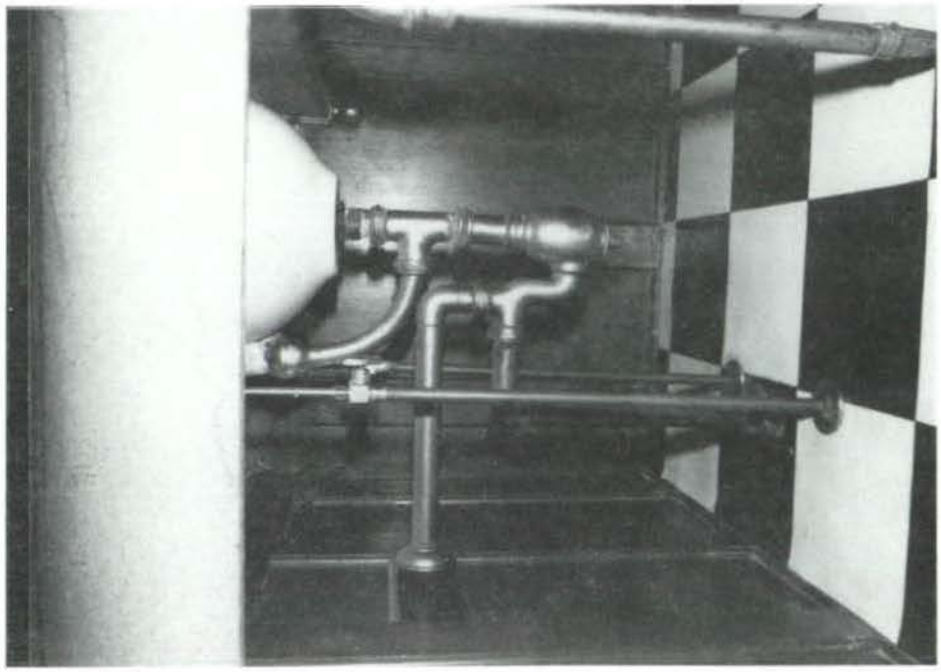
CP-81, Toilet, room 113, looking south.



CP-82, Toilet, room 113, looking north.



CP-83, Lavatory, room 114, looking northeast.



CP-84, Lavatory, room 114, under lavatory.



CP-85, Office (butlers pantry), room 120, looking southeast.



CP-86, Office (butlers pantry), room 120, looking northeast.



CP-87, Hall, room 207, looking west.



CP-88, Hall, room 207, looking east.



CP-89, Mollie Garfield bedroom, room 201, looking southeast.



CP-90, Mollie Garfield bedroom, room 201, looking northwest into room 203.



CP-91, Hall, room 205, looking north.



CP-92, Hall, room 205, looking south.



CP-93, Office, room 206, looking northeast.



CP-94, Office, room 206, looking southwest.



CP-95, Lucretia Garfield bedroom, room 208, looking southeast.



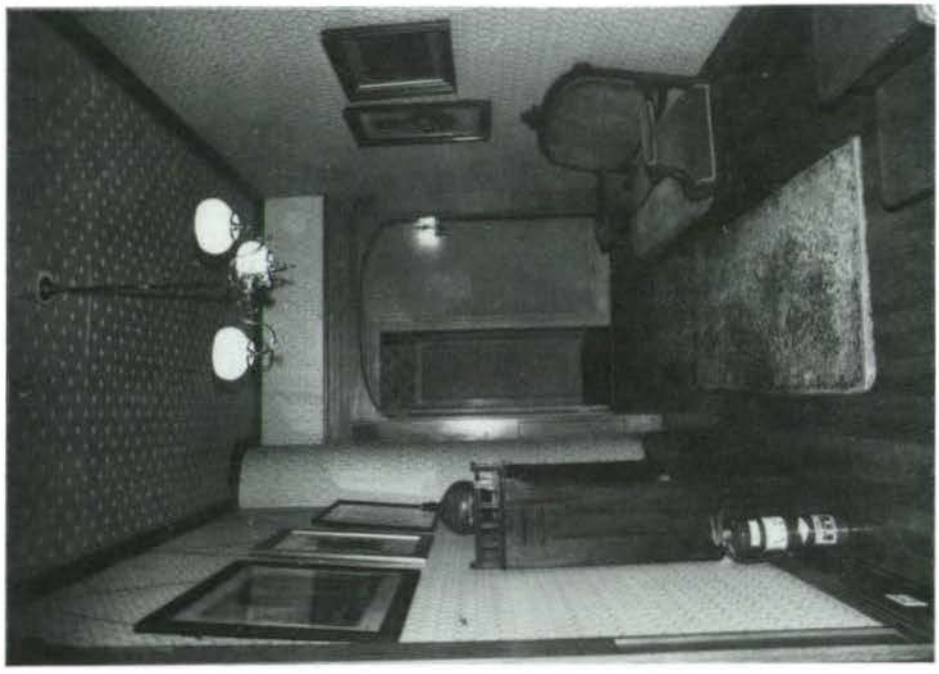
CP-96, Lucretia Garfield bedroom, room 208, looking northwest.



CP-97, Bedroom, room 213, looking northwest.



CP-98, Bedroom, room 213, looking southeast.



CP-99, Hall, room 215, looking south.



CP-100, Hall, room 215, looking north.



CP-101, Zeb Rudolph bedroom, room 216, looking south.



CP-102, Zeb Rudolph Bedroom, room 216, looking northwest.



CP-103, Memorial library, room 228, view toward the fireplace.



CP-104, Memorial library, room 228, northwest corner.

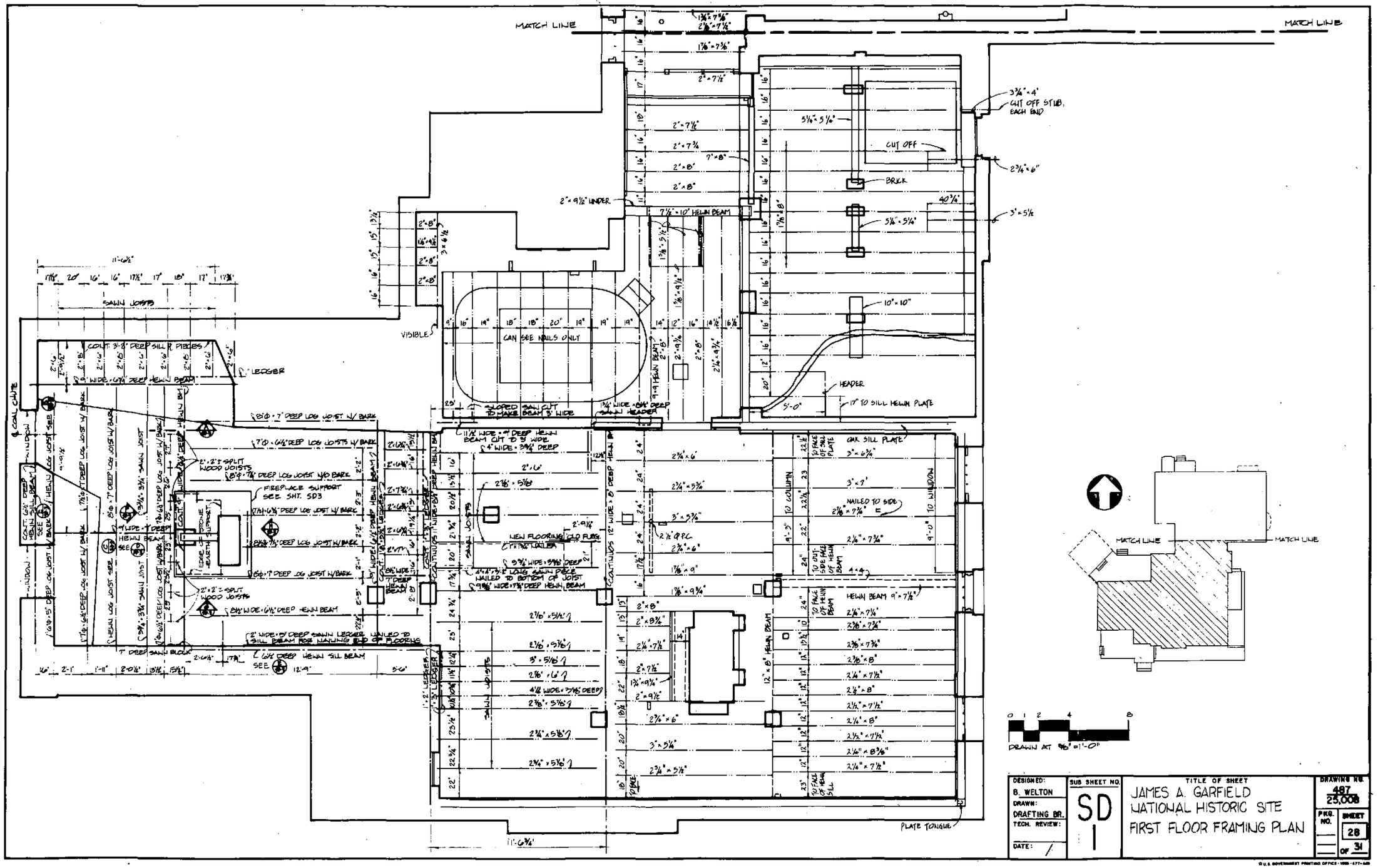


CP-105, Memorial library, room 228, southwest corner.



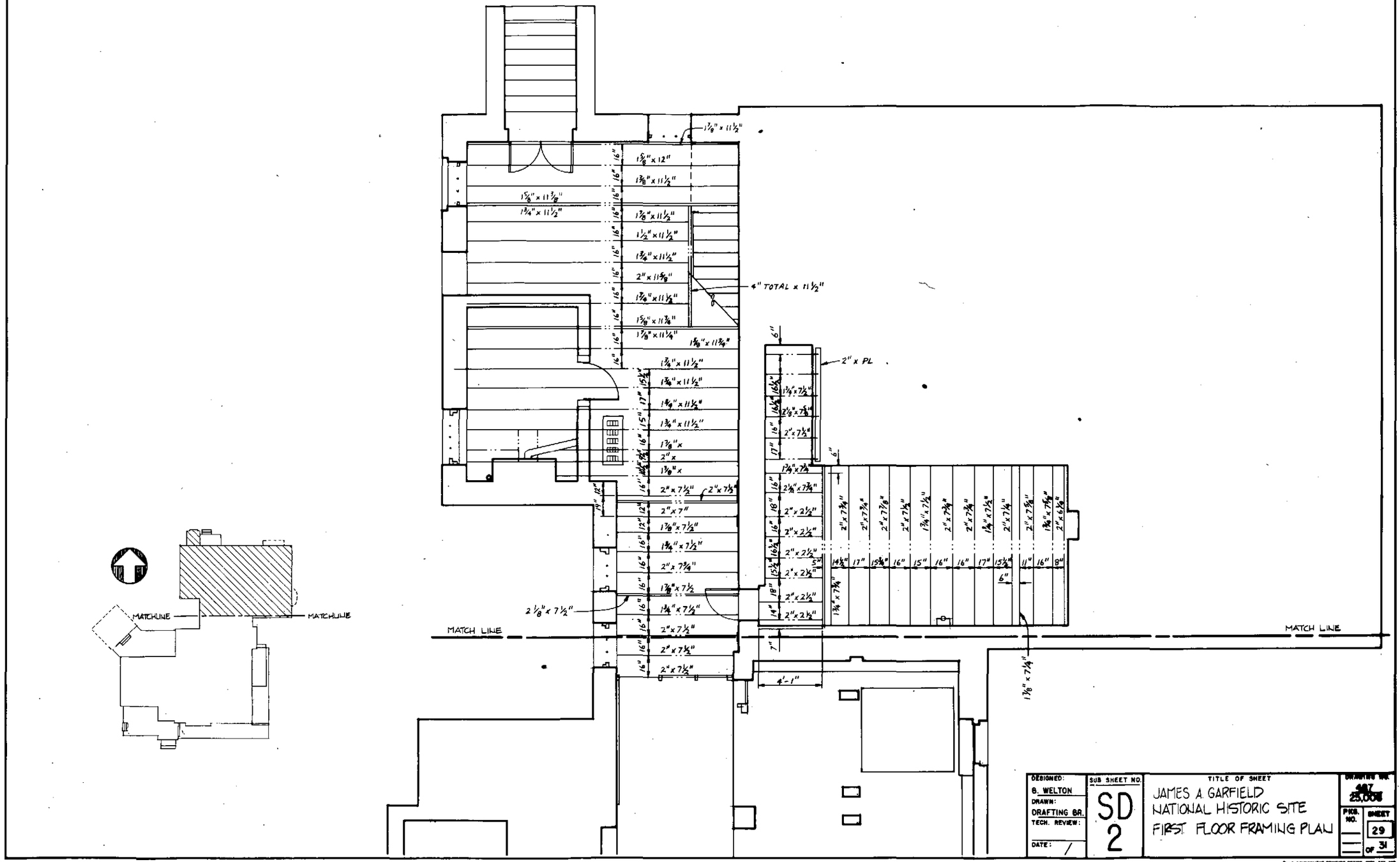
CP-106, Memorial library, room 228, southeast corner.

STRUCTURAL DRAWINGS, OCTOBER 1989 (SD)



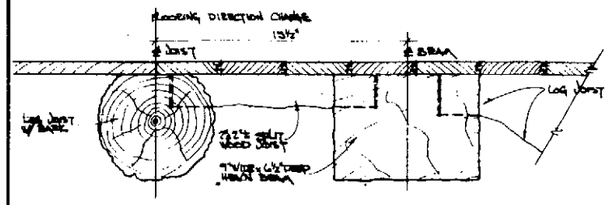
SD-1, First-Floor Framing Plan

ON MICROFILM

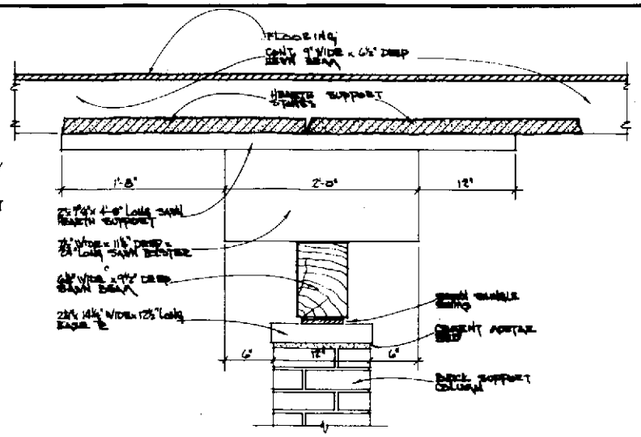


SD-2, First-Floor Framing Plan

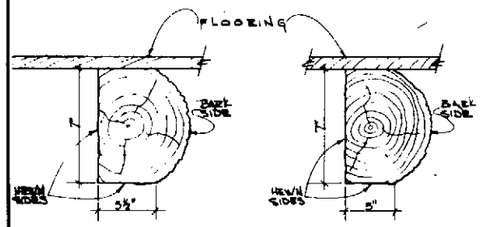
ON MICROFILM



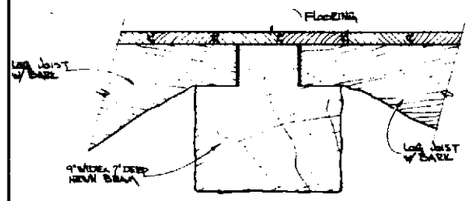
SECTION A



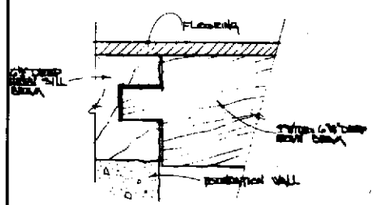
SECTION F



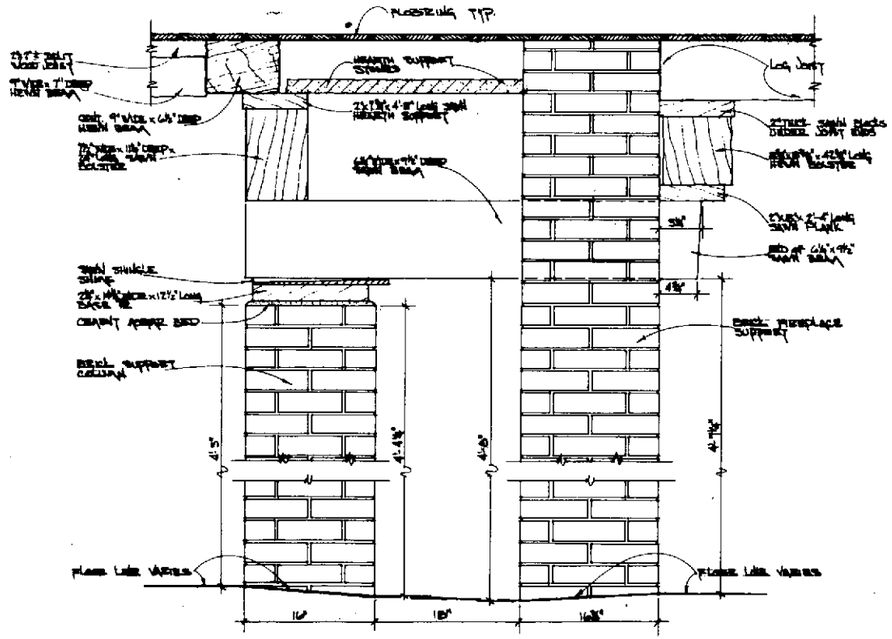
SECTION B SECTION C



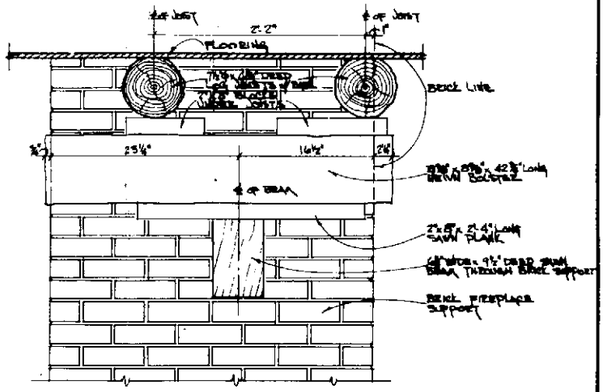
SECTION D



SECTION E



SECTION G

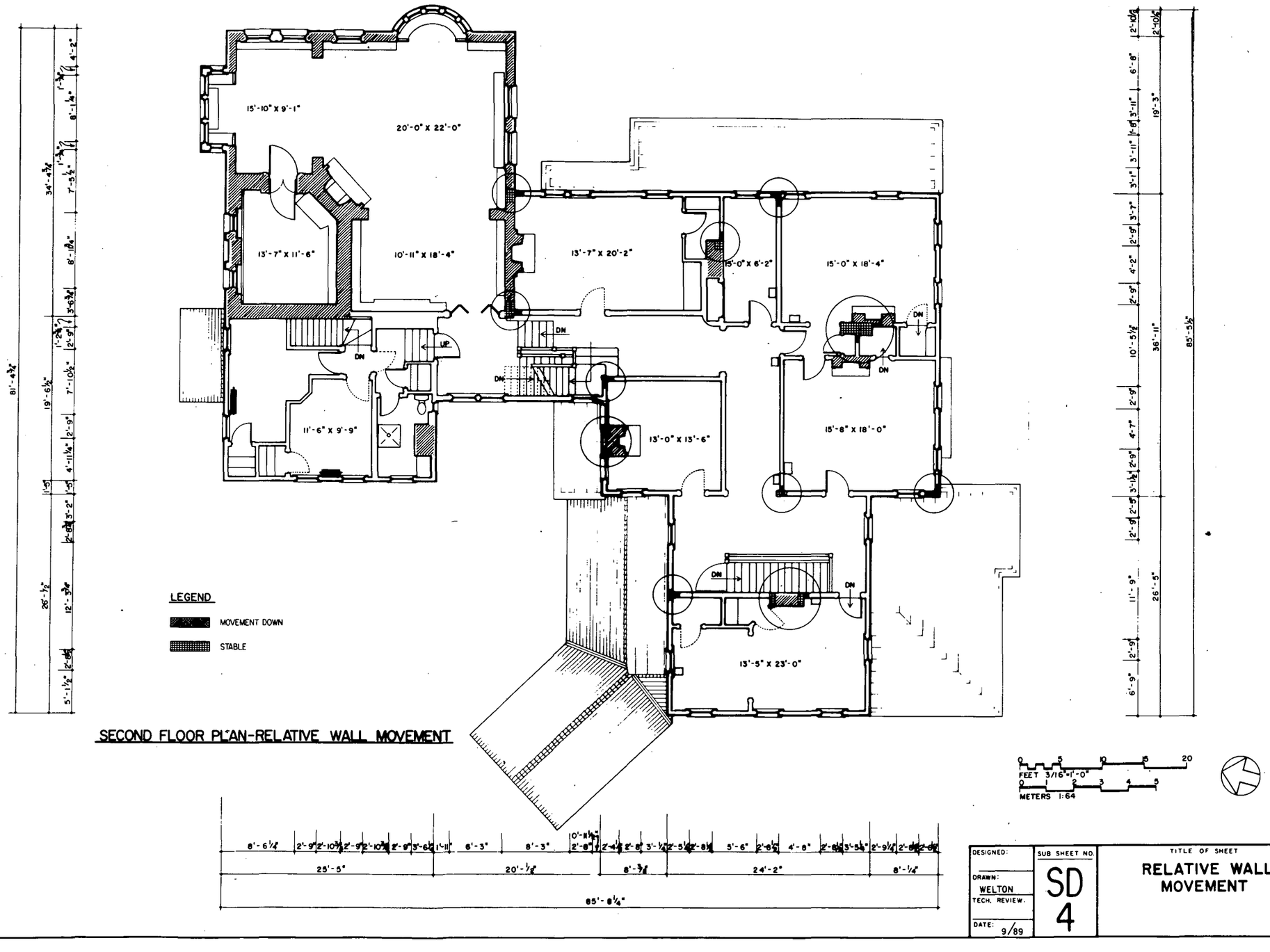


SECTION H

DESIGNED: B. WELTON DRAWN: DRAFTING BR. TECH. REVIEW: DATE:	SUB SHEET NO. SD 3	TITLE OF SHEET JAMES A. GARFIELD NATIONAL HISTORIC SITE FIRST FLOOR DETAILS FIREPLACE SUPPORT BENEATH ROOM 103	DRAWING NO. 487 25,008 PROJ. NO. — SHEET 30 of 31

SD-3, First-Floor Details

ON MICROFILM



SECOND FLOOR PLAN-RELATIVE WALL MOVEMENT

DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: WELTON	SD 4	RELATIVE WALL MOVEMENT	487 25,008
TECH. REVIEW.			PKG. NO. — SHEET 31
DATE: 9/89			OF 31

STRUCTURAL PHOTOGRAPHS, MAY 1989 (SP)

May 1989



SP-1, Southeast foundation corner, room 103.



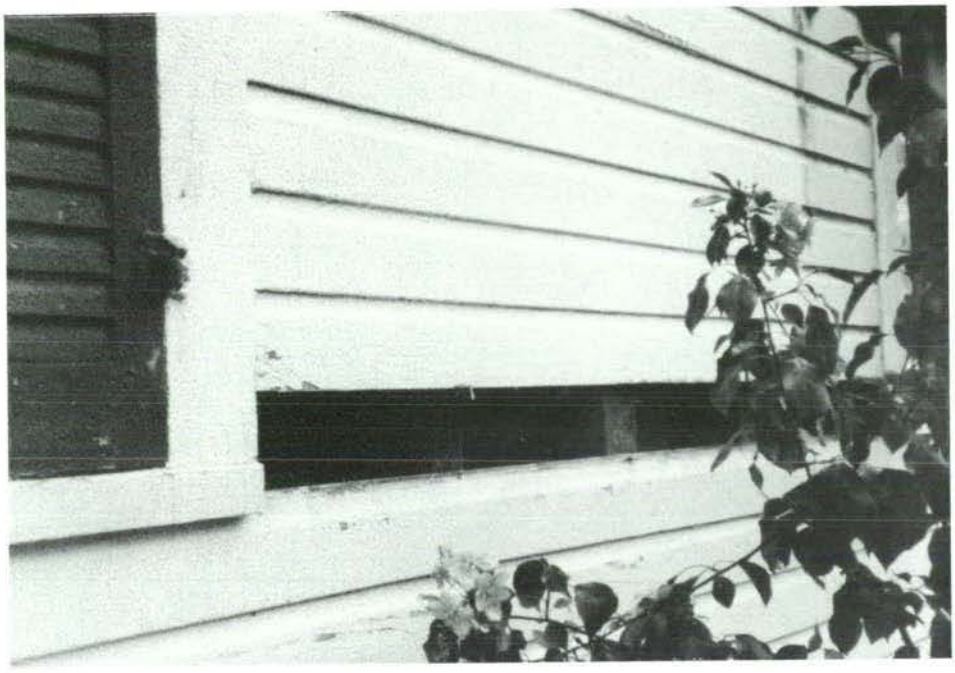
SP-2, Northeast foundation corner, room 103.



SP-3, Limestone veneer outside stair.



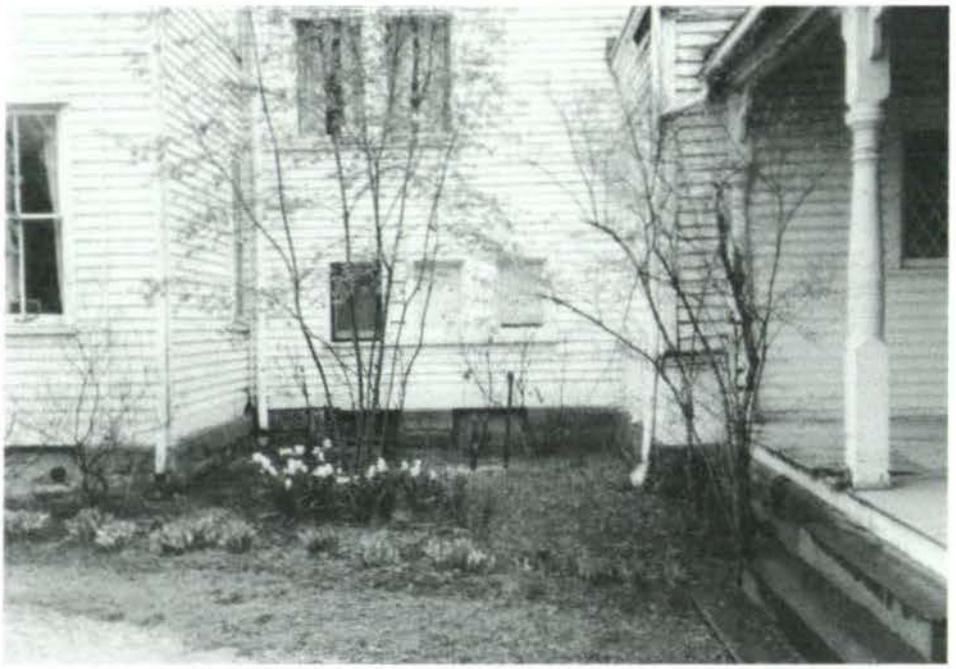
SP-4, Limestone veneer, west elevation, room 103.



SP-5, Balloon framing, room 103.



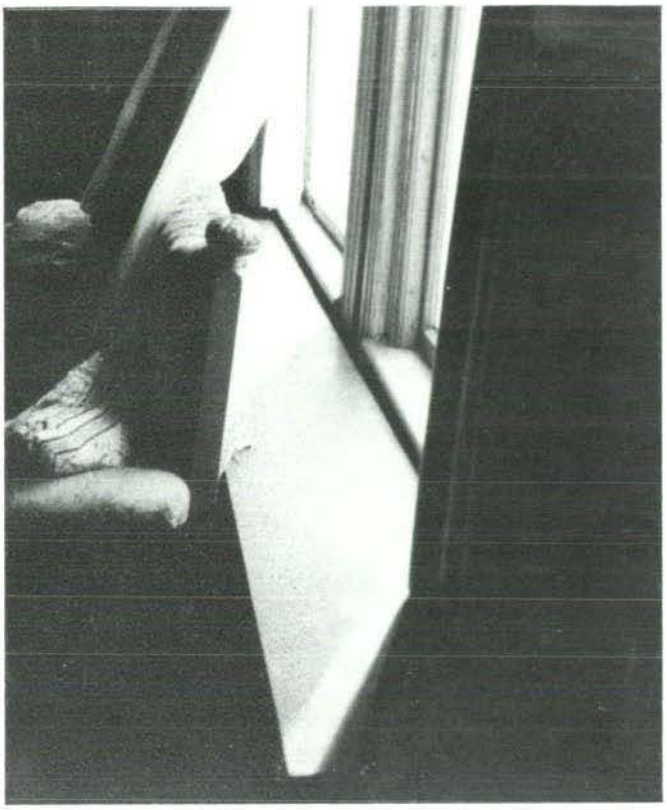
SP-6, Balloon framing, room 111.



SP-7, Exterior view of main stair wall.



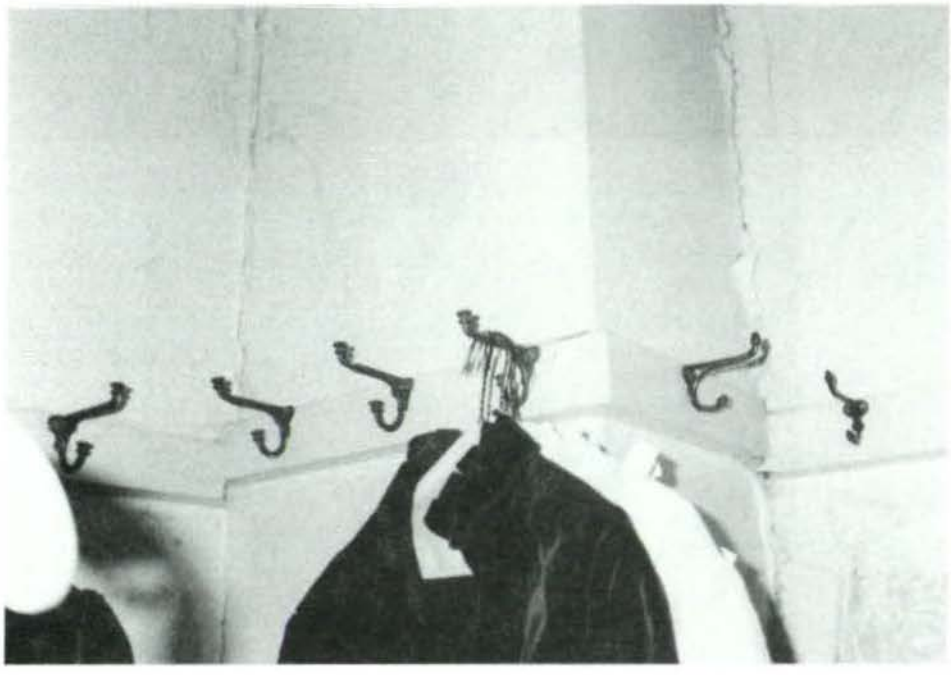
SP-8, Wall deterioration adjacent to the porch.



SP-9, Library window, interior view.



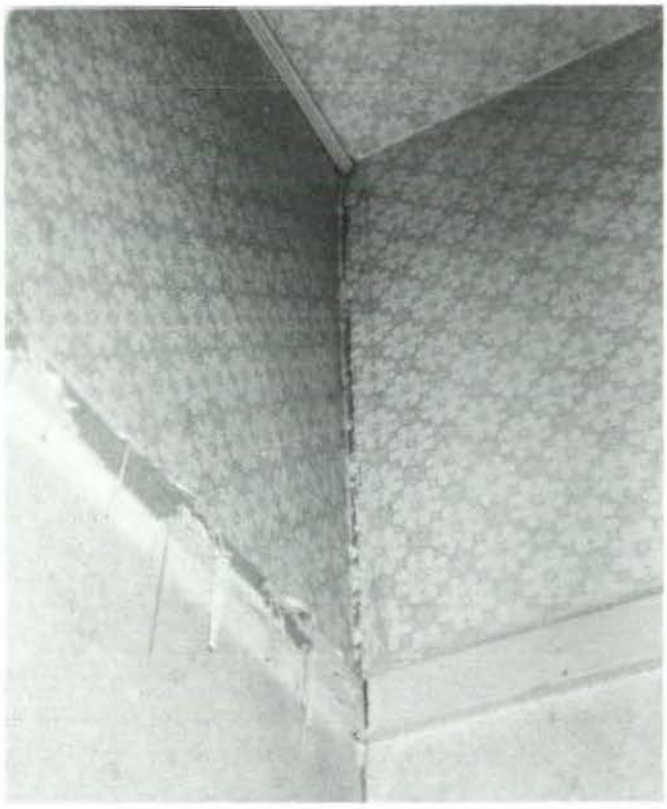
SP-10, Library window, exterior view.



SP-11, Wall displacement, room 211.



SP-12, Wall displacement, room 209.



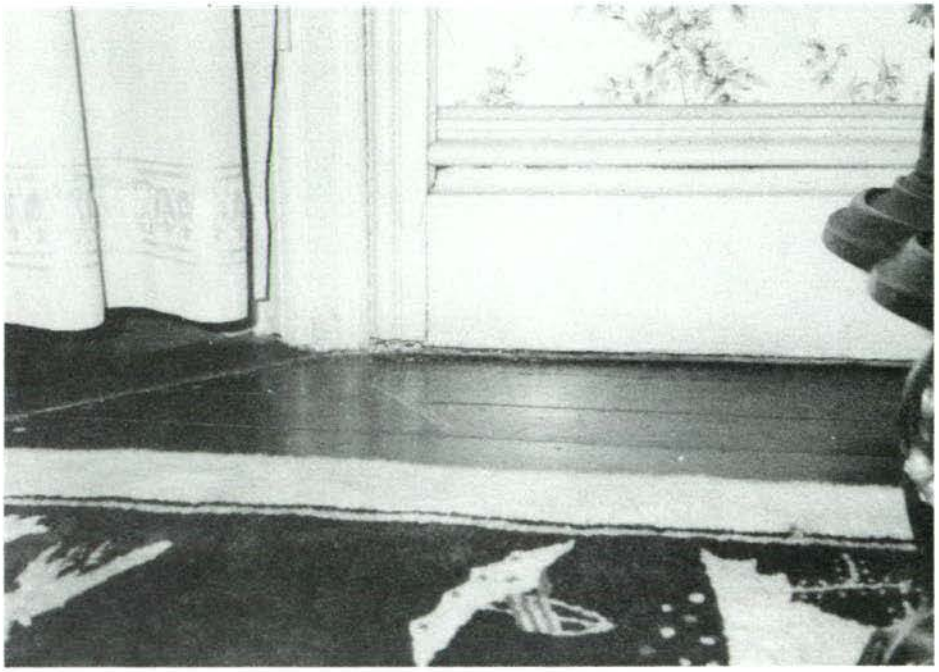
SP-13, Wall displacement, room 204.



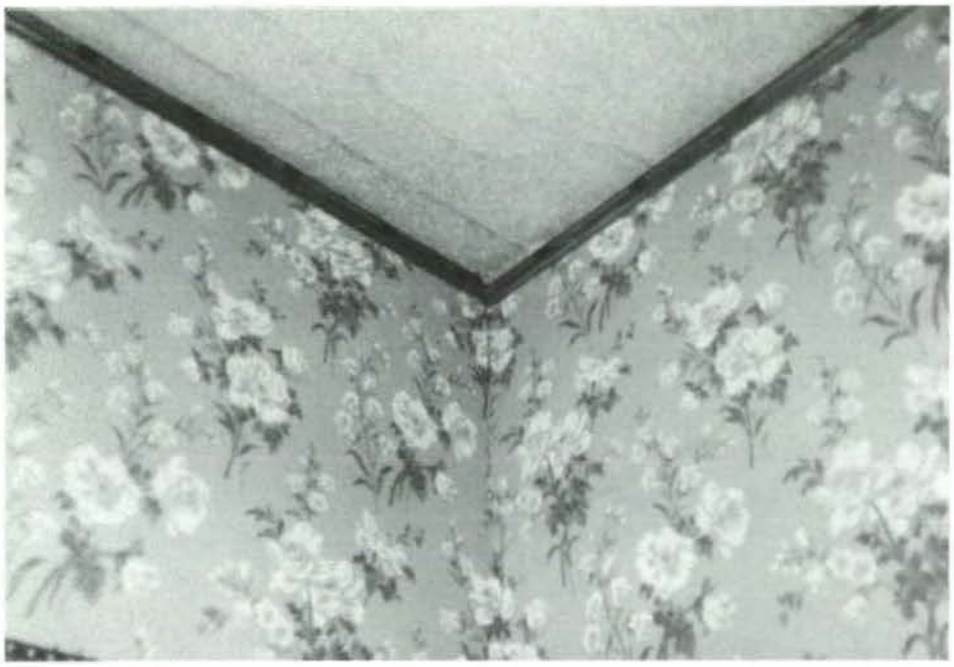
SP-14, Door displacement, rooms 203-204.



SP-15, Wall displacement, rooms 201-202.



SP-16, Floor displacement, rooms 201-202.



SP-17, Wall displacement, northeast corner, room 216.



SP-18, Floor trim displacement, northeast corner, room 216.



SP-19, First-floor framing beneath room 103.



SP-20, First-floor framing beneath room 103.



SP-21, First-floor framing, room 001.



SP-22, First-floor framing, room 001.



SP-23, First-floor framing, room 001.



SP-24, Sill plate rot.



SP-25, Exterior wall displacement outside the library.



SP-26, Library floor framing.



SP-27, Parlor ceiling at the beam.



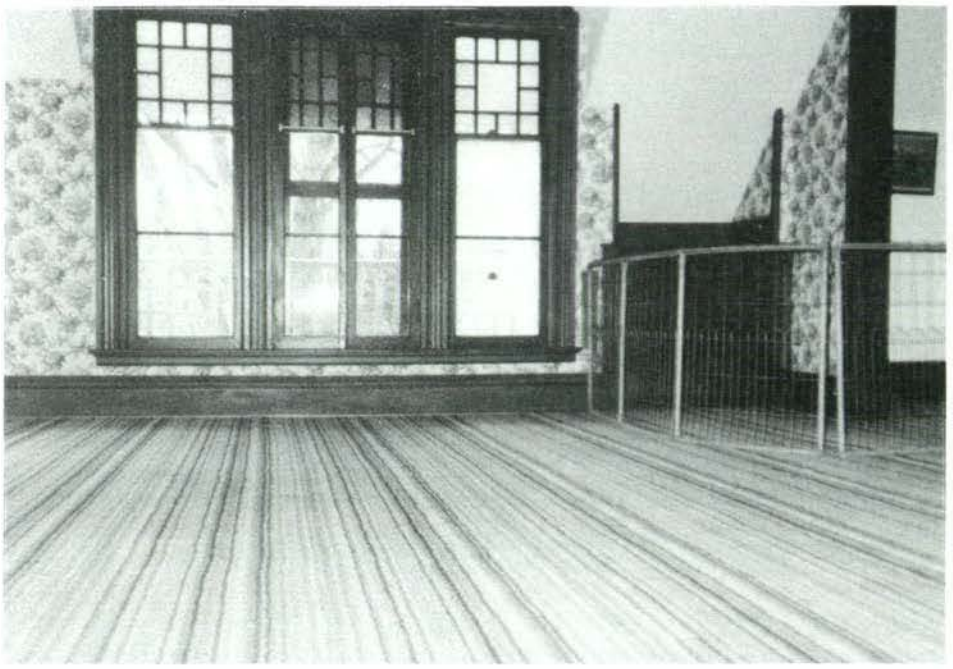
SP-28, Second-floor wall crack at the main stair.



SP-29, Library ceiling, northeast view.



SP-30, Library ceiling, southeast view.



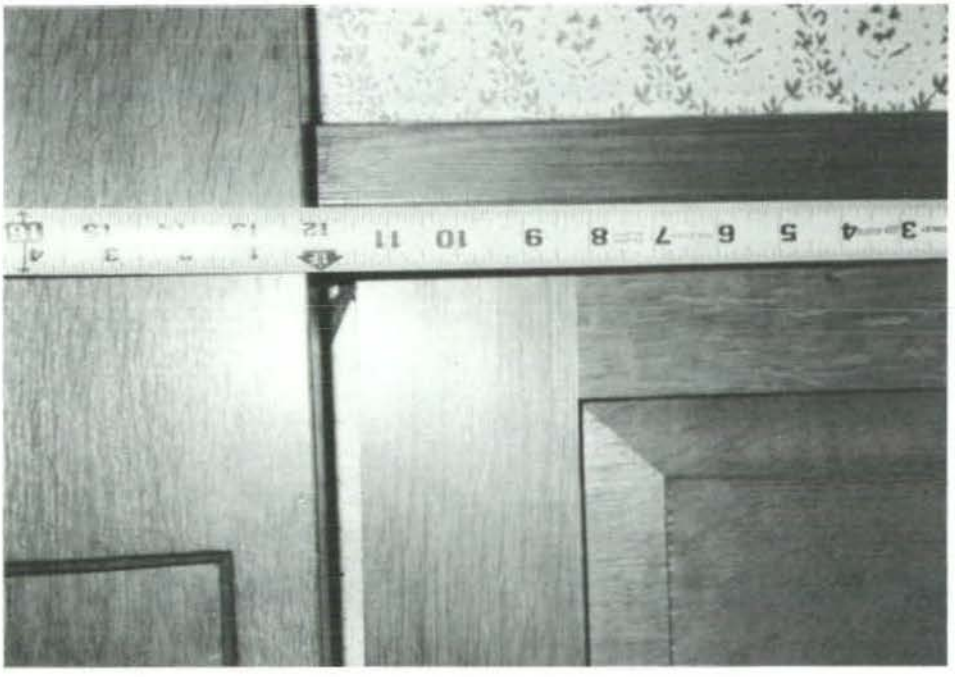
SP-31, Room 311, south view.



SP-32, Room 302, southwest view.



SP-33, Main stair, lower landing.



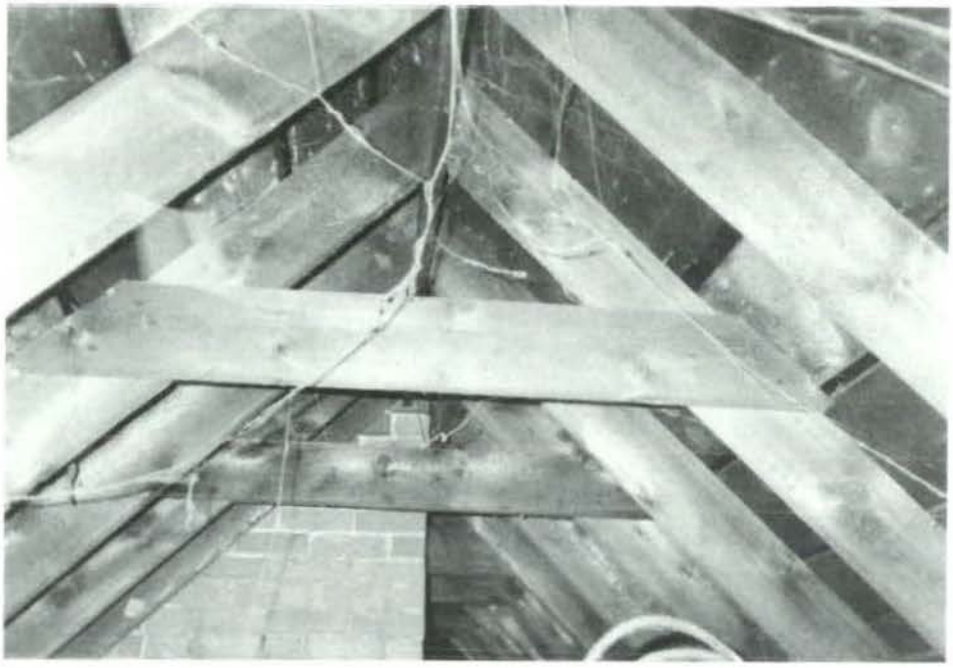
SP-34, Main stair, panel displacement.



SP-35, Main stair, east view, mid-landing.



SP-36, Main stair, south view from the library level.



SP-37, Access unit in room 301, roof framing, west view.



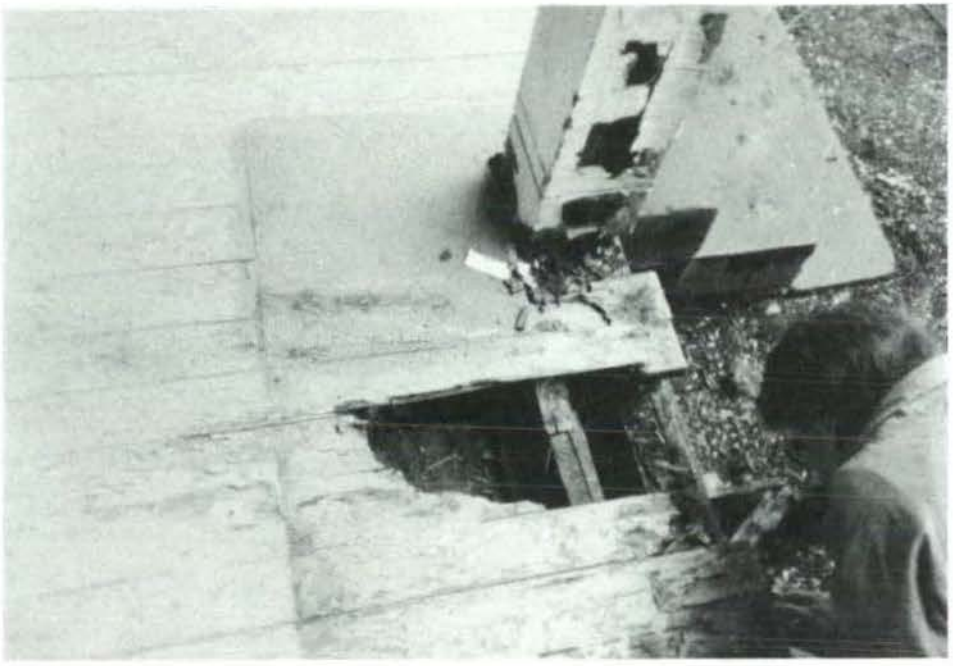
SP-38, Access unit in room 301, roof framing, east view.



SP-39, Room 308, roof framing, north view.



SP-40, Room 308, roof framing, southeast view.

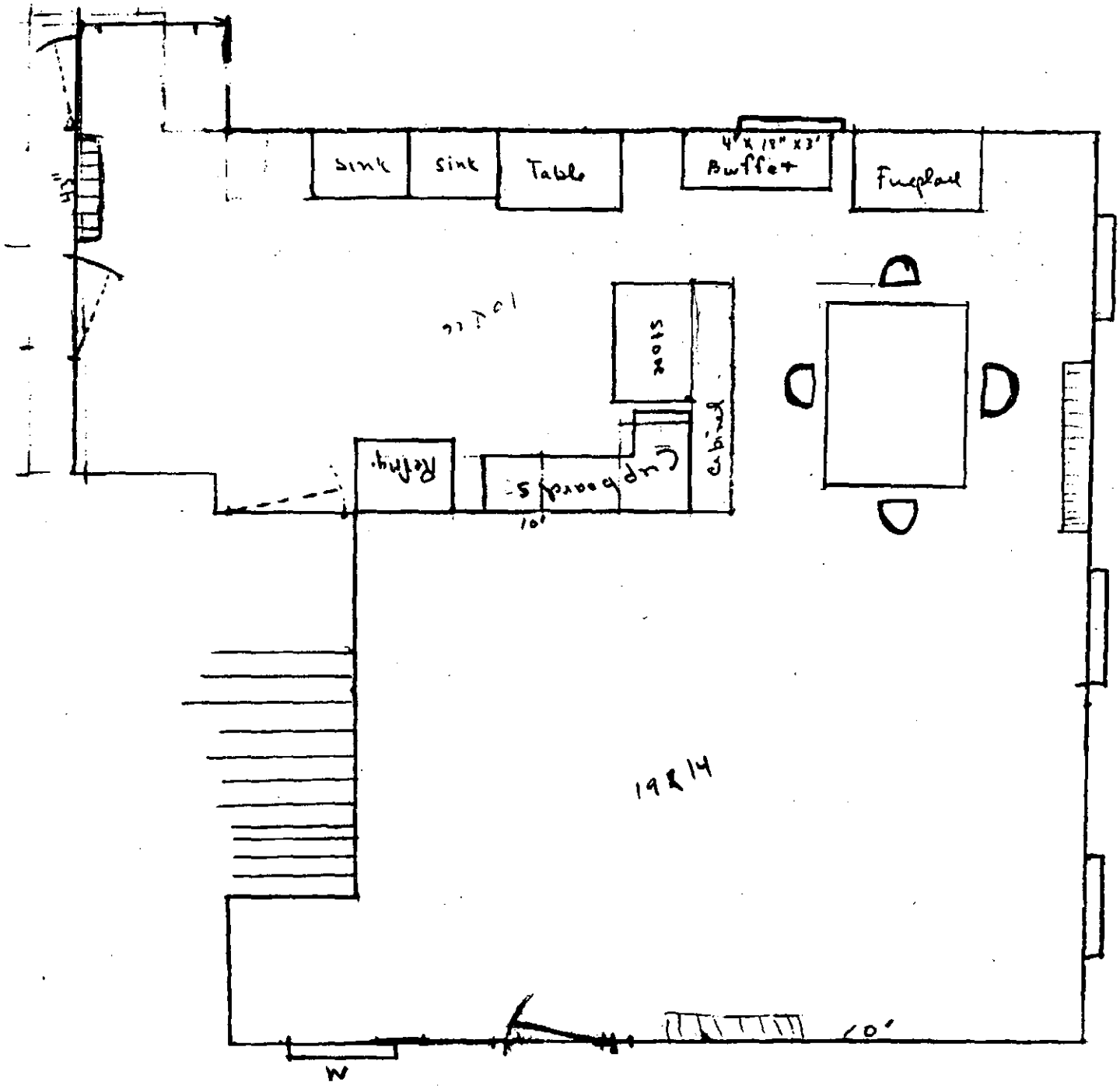


SP-41, Deck rot at the carriage porch.

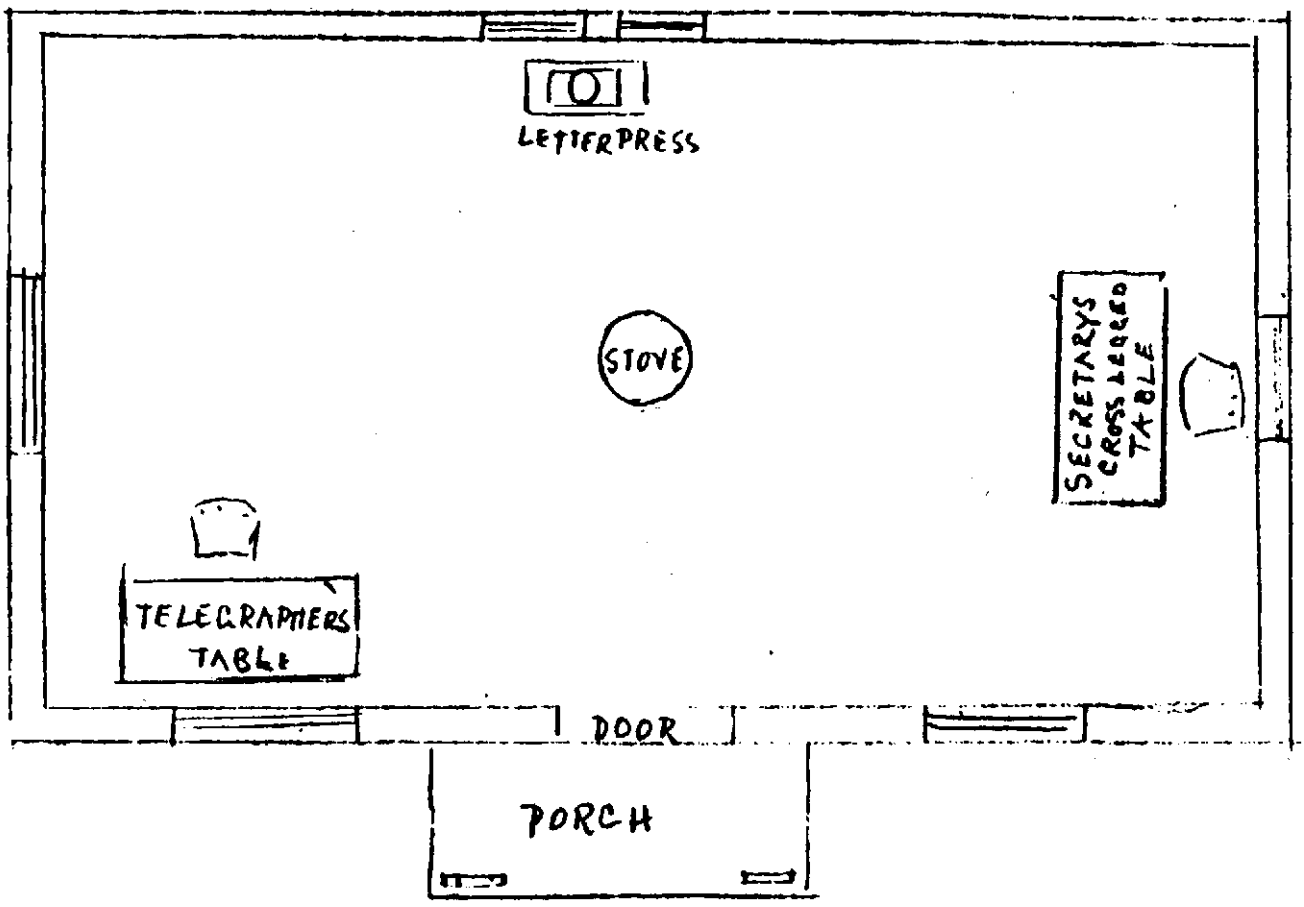


SP-42, Downspout drain overflowing.

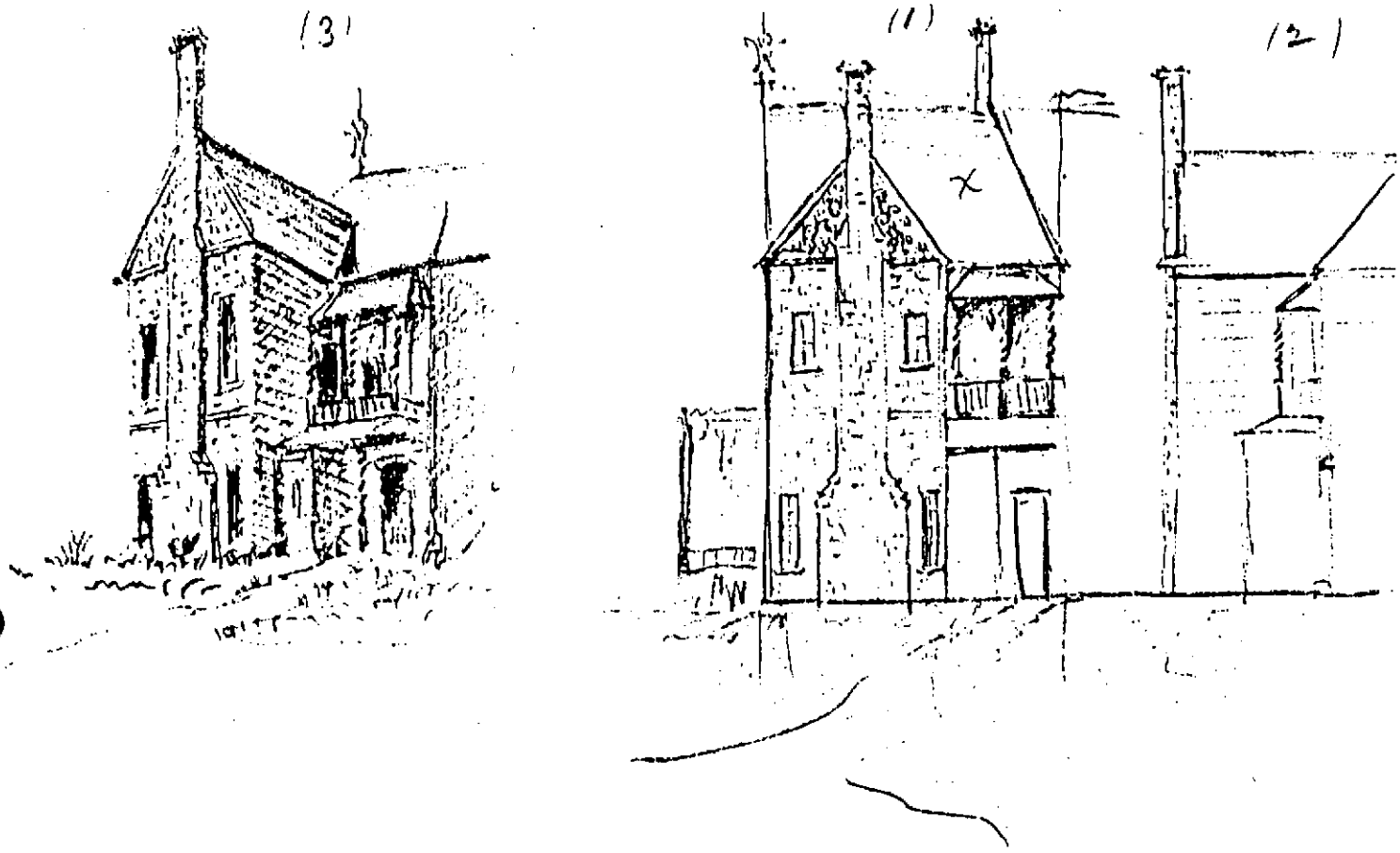
MISCELLANEOUS DRAWINGS (MD)



MD-1, Sketch of the interior, ca. late 1930s, possibly by A.O. Beamer, shows a large undivided multi-purpose room serving as a kitchen and sitting room for the Sutliffs. It is believed that this was a proposal that was never carried out.



MD-2, Sketch of the interior of the campaign office, ca. late 1930s, by Joseph Stanley-Brown.



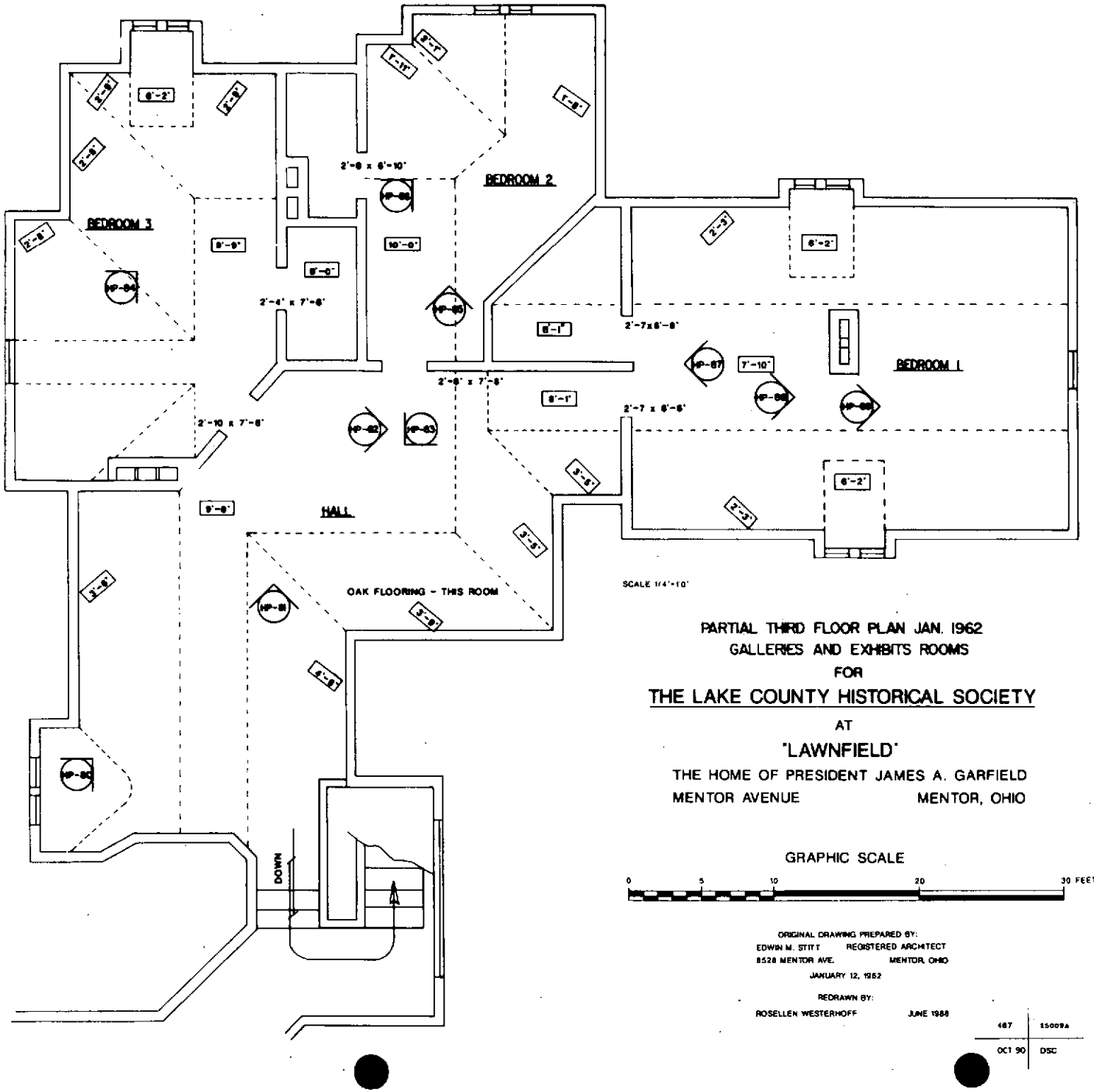
*Point of View
X = Old roof extending east and west, dormer window
not shown - in reality about where x is.
Of course its elevation is much too narrow - cutting of a view of the kitchen windows.

*point of view

X = old roof extending east and west dormer window
not shown - in reality about where X is.
Of course its elevation is much too narrow - cutting of a
view of the kitchen windows.

MD-3, Sketch of the exterior for proposed 1885 library addition to Lawnfield, by Joseph Stanley-Brown.

MD-4, Partial third-floor plan, January 1962.



PARTIAL THIRD FLOOR PLAN JAN. 1962
GALLERIES AND EXHIBITS ROOMS
FOR
THE LAKE COUNTY HISTORICAL SOCIETY
AT
"LAWNFIELD"
THE HOME OF PRESIDENT JAMES A. GARFIELD
MENTOR AVENUE MENTOR, OHIO

GRAPHIC SCALE

0 5 10 20 30 FEET

ORIGINAL DRAWING PREPARED BY:
EDWIN M. STITT REGISTERED ARCHITECT
8528 MENTOR AVE. MENTOR, OHIO
JANUARY 12, 1952

REDRAWN BY:
ROSELLEN WESTERHOFF JUNE 1988

487 | 15009A
OCT 90 | DSC

LEGEND

CEILING HEIGHT AT WALL

HEIGHT OF LEVEL CEILING

HP-00 HISTORICAL PHOTOGRAPH NUMBERS

APPENDICES

APPENDIX A, LIST OF RECOMMENDATIONS FOR IMPROVEMENTS, CA. 1940

LIST OF RECOMMENDATIONS FOR IMPROVEMENTS
PREPARED BY A.O. BEAMER, CA. 1940

1. Landscaping

a. Urgent

√1. Remove bushes in front
2. Remobe trees (8-9-14-21-22)
may be (40-10-17)
3. Trim all trees
4. Remove bushes (c) i-m-n)
√5. Trim bushes (a-b-d-e-f-g-h-j-k-l-)
√6. Remove Ivy from building
7. Spread and grade 4-6 inches top soil
8. Foundation planting around Home
9. Plant shady lawnseed (Pea nemoralis)
10. Evergreen planting at Driveway entrance
11. Myrtle cover surrounding Cabin
12. Cabin Foundation Planting

b. Needed

1. Foundation planting around Campaign House
2. Consider removal of trees (11-13)
3. Planting along inside fence
4. Remove or trim bushes on adjoining Garfield property

2. Painting

a. Urgent

√1. Paint exterior of Home
√2. Paint Exterior of Campaign House
√3. Paint valleys and eaves
√4. Paint tin roofs
5. Paint interior of Campaign House
√6. Putty all windows of Home
√7. Putty all windows of Campaign House
√8. Paint Museum cases

b. Needed

√1. Refinish all floors of House ?
2. Refinish woodwork of House?
3. Apply preservative to Cabin interior and exterior
√4. Refinish floors and woodwo k of Museum
5. Paint cellar and basement walls and ceilings
6. Refinish cases in Museum

3/ Carpentry

a. Urgent

1. Make wooden eaves for Cabin
√2. Repair Campaign House porch
√3. Repair entrance porch and Pate Cocheree

4. Repair Pergola
5. Check all window exteriors for repairs
8. Install false ceilings on 1st floor of Quarters
9. Install dinette and kitchen cupboards and walls
10. Repair all casement windows

b. Needed

1. Build low ornamental fence across front
2. Build rustic wishing well near Cabin
3. Reline basement wash room
4. Replace cellar door
5. Install storm windows in Quarters
6. Remove Museum walls
7. Remove cupboards in Museum
8. Storm windows in Home (?)

4. Masonry

a. Urgent

1. Point up foundation of Home
2. Point up Campgin House Chimney
3. " " " " Foundation
4. Replace loose chinking in Cabin
5. Install fireplace in Dinette

b. Needed

1. Point up Chimneys of Home
2. Check Cabin Foundation
3. Masonry for rustic wishing well
4. close Chimney 5. Install casement cellar air vents or windows

5. Plumbing

1. Urgent

1. Install two outside water faucets
2. Plug sewer gas in storage room
3. Plug up sever gas in 3rd floor bathroom
4. Install faucets and rain on 3rd floor bath
5. Install shower
6. Move heater to cellar

2. Needed

1. Replace faucets
2. Replace all toilet seats
3. Install wash stand in basement wahsroom

6. Electrical Work

a. Urgent

1. Install electricity in Campaign House
2. Repair lights in Patsy's room
3. Provide additional circuits front house
4. 4. Provide more wall outlets in Museum and Home
5. Arrange for button control of stair lights, office, living Room
6. Replace and install light outlets in quarters
7. Install light in cellarway
8. Install lights in celler (old part)
9. Install lights in basement storage room

b. Needed

1. Run electricity to Cabin
2. Install automatic fire alarm system
3. Install display fixtures in cases
4. Install fluorescent fixtures in Museum
5. Install fluorescent fixtures in living quarters

7.Special Craftsmen

a. Urgent

1. Install wire fencing in Campgin house
2. Repair lightening rods
3. Install Chimney shutters(?)
4. Check for roof leaks
5. Sand Home and quarter floors
6. Sand Museum floors
7. Install eaves and spouts on Campaign House
8. Repair clocks
9. Repair desk in library
10. Clean all oil paintings
11. Reglue loose funnishings

b. Needed

1. Low ornamental fence of ironwork
2. Driveway entrance marker
3. Black top driveway (?)
4. Cut down 2 tall display cases
5. Replace glass and repair museum cases
6. Cellar airvents
7. Linoleum for Living quarters
8. Furnish cabin loft

8. General Labor

a. Urgent

1. Widen driveway entrance
2. Fill in driveway holes
3. Pea gravel or slag screenings
4. Replace broken windows in cabin
5. Putty all windows of Home and Campaign House
6. Putty and repair all cellar windows
7. Replace broken panes in Campaign House cases
8. Repair pane in office cupboard
9. Fix eave support on Cabin
10. Fasten bark on Cabin roof
11. Reglue loose furniture
12. Treat all books with preservative
13. Waterproof cellar walls
14. Arrange outlet for cabin eaves (Barrel)
15. Install locks on cases in Campaign House

b. Needed

1. Lay out gravel or back top walks
2. Make a pioneer woodpile

9. Heating Problem

A. Investigate cost of automatic heating plant adequate to heat entire building.
b. Cost of insulating and storm windows
c. Alternatives to A and B — Electrical steam radiators
Forced Air Radiators
d. Stoker and thermostat for present plant
e. Add extra radiator in kitchen if needed

10. Barn

a. Compare cost of acquisition and repair of barn with cost of building a large storage building
b. New building might include provision for auditorium dining room, small meeting room, future museum, garage and storage space
c. Additional land will require additional landscaping drives and sidewalks.

APPENDIX B, SPECIFICATIONS AND CONTRACT AGREEMENT FOR HEATING IMPROVEMENTS, JANUARY 29, 1942

SPECIFICATIONS AND CONTRACT AGREEMENT FOR HEATING IMPROVEMENTS
JANUARY 29, 1942

Specifications and Contract Agreement for installing the heating systems described herein in the President Garfield Home, Mentor Avenue, Mentor, Ohio for the Garfield Home Committee of the Lake County Chapter of The Western Reserve Historical Society.

GENERAL CONDITIONS

Definitions: The contract documents consist of the Agreement, the General Conditions, the Drawings and Specifications.

Material, Appliances and Employees: Unless otherwise noted, the contractor shall provide and pay for all materials, equipment, labof and tools necessary for the execution of the work and its completion.

Unless otherwise specified, all materials shall be new and shall be installed by experienced workmen, familiar with the installation thereof.

Protection: The contractor shall protect the owners property from injury or loss during the period of the execution of the contract.

Owners Responsibilities: The owner agrees to all the contractor free access to the building at all reasonable times during the execution of the contract, and shall at his own cost remove the old steam plant from the pit in the basement, the pipeless furnace and any abandoned steam pipes or old unused radiators that will hinder the installation of the new work. He will also remove from its present location the electric hot water heater.

Changes in the Work: The owner may order changes in the work, without invalidation the contract, but any adjustments on the price worked on such changes shall be agreed to in writing before same is executed.

Insurance: During the execution of this contract, the owner shall maintain fire insurance in an amount not to exceed $1500.00, to cover the value of the equipment in the event of loss or damage by fire.

Schedule of Payments: Payments on the contract to the contractor shall be as follows: $1000.00 upon completion of the work on the hot water system, and upon arrival and installation of the hot air, air conditioning plant; $1000.00 upon completion of sheet metal duct work and $759.00 within thirty days after the completion of the contfact.

The heating system as specified herein is of such capacity that under normal operation, it will produce and maintain a temperature of not less than 70° Fahrenheit in all the rooms on the first and second floor when the outside temperature is zero degrees Fahrenheit.

Equipment and Work on Existing Hot Water Plant: The capacity of the existing hot water boiler shall be increased by adding one intermediate double boiler section, a new grate box and boiler jacket. The boiler shall be raised approximately 6" and turned to face the south to allow for proper installation of oil burner.

Included in the boiler work shall be the installation of a 30 gallon built in hot water coil heater, 1 aquastat, a flow control valve and relay and new smoke pipe.

Install a Delco Model A Conversion Oil Burner complete with master control, thermostat and 275 gallon inside oil storage tank. The tank shall be placed in basement room adjoining boiler room. A Barometric Stack Draft Regulator shall be installed in the smoke pipe.

Combustion chamber shall be of proper size and shape and shall be constructed with B & W Insulating Firebrick.

Radiators: Install in kitchen of living quarters, 2- 15 section 5 tube x 32" High Tubular Radiators, and in living room 2- 12 section 5 tube x 23" High Tubular Radiators. Radiators shall be placed under windows.

In library on second floor install 2- 24 section 7 tube x 20" high and 1- 22 Section 7 tube x 20" high Tubular Radiators. These radiators shall be placed under north and south windows and shall have metal radiator covers and grilles.

Equipment and Work to install new oil fired airconditioning plant to heat first and second floor of front part of building:

Equipment: 1- Model DA-2 Delco Conditionair with temperature and operating controls as per manufacturers specifications sheet attached. 1- 1000 gallon outside underground oil storage tank.

Conditionair shall be installed in existing boiler pit in the cellar.

The installation of this unit shall be according to the manufacturers directions and shall be carefully checked and adjusted to peak operating efficiency with a Delco Three Way Instalometer.

Sheet Metal Work: All warm air ducts and cold air returns shall be according to attached schedule as furnished by the sheet metal contractor.

We, The Undersigned Parties To This Agreement have read the foregoing specifications and have accepted them as correct.

It Is Clearly Understood and agreed by and between the parties hereto that the foregoing specifications are hereby made a part of this contract of this date, and that the said contract is accepted and based upon furnishing and installing in a first class workmanlike manner all the items listed in the above specifications and that the work will proceed with all haste consistent with good workmanship, weather, labor and other conditions permitting.

For this work the owner agrees to pay a contract sum of $2759.00, payable in installments as per payment schedule under the General Conditions.

Date January 29/1942

Contractor The Union Sand & Supply Co.
Robt E Woods

Owner A Beaney, Director
Garfield House
Lake County Chapter
Western Reserve Historical S

SHEET METAL WORK:

The register and pipe areas by rooms as they are numbered the plans shall be as per following schedule with possible exception as noted herein.

Warm Air-	First Floor	Register Size	Pipe Area	
	No. 1 Room	9x12	63"	
	No. 2 Room	8x10	13"	
	No. 3 Room	9x12	50"	
	No. 4 Room	9x12	50"	
	No. 5 and 9 Room	10x12	75"	
	No. 6 Room	9x12	63"	
	No. 7 Room	8x10	28"	
	No. 8 Room	2- 8x10	72"	
	No. 11 Room	8x10	35"	449"
	Second Floor			
	No. 1 Room	9x12	63"	
	No. 2 Room	8x10	34"	
	No. 3, 5 and 9	2- 9x12	90"	
	No. 4 Room	8x10	34"	
	No. 6 Room	9x12	50"	
	No. 7 Room	9x12	60"	
	No. 8 Room	8x10	13"	
	No. 10 Room	9x12	50"	394"
				843"
Return Air-	First Floor Hall	16x30	360"	
	Living Room	13x30	280"	
	South East Bed Room and Dining Room	2-10x12	128"	768"

All warm air ducts shall have individule quadrant dampers.

It is to be understodd that due to unknown conditions that may exist in walls and partitions, it is impossible to make positive estimates and statements in regard to exact sizes of registers and openings, or whether they can be placed in walls or floors. The detai will have to be worked out when the openings are cut, or determined as the necessity requires. The sizes of registers and pipe area as given are the sizes we hope to use in the installation of the heating plan.

It may be necessary to enlarge some of the pipes and reduce others on account of partition sizes and etc.

SPECIFICATIONS

Delco Conditionair — Model DA-2

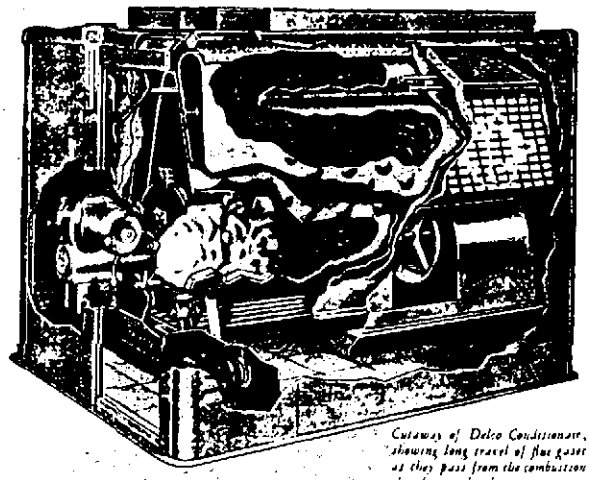
Functions of Air Conditioning Performed

Heating, Humidifying, Cleaning, and Circulating

Upon entering the unit on the blower side, the air (both vitiated returned air and the outside air) passes through the viscous-type filters, where bacteria, dust, and dirt are removed. Purified air is then delivered by the blowers to the heat compartment—as it passes over the large cascade type humidifier, the air absorbs the proper amount of moisture. This cleaned, moistened air then travels over the surface of the compact air transfer unit. Its exclusive, unique, tear-drop design, incorporating all the proven principles of aerodynamic streamlining, reduces air flow resistance to a minimum. The extraordinarily large heating surface, dotted with heat projectors, transfers the maximum amount of heat to the flowing air. The specially designed combustion chamber, lined with a high-grade Kaolin refractory material, assures the ultimate in combustion efficiency and long-lived, economical operation.

THE DELCO OIL BURNER

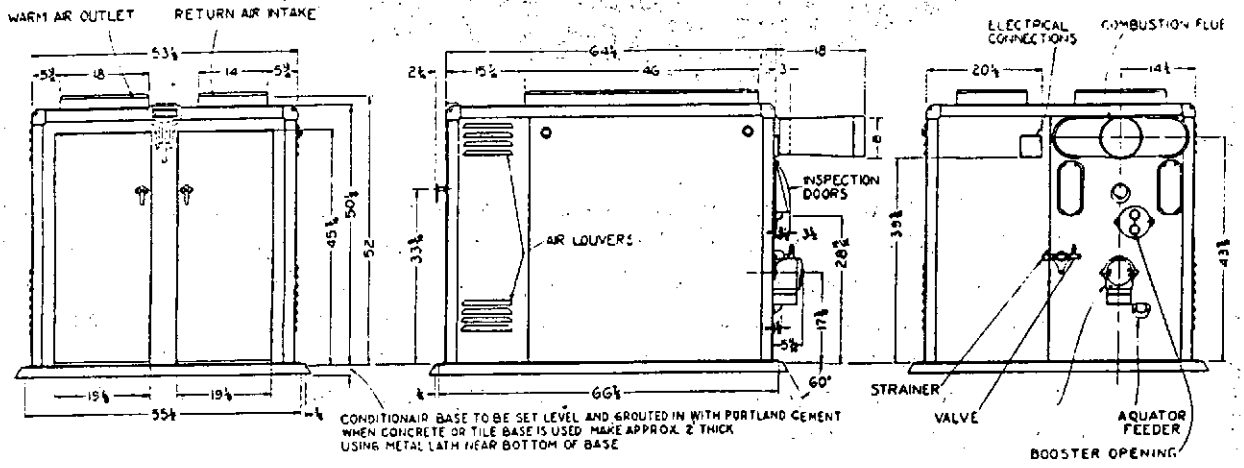
Built as an integral part of the Conditionair and so coordinated in design that all of its mechanism operates as a unit. Simplified construction—one moving part. Utilizes the radiant principle of heat transfer. The soft, swirling flame promotes the proper admixture of gases—assuring complete combustion.



Cutaway of Delco Conditionair, showing long travel of flue gases as they pass from the combustion chamber to the chimney.

The Automatic Controls of the Conditionair

1. *Thermostat*—Insures even home temperatures.
2. *Air Heat Control*—Limits operation of the burner, preventing higher temperature than desired in heated air chamber.
3. *Fan Control*—Inserted in the heated air chamber, starts and stops the blower motor.
4. *Master Control*—A combination of Combustion Control and relay coordinates the operation of the controls, starting and stopping the burner and ignition.
5. *Summer Switch*—Used only in summer for circulating purified, freshened air by operating blowers.



Capacity:
Maximum output at plenum ..... 220,000 BTU/Hr.
Net output at registers ..... 170,000 BTU/Hr.*
*15% normal transmission loss, varies with duct design

Heat Transfer Unit:
Design ..... Updraft flow type with exclusive Delco features
Construction ..... Copper bearing steel alloy
Main unit ..... 7 gauge
Radiators ..... 14 gauge
Heating surface ..... 112 sq. ft.

Combustion Chamber:
Refractory ..... Special moulded Kaolin
Volume ..... 10 cu. ft.

Filters:
Design ..... 4, viscous coated, low resistance

Humidifier:
Design ..... Cascade type
Location ..... Below combustion chamber

Oil Burner:
Design ..... Delco Model DF
Type ..... Pressure atomizing
Mounting ..... Flange

Oil Burner Motor:
Size ..... ⅛ H.P.
Type ..... Split Phase
Speed ..... 1740 R.P.M.
Watts 120

Blower:
No. units 2
Speed ..... 400-700 R.P.M.
Delivery ..... 1200-2400 C.F.M.

Blower Motor:
Size (standard) ..... ¼ H.P.
Type ..... Split Phase
Speed ..... 1725 R.P.M.
Watts 250

Duct Openings:
Return ..... 14" x 46"
Warm Air ..... 18" x 46"

Cabinet:
Construction ..... Selected steel
Finish ..... Jade Green

Cabinet Dimensions:
Width ..... 53⅛"
Length ..... 64½"
Height ..... 50"
Ceiling height ..... Minimum 6'0"

Weight:
Net ..... 1435 lbs.
Shipping ..... 1839 lbs.

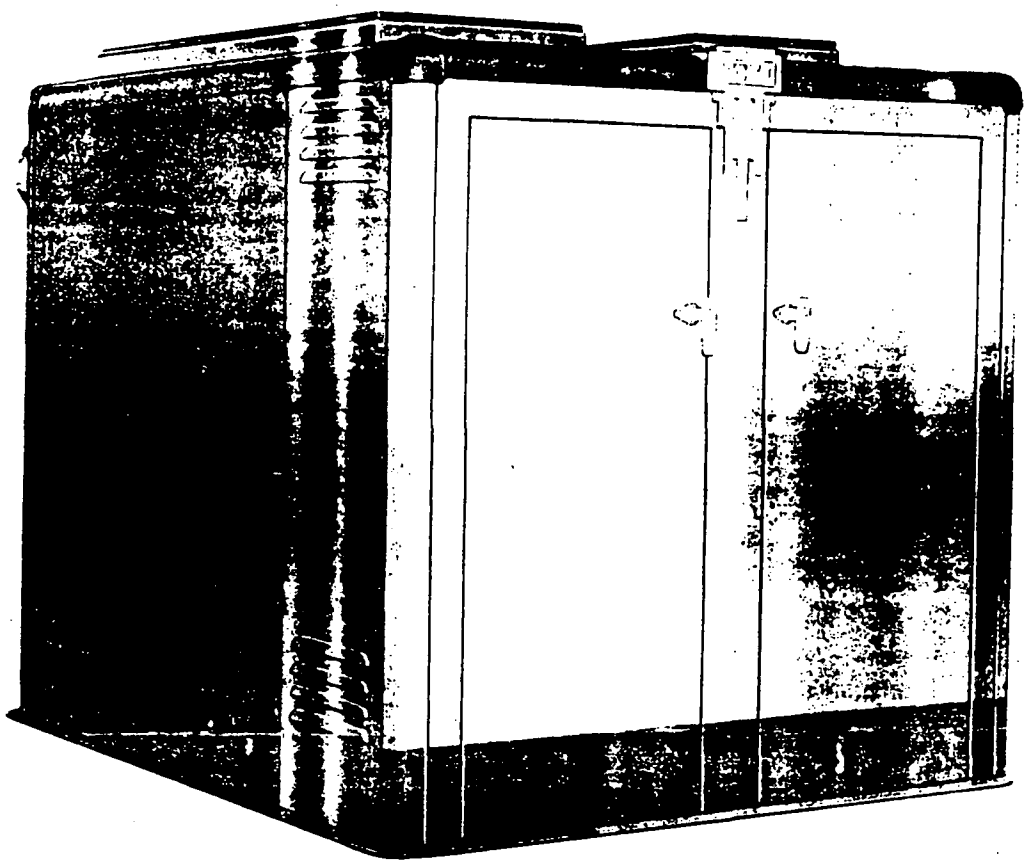
DELCO APPLIANCE DIVISION

GENERAL MOTORS SALES CORPORATION

ROCHESTER, NEW YORK

3M-5-40

Printed in U.S.A.



The Delco Conditionair coordinates the famous fuel-saving Delco Oil Burner and its "Thin-Mix" Fuel Control with a specially designed winter air conditioning unit. It provides true winter air conditioning by circulating cleaned, humidified and properly heated air to every part of the house. All operating parts are enclosed within the attractive steel cabinet with its gleaming enamel finish. Where the duct system has been properly designed for the purpose, a condensing unit and cooling coil may easily be added to provide year round comfort.

DELCO CONDITIONAIR • *Model DA-2*

PRODUCT OF GENERAL MOTOR

APPENDIX C, RECOMMENDATIONS FOR EXPENDITURE OF 1943-44 STATE FUNDS

A-173

The Garfield Home Committee respectfully requests the release of $4,500 of the 1943 appropriation for Additions and Betterments for the Garfield Home for the following:

1.	Insulation		
	Labor and material		1,000.00
2.	Home Interior (1st and 2nd floors)		
	Make and install screens and screen doors	200	
	Refinish woodwork (labor & materials)	300	
	Refinish floors (labor & materials)	125	
	Clean wallpaper (labor and materials)	100	
	Replace broken windows	125	
			950.00
3.	Contents of Home		
	Repair furniture (labor & materials)	150	
	Repair & rebuild display cases	250	
	Demothing	50	
	Clean & restore oil paintings (25)	600	
			1,050.00
4.	Fire Prevention Program		
	Fire Extinguishers - Materials	125	
	Automatic Fire Alarm System (labor & materials)	175	(Postpone)
	Connect water storage tank (labor & materials)	50	
			350.00
5.	Cellar and Basement		
	Repair windows & grill work (labor and materials)	60	
	Waterproof cement walls (labor)	100	
	Recement cellar floor (labor & materials)	100	
	Remove partition & enclose toilet (labor)	40	
			300.00
6.	Living Quarters		
	Install fireplace (labor & materials)	120	— Postpone
	Replace linoleum (material)	110	
	Refinish floors (labor & materials)	70	
			300.00
7.	Museum Floor		
	Replaster 3rd floor (labor & materials)	300	
	Electric installation " " "	150	
			450.00
8.	Campaign House		
	Refinish interior (labor)	50	
	Prepare for opening (labor)	50	
			100.00
			$4500.00

Consideration of all outside work on the grounds has been postponed until the matter of acquisition of additional land has been settled.

APPENDIX D, PROPOSED CAPITAL EXPENDITURES ON GARFIELD HOME (1945-46)

PROPOSED CAPITAL EXPENDITURES ON GARFIELD HOME (1945-46)

Interior

	1945	19
Restoration of oil paintings	750 ✓ 750	64
~~Wallpaper of rooms~~	~~200 PW~~	
Refinishing woodwork	200 - 200	64
~~Sanding and refinishing floors (2 & 3)~~	~~600 PW~~	
Linoleum for bathroom and hallway	100 ✓ 100	64
~~Replace living quarters~~	~~250 PW~~	
Cracked windows	200 — 175	64
Waterproof walls in basement and cellar	200 - 200	64
Papering living quarters upstairs and stair wall	250 - 195	64
	1620	2750

Exterior

Repair and replace siding	1946	300-
Paint job		1200-
Repair fence	1945	225-
		1725

Campaign House PW

Preparation for opening	250	
Trimming	200	
		450

Cabin PW

Moving	500	
Preservative to outside		
Repair chinking		
Stain woodwork		
Lye wash floor	200	
Purchase fixtures for lights		
		700

Barn

Replace Repair roof	45	
Replace siding	45	
Paint exterior	45	150
PW Replaster living quarters		
Repair plumbing		
Refinish floors and woodwork l.q.		250
Repair furnace		
Electrical repairs		
Replace Butler Water		

Grounds

A. Landscaping

Trees	520	520 (46)	
Lawn 3rd section	1000	1050 (45)	
			1570

B. Walks and Driveway
Drive to barn 500

C. 1890 Garden 500

D. Outside Lights 100

PW

2620

Research PW

Edit and publish Diary
Writing and publishing brief Biography
Research, writing and publishing History of Home
" " " " Garfield Tour

3000

15,745

1620
1725
1500
1570
6415

APPENDIX E, TRIP REPORT, MAY 8-12, 1989

United States Department of the Interior
NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. ALAMEDA PARKWAY
P.O. BOX 25287
DENVER, COLORADO 80225-0287

IN REPLY REFER TO:

H30 (DSC-TCE)
JAGA 103 35

Memorandum

To: Assistant Manager, Central Team, Denver Service Center

From: Historical Architect, Central Team, Denver Service Center

Reference: James A. Garfield National Historic Site, Package 103, Park General, Historic Structure Report, PT 35

Subject: Trip Report - May 8-12, 1989

PARTICIPANTS

Architect Paul Newman and Structural Engineer Robert Welton, Denver Service Center (DSC) and Architectural Conservator Barbra Yocum, North Atlantic Historic Preservation Center.

PURPOSE

Construction methods and materials utilized in building Lawnfield were recorded. An in-depth structural investigation was conducted. Interior finishes including paint and wallpaper were researched.

INVESTIGATION

Lawnfield

Structural - A limited destructive investigation was conducted which involved removing siding at ten locations around the exterior of the building to check the construction techniques and existing conditions. Both the 1880 house and 1885 addition were found to be balloon frame with no fire stops. On the interior of the building 3/8 inch holes were drilled through the plaster in the parlour (room 110) and a closet to Garfield's bedroom (room 104) and checked with a borescope (a fiber optic instrument which allows visual observation of inaccessible spaces). One investigation hole was also drilled into the Campaign House ceiling.

The structural engineer mapped areas of relative movement in and between walls. Much of this was accomplished by the relative movement indicated at the corners in the wallpaper or wood trim of

doors, cornice and baseboard. It appears from documentary sources and on-site inspection that most wallpapers date from 1936 through the early 1940s. Even the most recent paper (a 1979 reproduction) installed in the first floor Garfield bedroom shows signs of significant wall movement. Visible portions of foundation walls were checked as well as load transfer areas and points of concentrated load.

Although there have been general inspections of the building on previous site visits, the movement noted and recorded on this trip has alarmed the investigators. There is movement relative to all five masonry chimney masses in the 1880 portion of the house. The movement centers around these chimney masses since the heavier masonry would appear to be stable (having consolidated the soil years before) while progressive rot and possible insufficient structural capacity plague the frame walls. Some of this may be due to rot in the sill plates. A number of beams and other structural elements appear to be over stressed. There is a large area of structural movement due to the undersizing of the beam placed to carry the wall removed when the parlour was created in 1885. Some load from the two floors above including the large museum space may be supported by this member. Other obvious structural problems occur in beams holding up the main stairway built in 1885. The exterior walls adjacent to this stairway are also in an advanced case of deterioration due to moisture penetration. Vertical downward displacement by as much as 2-1/2 inches is evident at the main stairway and outside wall adjacent to the library entrance. The pair of east facing memorial library window frames have shifted out of position, the masonry pier between them is bowed outward and the adjacent plaster has a hollow ring when tapped. This may be indicative of further problems hidden in the wall apparently caused by moisture leaking (in the past) from the porch roof above.

Insects - The house appears to be infested with powder post beetles in the first floor structure and carriage porch floor as evidenced by wood dust remains below bore holes. There is documentation that the house was infested and treated in 1940 for beetles and again in 1941, but it would appear there is ongoing activity too. There are bees nesting in the southwest roof dormer and south porch roof structure. In addition there is a hive on the stair to the loft in the barn at the back of the property.

Site Drainage - With the rainy weather encountered all week it was easy to see the problems with storm drainage. There was no water carried away from the house because all of the drains the downspouts emptied into were overflowing. The exterior grade adjacent to the house has risen six to eight inches over time causing the basement windows to rot and accelerating the deterioration of the wooden sills resting directly on the foundation walls. Even interior foundation walls were found to

have rotted sills from apparent wicking up of the ground moisture through the masonry.

Interior Finishes - The interior fabric investigation also proceeded this week with the analysis of wallpapers and paints in the interpreted rooms.

CONCLUSIONS

Lawnfield

It appears that the rate in which structural distress is taking place is accelerating. Some of the primary structural elements appear to be failing causing secondary construction elements such as plaster, sheathing, and trim to take the load. While we are not trying to say that a major failure will occur if the building continues to be used, it is felt that continuing the way it is used now will exacerbate the problems.

The number one priority established at the site meeting last November 30, 1988, lists roof moisture protection, exterior repairs, and exterior restoration. Number two is the structural modifications. While the exact amount of work and cost to complete the structural work is not yet estimated, it is clear that this is becoming much larger than previously anticipated and will encompass more interior work. It also now becomes a combination of both exterior and interior work and will probably force the closure of the house while some, or all of it, is in progress. The amount of structural work required may exhaust current funding which was previously planned for the exterior restoration work. Disposition of artifacts for the period of time that the house is closed and repair work is being accomplished needs consideration.

To solve the drainage and foundation problems around the house it will be necessary to remove all of the present landscaping. The disconnected oil storage tank buried adjacent to the exterior of the 1885 stair should also be removed at the time grading and foundation work is done.

The interior finish information will help us obtain a more accurate account of wall, door and window changes that occurred at various times. In addition, we will gain knowledge of earlier finishes that have been lost and evaluate the existing condition of current finishes in the house.

Campaign House

In the Campaign House, while some ceiling joist reinforcement probably needs to be done to carry the chimney load in the attic and roof ventilation requirements need to be addressed, there did not appear to be any major structural problems in this building.

RECOMMENDATIONS

Lawnfield

In light of the structural problems identified, it is recommended that steps be taken immediately to reduce the number of visitors allowed in the structure at any one time. They should be spread out so the impact is not concentrated in a small area such as the main stair. Tour group size should be limited to 12 adults or 20 children with a maximum of one group per floor. Large gatherings or functions should be avoided until structural repairs are completed.

The need to close Lawnfield to the public to accomplish the required repair work is clear. It is estimated that once work begins in earnest (assuming that adequate funding is available) it would extend, possibly as long as two years, and most likely remain closed to the public until all the work is completed. The present funding level is too small to accomplish the needed work, although we understand the need to responsibly, and in a timely manner, expend the funds now available. There are the additional problems of how to interpret the Garfield story, and possibly the work itself, as it is going on. Also, what is to be done with the artifacts while the project is in progress? In light of the problems identified, it is suggested that consideration be given to first constructing the Carriage House visitor center and possibly upgrading the Barn to allow for artifact storage and interpretation while the Main House is closed. The present funds again, would not be enough to complete the entire Carraige House visitor center and parking lot. However, the money should be sufficient to complete the exterior rehabilitation/adaptive reuse and a small portion of the interior (although this does not include design). While this is a deviation from the Congressional funding authority we now have, it appears to be justified.

In order to add to our data base we are requesting that Western Reserve Historical Society (WRHS) contract with the necessary companies now to obtain; (1) soil borings; (2) topographic information and; (3) an insect inspection all of which will be needed now and for future work. The soils information should include borings and at least one excavated hole at the foundations of the Main House, Carriage House, Windmill, and Barn. Detailed topographic information is needed to lower the grade around the Main House and allow for proper drainage. This survey should cover the entire site and also include staking the boundary line. In

addition, we recommend that a highly reputable exterminator be hired to thoroughly inspect the buildings and provide a written report of the findings. This work should include drilling holes in sill logs with an increment borer to determine extent of rot and insect damage. A scope of work for these services will be assembled and issued as soon as possible. All required compliance actions will be completed before work will commence.

WRHS can also proceed with the clean-up of the third floor room over the apartment where the pigeons used to roost. This unhealthy area needs to be cleaned up so as not to impede investigation and later work in this area.

The DSC would like to initiate monitoring of Lawnfield and the Campaign House for temperature and humidity. To accomplish this we recommend placing five hygrothermagraph machines at the site, four in the Main House and one in the Campaign House. Two machines are presently available for use at the park but three more will have to be purchased. We request that WRHS proceed with the purchase of the additional hygrothermagraphs. Specifications of what to purchase will be provided.

These new findings suggest that a revision to the preservation plan and its sequence of events will be required. After further analysis we will report this information with recommendations for your consideration.

Signed

Paul Newman

Signed

Robert Welton

Approved for Distribution

MAY 2 8 1999

Chief, Branch of Design, Central Team, Denver Service Center Date

cc:
Reg. Dir., Midwest Region
Supt., Cuyahoga Valley
MWR-Chavez
CUVA-Oswick
WRHS-Buerling
NAR-Yocum

bcc:
DSC-TCE-Steeves, Thorson, Newman, Welton

APPENDIX F, SCOPE OF WORK FOR REQUESTED SERVICES, JULY 1989

United States Department of the Interior
NATIONAL PARK SERVICE
DENVER SERVICE CENTER
12795 W. Alameda Parkway
P.O. Box 25287
Denver, Colorado 80225-0287

IN REPLY REFER TO:

H30 (DSC-TCE)
JAGA-103-35

Memorandum

To: Regional Director, Midwest Region

From: Assistant Manager, Central Team, Denver Service Center

Reference: James A. Garfield National Historic Site, Pkg. 103, Park General, Historic Structure Report, PT 35

Subject: Scope of Work for Requested Services

In our trip report dated May 24, 1989, we requested that Western Reserve Historical Society (WRHS) contract for the following services: (1) soil borings, (2) topographic information, and (3) insect inspection. The proposed scope of work for these services has been written and is attached. Compliance work will most likely be required for the soil borings and the insect inspection contract. Please let the park and WRHS know which ones they can process now and which ones will require clearances before they can proceed.

John W. Bright

Attachment

cc:
(ea. w/att.)
Supt., Cuyahoga Valley
MWR-Chavez
CUVA-Oswick
WHRS-Buerling

PROJECT DESCRIPTION AND SCOPE OF SERVICES
BOUNDARY AND TOPOGRAPHIC SURVEY

GENERAL PROJECT DESCRIPTION

Main House

The Main House (Building 001) will be restored to its 1886 appearance. This will involve structural stabilization and exterior rehabilitation including rebuilding historic porches that have been removed in the past. It is anticipated that the existing ground adjacent to portions of the Main House will be lowered six to eight inches in some areas (to its historic level) to allow for proper site drainage. In addition, new downspout drains will be installed and the foundation wall and/or stone veneer will be rebuilt along portions of the south, east and west sides of the building.

Site Improvements

The Carriage Barn will be stabilized and converted to a visitor contact facility with rest rooms. Public vehicle access will be provided to a parking area northwest of the Carriage Barn as shown (see Fig. 1 and Fig.2). The existing Well House will be stabilized and a windmill will be constructed on top. A new foundation will be constructed under the Granary and the Barn will be rehabilitated and utilized for maintenance.

SCOPE OF SERVICES

1. Obtain a copy of all county records relating to property showing locations of boundaries, buildings, and utilities.

2. Survey boundary to locate all corners and stake boundary at 50-foot intervals. Locate and record any existing monuments and benchmarks. Install monuments at all corners where missing and intermediate or offset corners if required. Monuments to be supplied by the Government.

3. Provide topography to 1/2-foot contours, with spot elevations at root crown of trees. Locate all structures, trees over 6-inches in diameter, driveways, parking lots, and fence lines. Provide spot elevations at all door thresholds (showing finish floor elevation), porches, landings, stair and basement window sills (of main house).

4. On separate drawings, locate buried and above ground utilities including water wells, gas wells, valve boxes, gas lines, water lines, sewer, electric and telephone lines as well as the buildings, paving, boundary and topography. Manhole spot elevations to show both rim and invert elevations.

5. Drawings to meet the following specifications:

Scale - 1 inch equals 20 feet.
Drawn in ink on mylar reproducible sheets.
Provide drawings with match lines.
AutoCad version 10 computer disk of all data.
Signed and sealed by a registered surveyor.
Provide origial field notes.

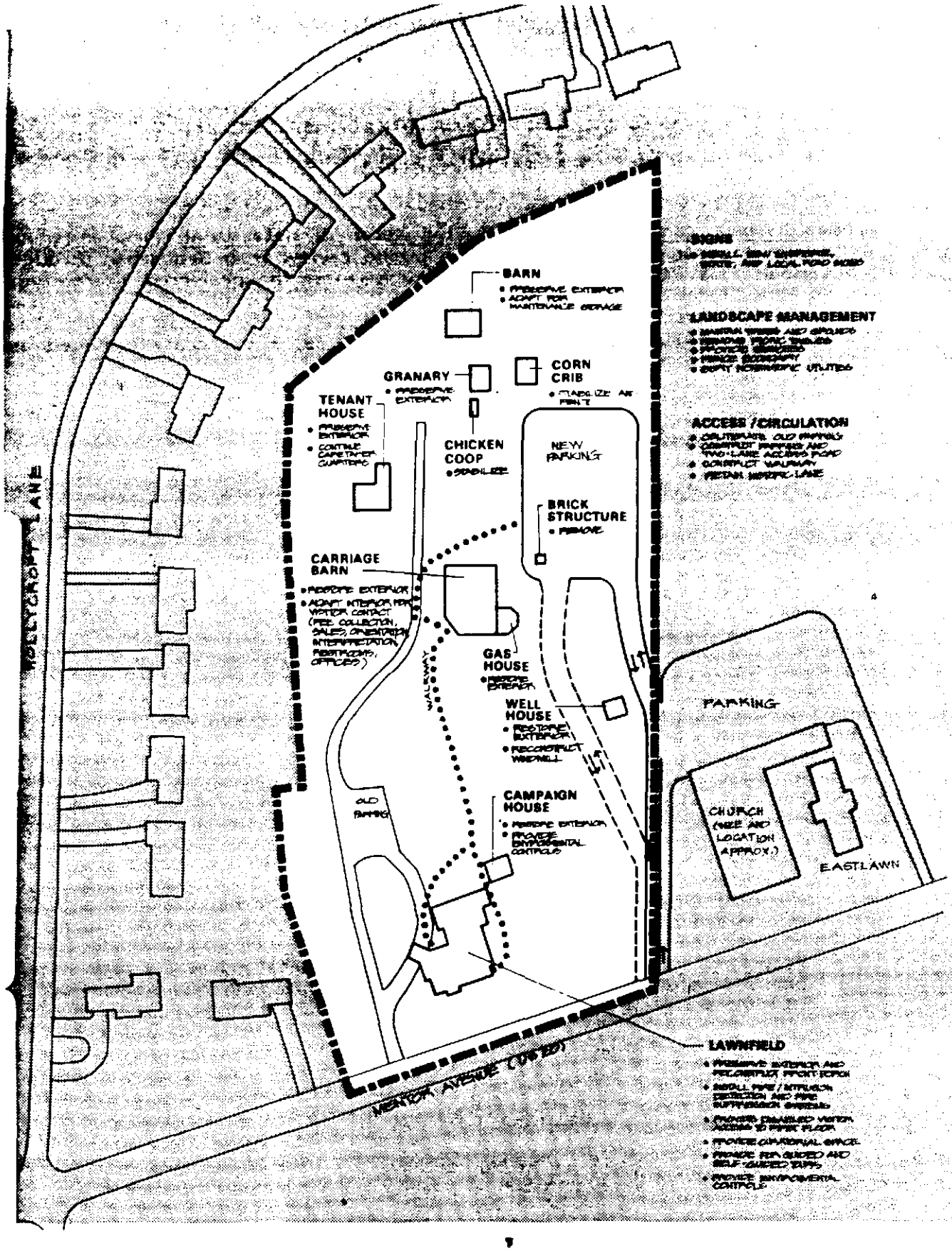
ACCESS TO SITE

Access to the park grounds and structures must be approved by contacting the park and coordinating with WRHS to accommodate park programs, regular maintenance functions, and uninterrupted visitation. The park can be contacted at the following address:

Paulette Oswick, Architect
Cuyahoga Valley National Recreation Area
15610 Vaugn Road
Brecksville, Ohio 44141
(216) 526-5256

TIME SCHEDULE

Notice to Proceed	To be determined after compliance
On-Site Work	To be determined in bid proposal
Report Delivered	60 days after notice to proceed



NPS BOUNDARY

PREFERRED ACCESS

ALTERNATE ACCESS

0 50 100 FEET

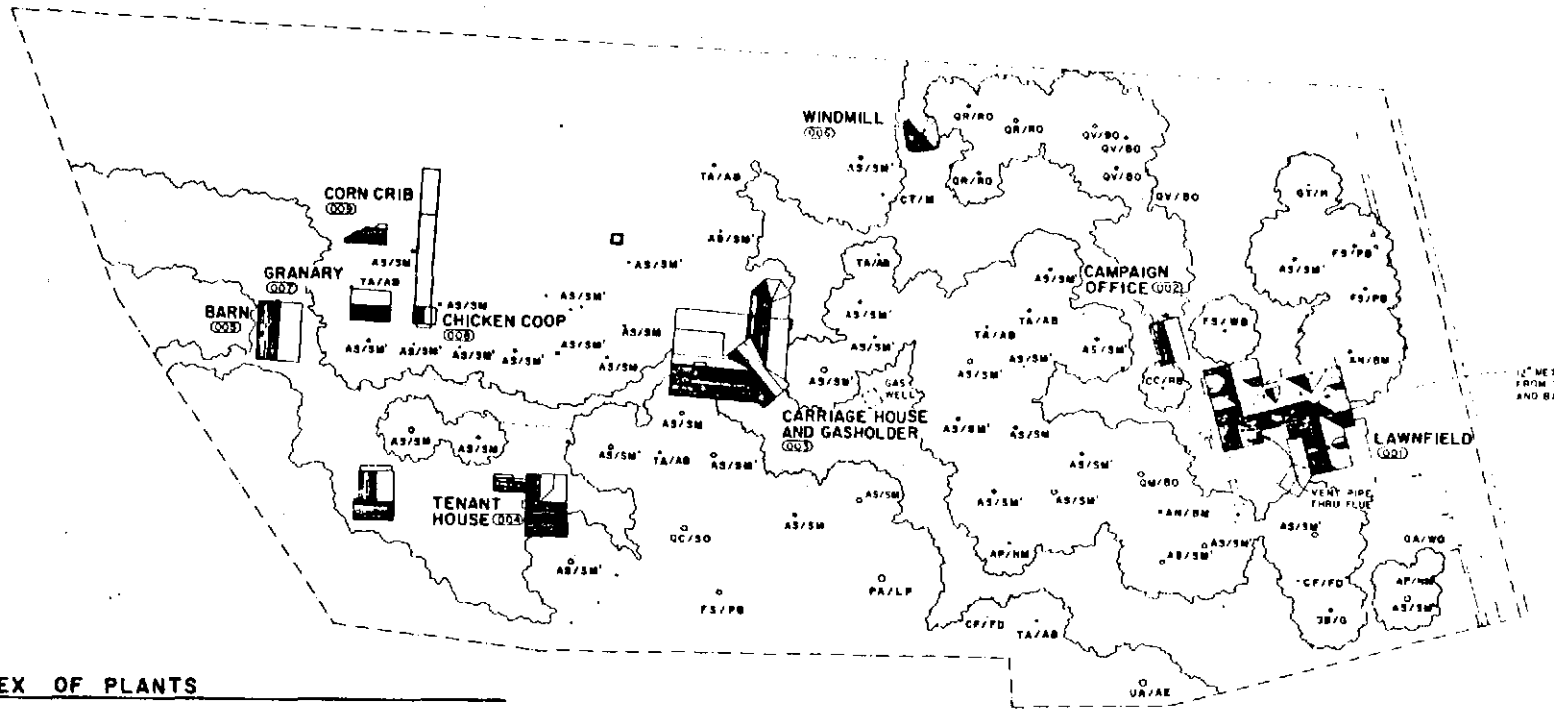
general management plan

FIGURE 1

JAMES A. GARFIELD
NATIONAL HISTORIC SITE

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

ON MICROFILM



INDEX OF PLANTS

KEY	COMMON NAME	BOTANICAL NAME
AN/BM	BLACK MAPLE	ACER NIGRUM
AP/NM	NORWAY MAPLE	ACER PLATANOIDES
AS/SM	SILVER MAPLE	ACER SACCHARINUM
AB/SM'	SUGAR MAPLE	ACER SACCHARUM
CT/M	MOCKERNUT	CARYA TOMENTOSA
CC/RB	REDBUD	CERCIS CANADENSIS
CF/FD	FLOWERING DOGWOOD	CORNUS FLORIDA
CC/CH	COCKSPUR HAWTHORN	CRATAEGUS CRUS-GALLI
FS/PB	PURPLE BEECH	FAGUS SYLVATICA V. ATROPUNICA
FS/WB	WEEPING EUROPEAN BEECH	FAGUS SYLVATICA V. PENDULA
GB/G	GINKGO	GINKGO BILOBA
GT/H	HONEYLOCUST	GLEDITSIA ERIACANTHUS
PA/LP	LONDON PLANETREE	PLATANUS ACERIFOLIA
QA/WO	WHITE OAK	QUERCUS ALBA
QC/SO	SCARLET OAK	QUERCUS COCCINEA
QM/BO	BUR OAK	QUERCUS MACROCARPA
QR/RO	NORTHERN RED OAK	QUERCUS RUBRA
QV/BO	BLACK OAK	QUERCUS VELUTINA
TA/AB	AMERICAN BASSWOOD	TILIA AMERICANA
UA/AE	AMERICAN ELM	ULMUS AMERICANA

SITE PLAN

SITE PLAN ADAPTED FROM 1924 SURVEY AND MENTOR PROPERTY MAP

BUILDING NUMBERS

(001) MAIN HOUSE
(002) CAMPAIGN OFFICE
(003) CARRIAGE HOUSE AND GASHOLDER
(004) TENANT HOUSE
(005) BARN
(006) WINDMILL
(007) GRANARY
(008) CHICKEN COOP
(009) CORN CRIB

KEY

BUILDING NUMBERS	(001)
ROOM NUMBERS	[001]
DOOR NUMBERS	D.001
WINDOW NUMBERS	W.001
CHIMNEY NUMBERS	(1)
STAIR NUMBERS	(1)

0 50 100 FEET 1"=40'
0 5 10 20 30 METERS 1:480

FIGURE 2

487/25,008 2 OF 25

JAMES A. GARFIELD NATIONAL HISTORIC SITE-1964 — LAWNFIELD — 8095 MENTOR AVENUE (U.S. ROUTE 20) MENTOR — LAKE COUNTY OHIO — OH-ESM — HISTORIC AMERICA BUILDINGS SURVEY — ERIC GARTNER

ON MICROFILM

GOVERNMENT ESTIMATE
BOUNDARY AND TOPOGRAPHIC SURVEY
JAMES A. GARFIELD NATIONAL HISTORIC SITE
PACKAGE 103, PT 35, HISTORIC STRUCTURE REPORT

Boundary			
2500 LF	X $2 LF	=	$ 5,000
TOPOGRAPHY			
7 acres	X $2000/acre	=	14,000
		TOTAL	$19,000

PROJECT DESCRIPTION AND SCOPE OF SERVICES
Decay and Insect Survey for James A. Garfield National Historic Site
Historic Structure Report - Pkg. 103

General Project Description

The Main House (Building 001) will be restored to its 1886 appearance. This will involve structural stabilization and exterior rehabilitation including rebuilding historic porches that have been removed in the past. The Carriage Barn (Building 003) will be stabilized and converted to a visitor contact facility with rest rooms. The Barn (Building 005) will be rehabilitated and probably converted to maintenance/storage (see Fig. 1).

Scope of Services

A) Bee Removal

Remove bees and hive(s) located near the stair in the Barn (Building 005). Remove bees and hive(s) in the Main House (Building 001) front porch ceiling and the third floor dormer located above. In addition, remove any additional hives discovered during inspections of buildings.

B) Carriage House (Building 003) and Barn (Building 005)

Inspect structures for both insect infestation and wood decay.

C) Main House (Building 001)

Inspect basement framing and sill plates for insect infestation (past and present) or rot due to moisture. Obtain increment borer samples of sill plates, as shown on drawings (see Fig. 2) and describe integrity of samples taken. This is the minimum number of locations to inspect. Add borer locations as required to complete inspection to determine insect or rot damage. Tag and log borer samples. Seal holes with hardwood plugs. Inspect all porch framing for insect infestation.

D) Furnish a written report discussing pest infestation, both past and present. The report shall include:

1) Documented areas and type of infestation/rot.

2) Degree of degradation of Main House first floor beams (measured by percent loss of sound wood).

3) Recommended treatment for insect infestation and sequence of treatment based on contemplated construction activities stated.

4) Cost estimate of recommended treatment.

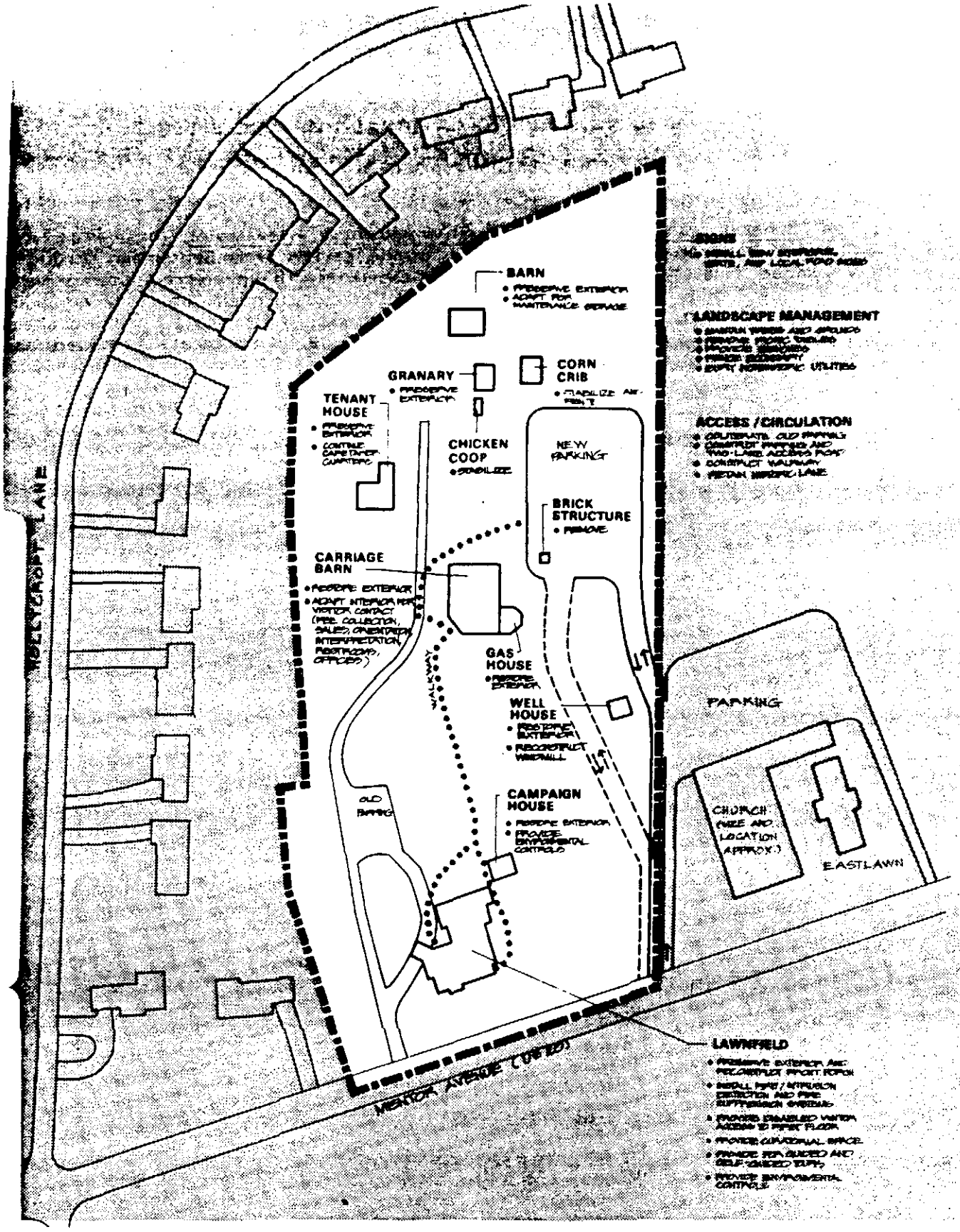
Access

Access to the park grounds and structures must be obtained by contacting the park and coordinated with Western Reserve Historical Society to accommodate park programs, regular maintenance functions, and uninterrupted visitation. Approval of increment boring must be obtained prior to drilling at this historically sensitive site. The park can be contacted at the following address:

Architect Paulette Oswick
Cuyahoga Valley National Recreation Area
15610 Vaugn Road
Brecksville, OH 44141
(216) 526-5256

Time Schedule

Notice to Proceed	To be determined
On-Site Work	To be determined in bid proposal
Report Delivered	60 days after notice to proceed

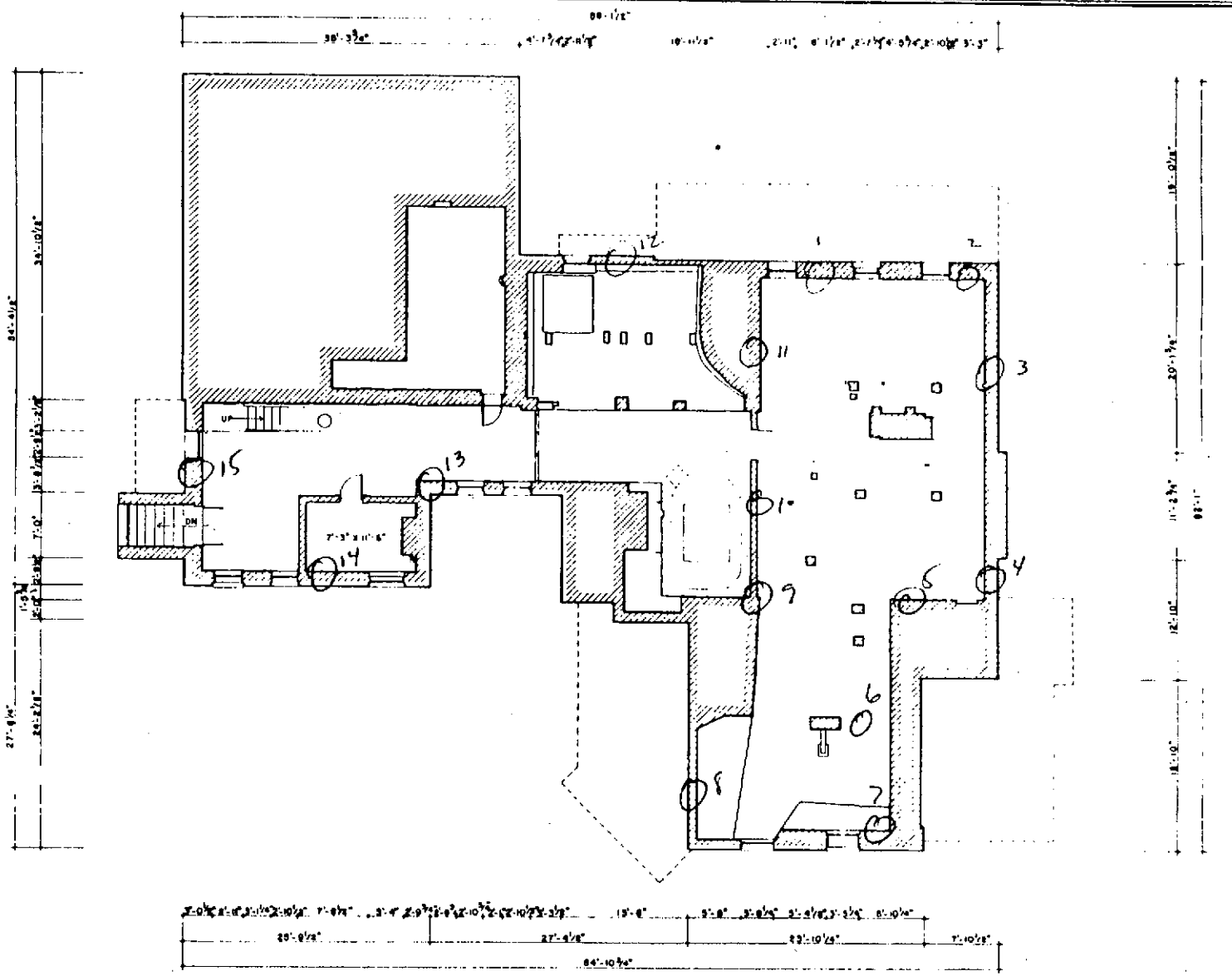


general management plan

JAMES A. GARFIELD
NATIONAL HISTORIC SITE
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FIGURE 1

ON MICROFILM



BASEMENT FLOOR PLAN

FIGURE 2

ON MICROFILM

GOVERNMENT ESTIMATE
DECAY AND INSECT SURVEY
JAMES A. GARFIELD NATIONAL HISTORIC SITE
PACKAGE 103, PT 35, HISTORIC STRUCTURE REPORT

Field: Investigation and Bee Removal

1 man X 5 days X 8 hours/day X $40/hour (includes labor, tools, equipment, materials, etc.)	=	1600
Office: Written Report of Investigation and Deficiences		
1 man X 2 days X 8 hours/day X $40/hour (includes labor, typing, supplies, etc.)	=	640
TOTAL		$2240

PROJECT DESCRIPTION AND SCOPE OF SERVICES
Soils Survey for James A. Garfield National Historic Site
Historic Structures Report - Pkg. 103

GENERAL PROJECT DESCRIPTION

The primary purpose of the soils investigation is to obtain baseline data for evaluation of the Main House (Building 001) foundations. Additional soils investigation concerning future site improvements and site structure stabilization is also included.

1. Main House

The Main House (Building 001) will be restored to its 1886 appearance. This will involve structural stabilization and exterior rehabilitation including rebuilding historic porches that have been removed in the past. It is anticipated that the existing ground adjacent to portions of the Main House will be lowered six to eight inches in some areas (to its historic level) to allow for proper site drainage. In addition, new downspout drains will be installed and the foundation wall and/or stone venner will be rebuilt along portions of the south, east and west sides of the build. It appears that at least several wood sill plates will be replaced and possibly all may require replacement.

2. Site Improvements

The Carriage Barn will be stabilized and converted to a visitor contact facility with rest rooms. Public vehicle access will be provided to a parking area northeast of the Carriage Barn as shown (See Fig. 1). The

existing Well House will be stabilized and a windmill will be constructed on top. A new foundation will probably be constructed under the Granary and the Barn will be rehabilitated and probably converted to maintenance/storage.

SCOPE OF SERVICES

1. General

A. You are encouraged to visit the site in order to determine the proper equipment for this work.

B. Perform subsurface exploration, unified classification of major soil changes, field and laboratory testing, and engineering analysis of data. Determine the physical properties and characteristics of the soils by laboratory and field tests performed on selected soil specimens from the site. Sampling of each major stratum is required. Determine ground water level, if any, for each boring.

C. Submit a final soils report which shall include data relative to type of equipment used, sampling procedures, field observations including logs of borings, test results, mode of testing, engineering analysis, design values and recommendations. The report shall be signed and sealed by a licensed geotechnical engineer. Six copies of the final report shall be submitted to this office (DSC-TCE).

2. Access Road and Parking Lot

A. Three borings (R1-R3) shall be at the approximate locations shown on the attached drawing and shall extend to a depth of 6 feet.

B. Provide two laboratory 3-point California Bearing Ratio (CBR) values or Hveem stabilometer (R) values which shall represent the top 18 inches of final subgrade.

C. Based on the physical properties and characteristics of the soils and from the engineering analysis of the data, provide recommendations regarding road and parking area subgrade preparation, construction procedures, and other pertinent information (such as available and allowable asphalts used in this area of the state).

D. Provide structural section required to support proposed traffic loading of 10 buses daily.

3. Main House and Site Structures

Investigate the subsurface soil conditions by boring and sampling in five borings (B1-B5) and excavate four foundation pits (FP1-FP4) at the locations shown on the attached drawing (See Fig. 2). Borings shall be at least 20 feet deep or two feet into bedrock. Foundation pits shall extend to bottom of foundation (the main house has a basement) exposing the veneer and establishing the footing location. Carefully compact soil after filling foundation pits.

4. Borings and excavations shall be performed in the presence of a certified geologist or licensed geotechnical engineer.

Report shall include an engineering analysis of the data developed from the field and laboratory studies with recommendations concerning:

A. Foundation types with recommended soil bearing values.

B. Slab on grade design and basement wall design.

C. Degree of soil corrosiveness.

D. Exterior site and foundation drainage.

E. Written description of the exposed foundation with photographs.

F. Recommendations for foundation repair.

G. Any special construction requirements.

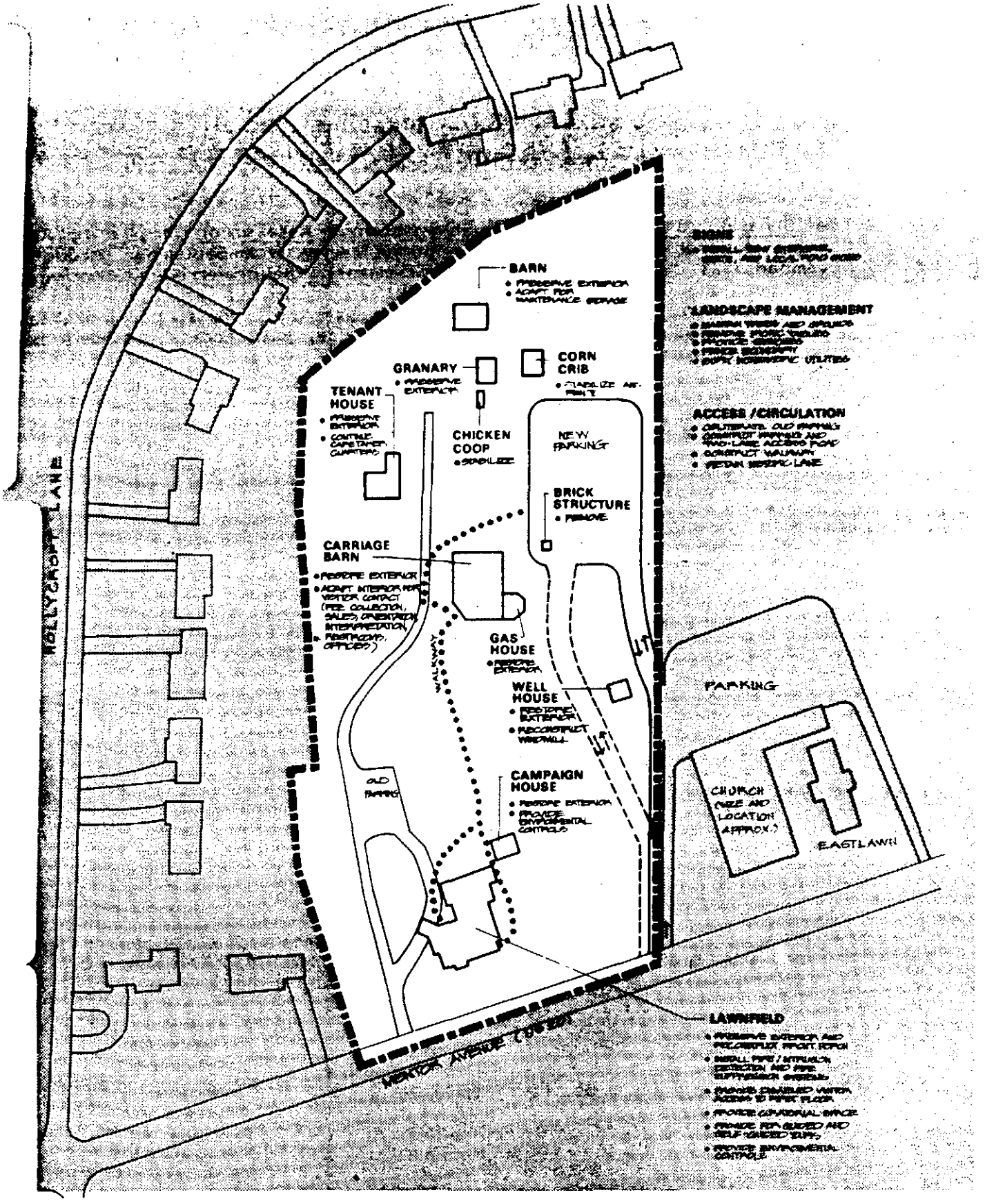
Access

Access to the park grounds must be obtained by contacting the park and coordinated with Western Reserve Historical Society to accommodate park programs, regular maintenance functions, and uninterrupted visitation. Obtain approval of boring and test pit locations from the park prior to drilling or digging at this historically sensitive site. Coordinate with utility companies to avoid buried utilities. Only rubber-tired vehicles will be permitted on the park grounds unless otherwise approved. The park can be contacted at the following address:

Architect Paulette Oswick
Cuyahoga Valley National Recreation Area
15610 Vaugn Road
Brecksville, OH 44141
(216) 526-5256

Time Schedule

Notice to Proceed	To be determined
On-Site Testing	To be determined in bid proposal
Report Delivered	60 days after notice to proceed



NPS BOUNDARY

PREFERRED ACCESS

ALTERNATE ACCESS

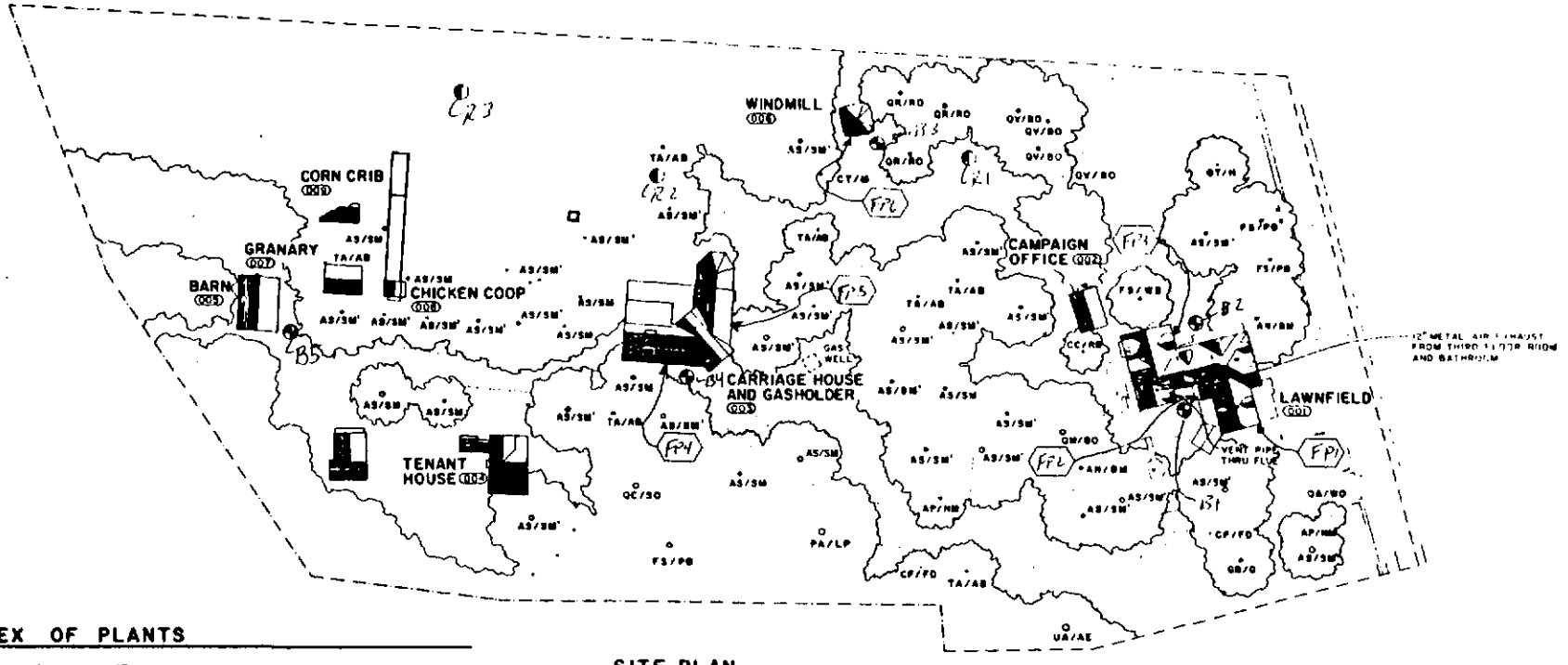
general management plan

JAMES A. GARFIELD
NATIONAL HISTORIC SITE

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

FIGURE 1

439
ON MICROFILM



INDEX OF PLANTS

KEY	COMMON NAME	BOTANICAL NAME
AN/BM	BLACK MAPLE	ACER NIGRUM
AP/NM	NORWAY MAPLE	ACER PLATANOIDES
AS/SM	SILVER MAPLE	ACER SACCHARINUM
AS/SM'	SUGAR MAPLE	ACER SACCHARUM
CT/M	MOCKERNUT	CARYA TOMENTOSA
CC/RB	REDBUD	CERCIS CANADENSIS
CF/FD	FLOWERING DOGWOOD	CORNUS FLORIDA
CC/CH	COCKSPUR HAWTHORN	CRATAEGUS CRUS-GALLI
FS/PB	PURPLE BEECH	FAGUS SYLVATICA V. ATROPUNICA
FS/WB	WEEPING EUROPEAN BEECH	FAGUS SYLVATICA V. PENDULA
GB/G	GINKGO	GINKGO BILOBA
GT/H	HONEYLOCUST	GLEDITSIA TRIACANTHUS
PA/LP	LONDON PLANETREE	PLATANUS ACERIFOLIA
QA/WO	WHITE OAK	QUERCUS ALBA
QC/SO	SCARLET OAK	QUERCUS COCCINEA
QM/BO	BUR OAK	QUERCUS MACROCARPA
QR/RO	NORTHERN RED OAK	QUERCUS RUBRA
QV/BO	BLACK OAK	QUERCUS VELUTINA
TA/AB	AMERICAN BASSWOOD	TILIA AMERICANA
UA/AE	AMERICAN ELM	ULMUS AMERICANA

SITE PLAN

SITE PLAN ADAPTED FROM 1924 SURVEY AND MENTOR PROPERTY MAP

BUILDING NUMBERS

- (001) MAIN HOUSE
- (002) CAMPAIGN OFFICE
- (003) CARRIAGE HOUSE AND GASHOLDER
- (004) TENANT HOUSE
- (005) BARN
- (006) WINDMILL
- (007) GRANARY
- (008) CHICKEN COOP
- (010) CORN CRIB

KEY

BUILDING NUMBERS	(001)
ROOM NUMBERS	001
DOOR NUMBERS	D 001
WINDOW NUMBERS	W 001
CHIMNEY NUMBERS	(1)
STAIR NUMBERS	(1)

0 50 100
FEET 1" = 40'
0 5 10 20 30
METERS 1:480

FIGURE 2

487/25,008 2 OF 25

440

ERIC CASTLER
JAMES A. GARFIELD NATIONAL HISTORIC SITE - 1984

LAWNFIELD
8095 MENTOR AVENUE (U.S. ROUTE 20)
MENTOR
LAKE COUNTY
OHIO
OH-2284
HISTORIC AMERICAN BUILDINGS SURVEY

GOVERNMENT ESTIMATE
SOIL INVESTIGATION
JAMES A. GARFIELD NATIONAL HISTORIC SITE
PACKAGE 103, PT 35, HISTORIC STRUCTURE REPORT

Note: Types of tests performed will be a function of the material encountered. Specific tests and quantity shall be determined by the geotechnical engineer.

1) Dry boring including moisture and grab samples
   5 test holes @ 20 ft. @ $9.00/ft.....$900
   3 test holes @ 6 ft. @ $6.00/ft.....108

2) Shelby tube and/or standard penetration test
   3 samples/hole @ 5 holes = 15 samples @ $20.00.....300

3) Foundation Pit Excavation
   6 @ $300.....1800

Sub Total Field Exploration.....$3106

4) 5 Atterberg Limits @ $30.00.....$150

5) 5 Sieve Analysis @ $30.00.....150

6) 5 Density Tests @ $10.00.....50

7) 3 Unconfined Compression Tests @ $30.00.....90

8) 2 California Bearing Ratio @ $250.00.....500

Subtotal Laboratory Analysis..... $940

Drill Rig 8 hrs. @ $60.00/hr.....$480

Backhoe 8 hrs. @ $40.00/hr.....320

Engineer 16 hrs. @ $50.00/hr.....800

Drill and Lab Technician 16 hrs. @ $30.00/hr.....480

Report with Recommendations.....500

Sub Total Equip. & Labor.....$2580

TOTAL $6,628

APPENDIX G, STRUCTURAL CALCULATIONS

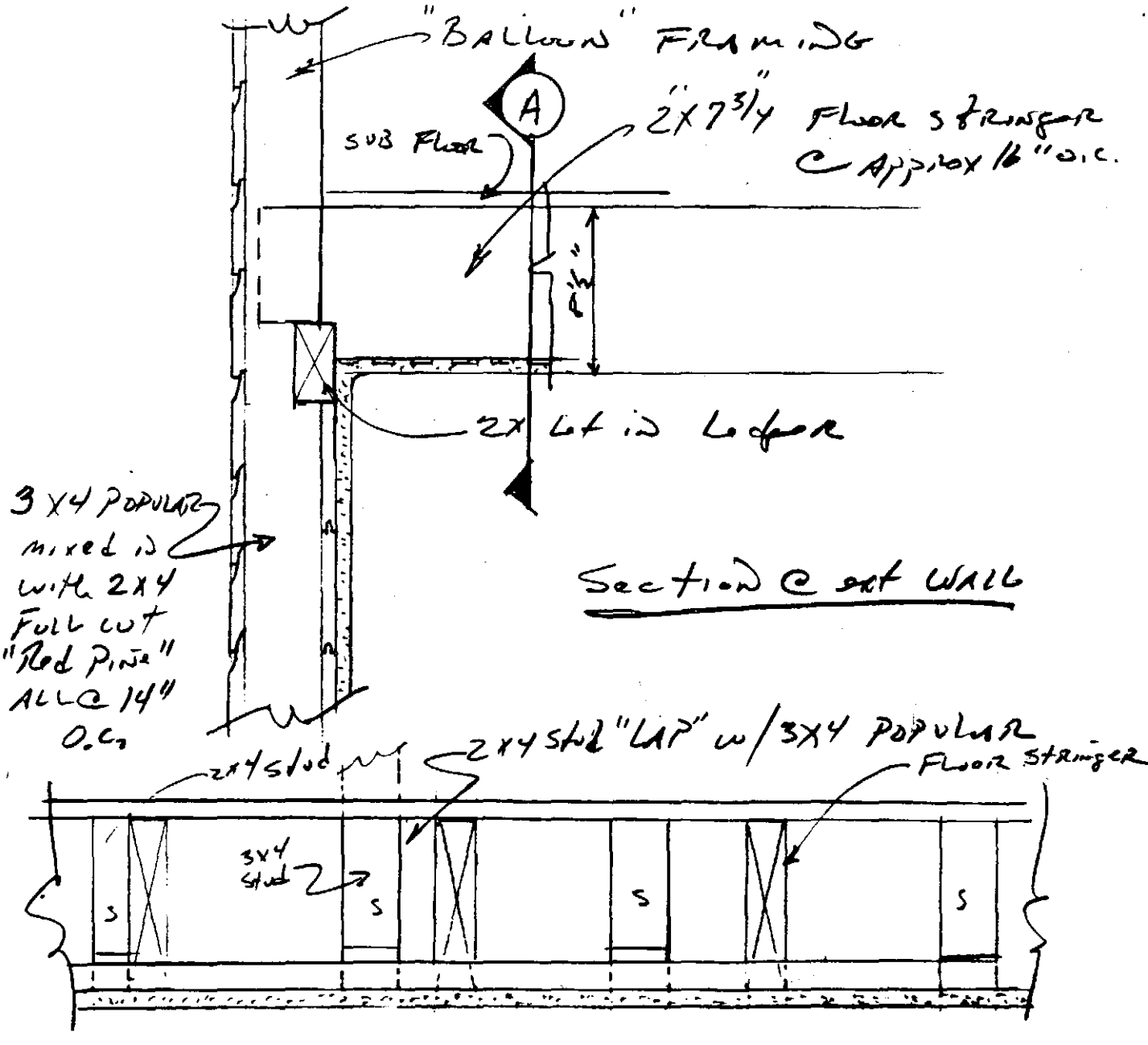
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 103 SHEET ... of ...
MAID HOUSE MADE BY R. WELDON
DATE 8/22/89 CHECKED BY ...
(Initial and date)

GPO 843-761

COMPUTATION SHEET

Subject: Bedroom No. 104 @ Exterior Wall (West Side) Garfield's Bedroom



Basic Data
Field Notes May 12, 89

Section (A)
Scale 1 1/2" = 1'-0"

FIG 1

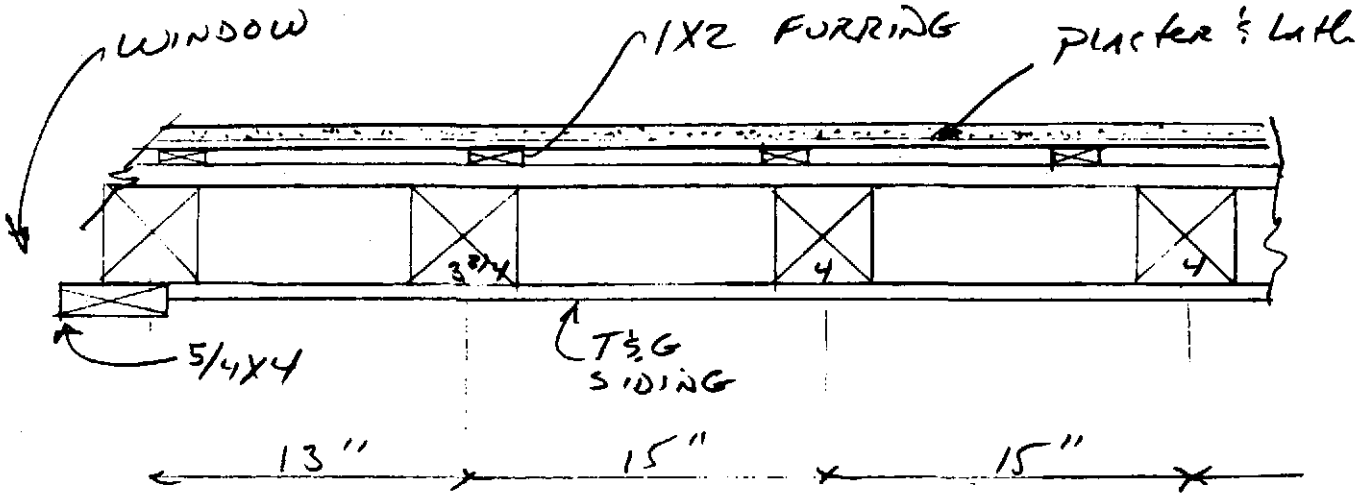
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 103 SHEET ..... of .....
MAIN HOUSE MADE BY R. WELKEN
DATE 9/6/85 CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Exterior Wall Section - East side Rm 107



Ext Wall Section
Scale 1½" = 1'-0"

FIG 2

BASIC DATA
Field notes May 12, 85

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JACK 13T SHEET ..... of .....
MAIN HOUSE MADE BY R Weldon
DATE 6/23/89 CHECKED BY .....
(Initial and date)

GPO 843-761

COMPUTATION SHEET

Subject: SILL PLATE Rot.

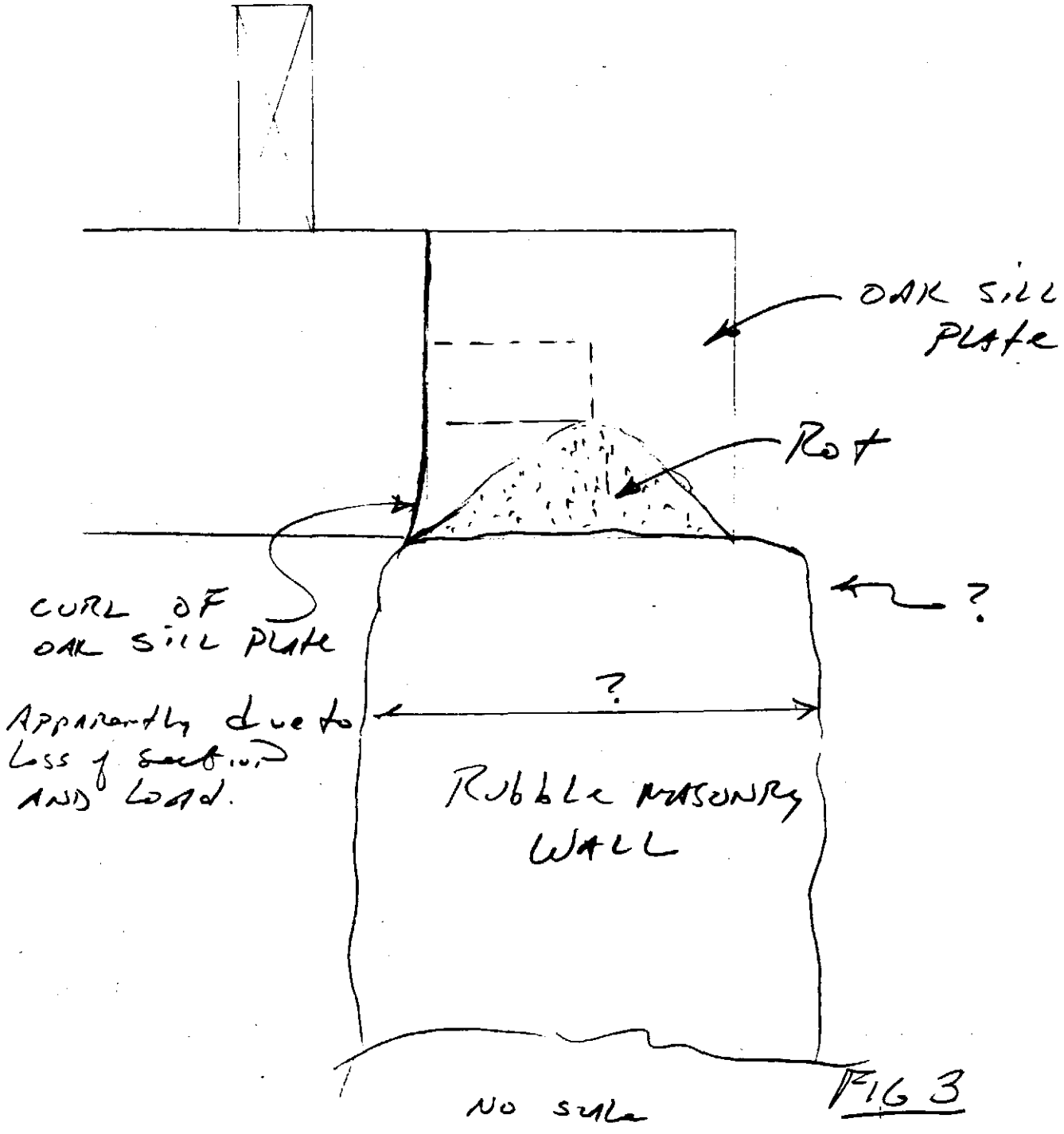


FIG 3

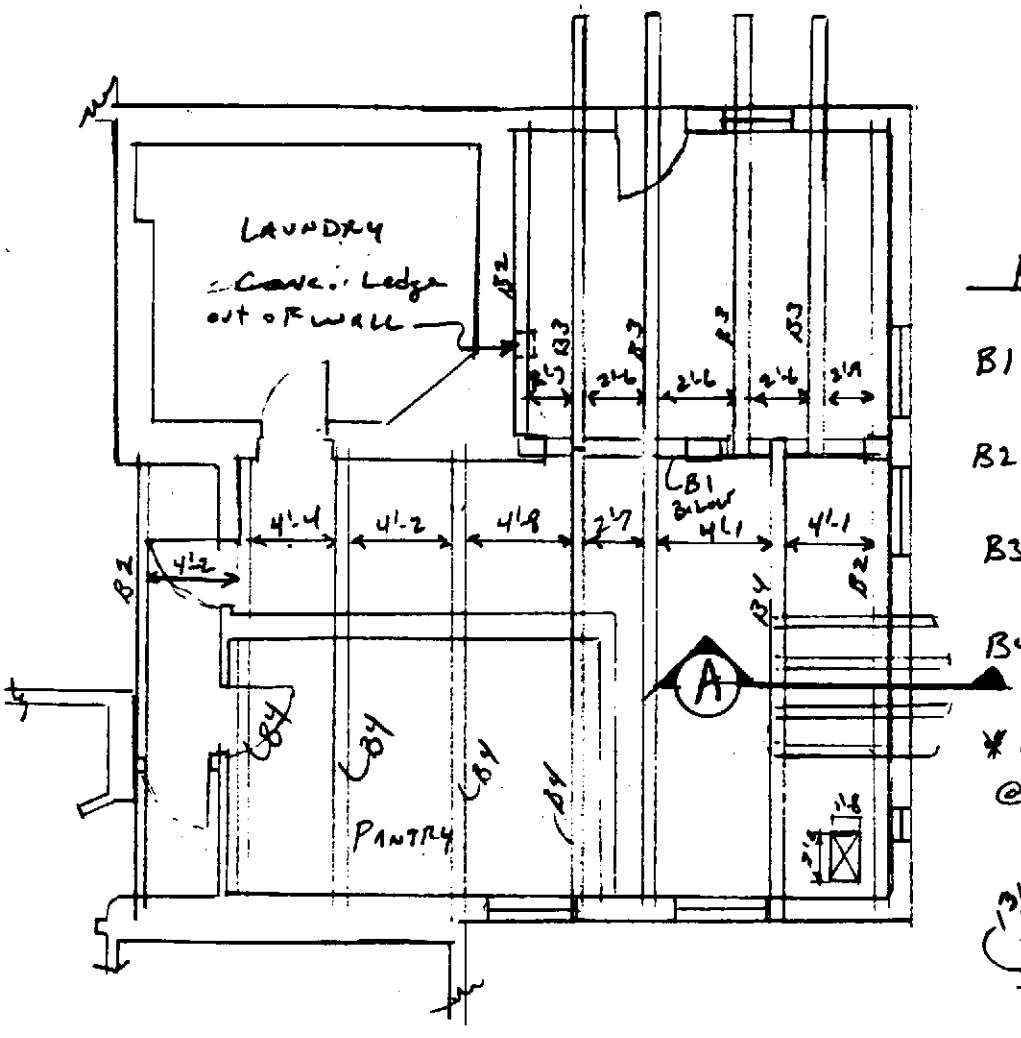
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JHGA 103 SHEET ..... of .....
..... MAIN HOUSE ..... MADE BY R. WELTON
DATE 9/21/89 ..... CHECKED BY .....
(initial and date)

GPO 843-761

COMPUTATION SHEET

Subject: FLOOR FRAMING - LIBRARY FLOOR



N

Beam Sked

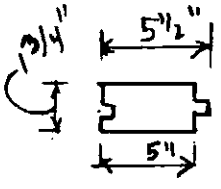
B1 - 4 - 1 3/4 x 5 3/4 *

B2 - 3 - 1 3/4 x 11 *

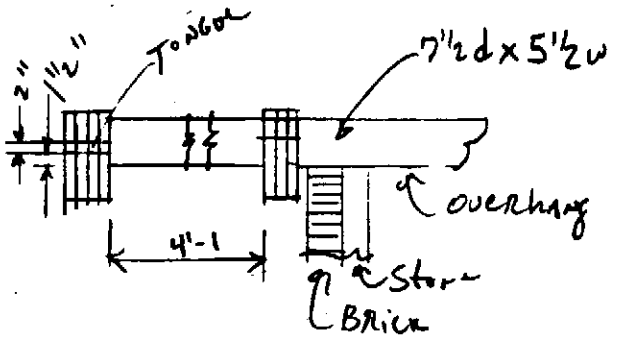
B3 - 11½ d x 7½ w

B4 - 4 - 1 3/4 x 11½ *

* w/ ⅜" Hex Bolts @ 2'-0" o.c. staggered



LIBRARY FLOOR PLAN
⅛" = 1'-0"



Section A
NO SCALE

FIG 4

BASIC DATA - FIELD TRIP Oct, 87

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 103 SHEET ..... of .....
MAIN HOUSE MADE BY R. WELTON
DATE 8/22/ES CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Rm 110 - PARLOUR (BELOW)

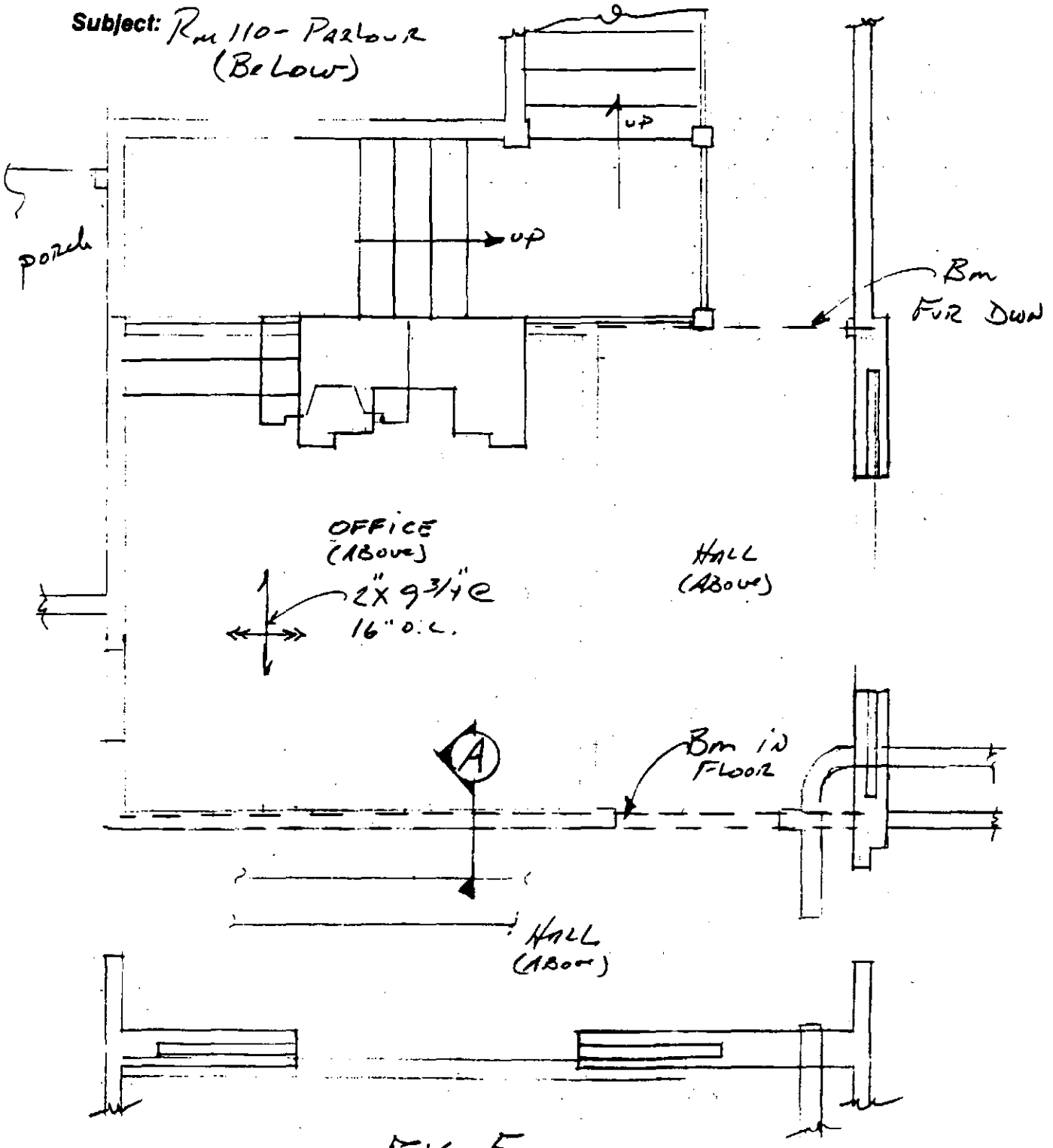


FIG 5

BASIC DATA - HABS DRGS AND Field notes maps, ES

SCALE 1/4" = 1'-0"

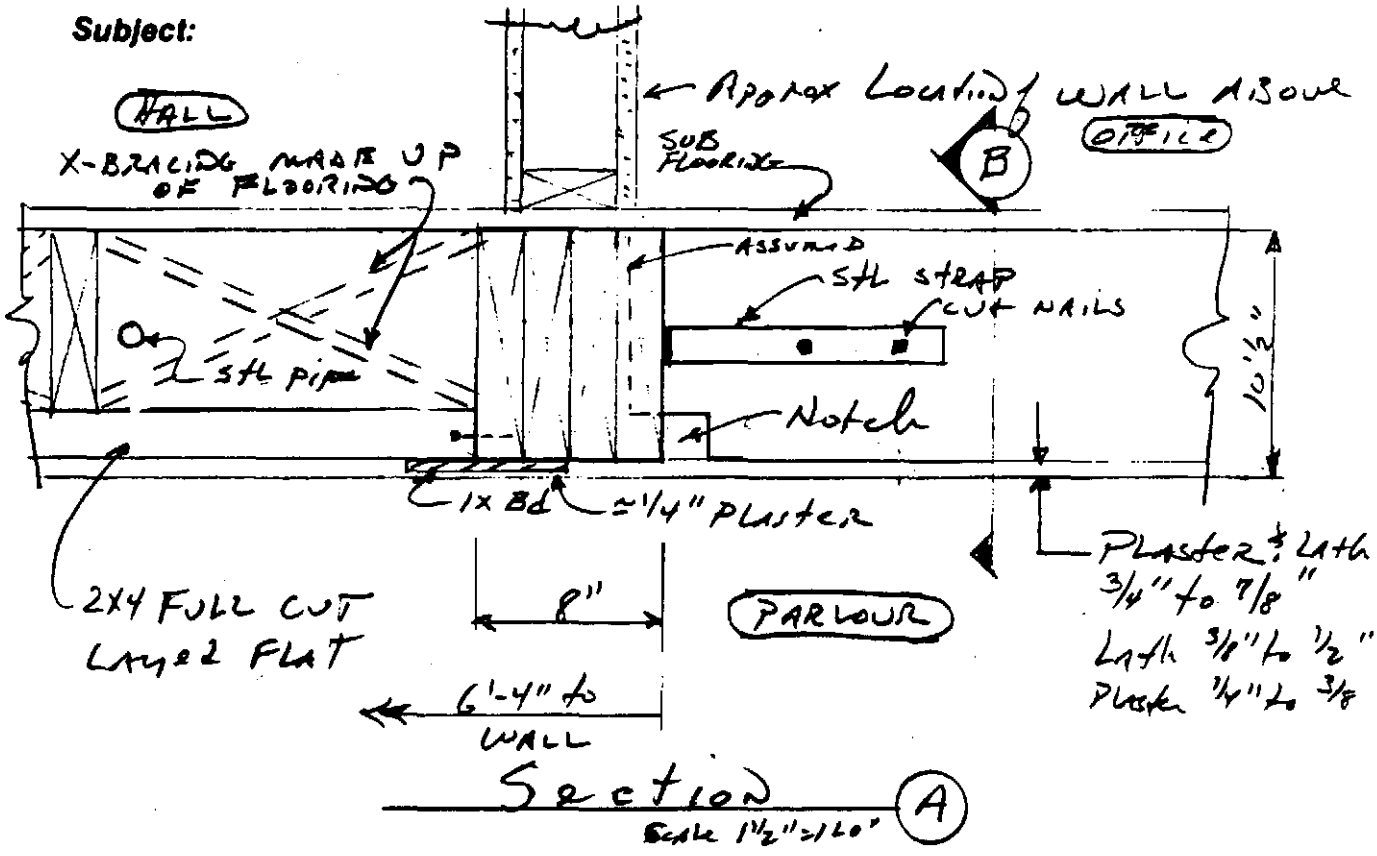
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JARA 103 SHEET ..... of .....
MAID HOUSE MADE BY P. WELLMAN
DATE 8/22/85 CHECKED BY .....
(Initial and date)

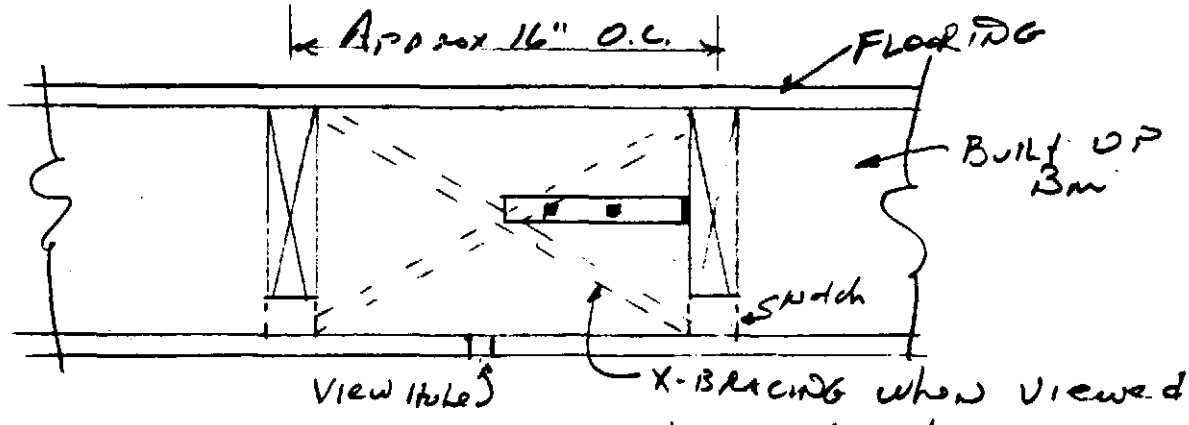
COMPUTATION SHEET

GPO 843-761

Subject:



Section (A)
Scale 1½"=1'0"



Section (B)
Scale 1½"=1'0"

Basic Data: Field notes MAY 9, 85

FIG 6

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 135 SHEET ..... of .....
MAIN House MADE BY R. Walton
DATE 8/22/89 CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Wood Values

ALL of the wood is well seasoned and dry and from "old" growth. From limited visual observation it appears a No 1 or No 2 could be used.

For 1st Floor Framing in "New" part - use No 2

For 2nd Floor Framing use No 1.

Some of the wood studs are popular
" " " " " " Red Pine
" " " " Framing appears to be Fir

∴ Use Spruce - Pine - Fir values from NLGA (Canada) except when identity (such as oak) is definitely known.

From NFPA - Design Values using Spruce - Pine - Fir

No 1 $F_b = 1200$ psi $F_v = 70$ psi $E = 1{,}500{,}000$ psi
$F_{b_{sy}} = 1400$ psi

No 2 $F_b = 1000$ psi $F_v = 70$ psi $E = 1{,}300{,}000$ psi
$F_{b_{sy}} = 1150$ psi

Live Load Factor = 1.25 (LL + DL)

Dead Load Factor = 0.9 (DL only)

Deflection Limit = $\frac{L}{240}$ for $\frac{0.5}{KDL + LL}$ $\frac{L}{360}$ FLL
USE TABLE 23-D

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 135 SHEET ..... of .....
Main House MADE BY R. Welton
DATE 8/22/05 CHECKED BY .....
(Initial and date)

GPO 843-761

COMPUTATION SHEET

Subject: Compute Dead Loads

WALL 8"x4" WALL w/ PLASTER each side = 20psf
AVG HT = 10'
WALL = 200 PLF

FLOOR

	PSF
3/4 to 7/8 Plaster on Wd Lath	8
2x 9 3/4 @ 16" O.C.	4.75
Wood Sub Floor 3/4"	2.0
Wood Fin Flooring 3/4"	2.0
	16.75 PSF

Use 17 PSF for FL DL

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 135 SHEET ..... of .....
Hanan House MADE BY J. WELKEN
DATE 8/22/89 CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Check Floor Rm 206 - Office
(Above PARLOUR No 110)

SIZE: 2" X 9 3/4" @ 16" O.C.

$A = 17.50 in^2$
$I = 154.5 in^4$
$S = 31.7 in^3$

SPAN ≈ 14'

Bending

$M_{TOT\,ALL} = F_b S (f_{rotation})$
$= 1400 (31.7)(1.25)/12$
$= 4,622$ LB-FT

$M = \frac{w\ell^2}{8} \Rightarrow w_T = \frac{8M}{\ell^2} = \frac{8(4622)}{(14)^2} = 188.6$ PLF

$w = w_T / 1.33 = 188.6 / 1.33 =$ 142 PSF = $w_{T\,ALL}$ Bending

Less DL 17 PSF

125 PSF = LL Bending

Shear

Assume 2" Notch @ Beam $d = 7\frac{3}{4}$ $d' = 9\frac{3}{4}$

$V_{ALL} = \frac{2}{3} f_v A \left(\frac{d}{d'}\right) = \frac{2}{3}(70)(17.50)(1.25)\left(\frac{7\frac{3}{4}}{9\frac{3}{4}}\right) = 904$ LB

$w\,\ell/2 = 904 \Rightarrow w = \frac{904}{7} = 129.2$ PLF / 1.33' = 97 PSF

122
− 42
80 PSF = LL Shear

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 135 SHEET ..... of .....
MAIN HOUSE MADE BY P. WELTON
DATE 8/22/05 CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Attic Floor Rm 206 - Office (cont)

Deflection

$\Delta_{LL} = L/360 = \frac{14 \times 12}{360} = 0.47''$

$\Delta_{DL+LL} = \frac{L}{240} = 0.70''$

$\Delta = \frac{5 w L^4}{384 E I} \Rightarrow w = \frac{384 E I \Delta}{5 L^4}$

$w^{LL} = \frac{384 (1500000)(154.5) \Delta}{5 (14)(14 \times 12)^3} = 26 P (\Delta)$

$w^{LL} = 26P(0.47) = 12.6 PLF / 1.33' = 94.7 PSF = w^{LL}$ Δ_{LL}

$w^{TL} = 26P(0.70) = 18.7 PLF / 1.33 = 141 PSF$ Less (0.5 DL) $- 8 PSF$ ok

$133 PSF > 94.7$ Δ^{LL} gov

Floor STRINGERS

Do Office Floor Capacity 80 PSF LL governed by Shear (notched end)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 135 SHEET ... of ...
MAIN HOUSE MADE BY R. WELTON
DATE 6/22/95 CHECKED BY ... (initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: PARLOUR CEILING BEAM Rm No 110

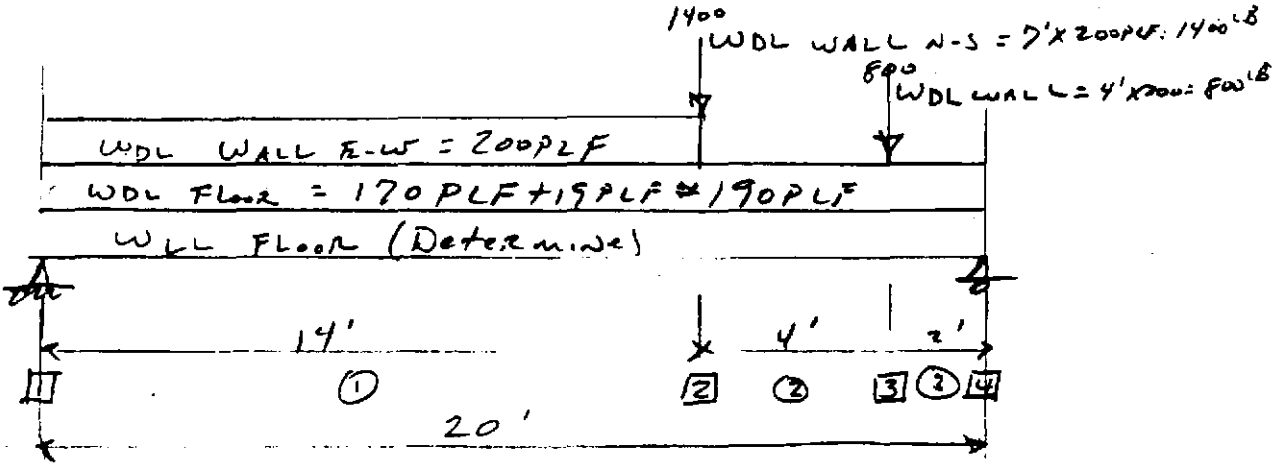
CONTRIBUTORY FLOOR WIDTH = 7' + 3' = 10'
EVEN THOUGH STRINGERS RUN PARALLEL THE 2X4'S CONTRIBUTE SOME
EXTENT OF FRAMING ON SOUTH SIDE NOT ENTIRELY KNOWN

E = 1,500 KSI

SIZE : 8" X 9 3/4"
SPAN : 20'

A = 78 IN²
I = 618 IN⁴
S = 126.8 IN³

Bm wt = $\left(\frac{78}{144}\right)$ X 75 = 15 PLF



$\frac{L}{240} = \frac{20 \times 12}{240} = 1.0"$ $\quad$ $\frac{Y}{360} = 0.67"$

```
PROBLEM
   GARFIELD&BEAM&IN&PARLOUR
   N=4   G=1   L=1   X=1
COORDINATES
   1   X=0.0   Y=0.0
   2   X=14'0   Y=0.0
   3   X=18'0   Y=0.0
   4   X=20'0   Y=0.0
CONSTRAINTS
   1   C=1,1,0
   2   C=0,0,0
   3   C=0,0,0
   4   C=0,1,0
GRUP1
   E=2   N=3   M=1   S=1
   1   E=1500
   1   A=78   I=618
   1   J=1,2    M=1   S=1
   2   J=2,3    M=1   S=1
   3   J=3,4    M=1   S=1
   1   N=3
   M=1   U=-.0325
   M=2   U=-.0158
   M=3   U=-.0158
CASE1
   N=2   T=DEAD&LOAD
   2   D=2   L=-1.40
   3   D=2   L=-.80
```

```
**************************************************
*     2-D  S T R U C T U R E  A N A L Y S I S    *
* GARFIELD BEAM IN PARLOUR                       *
**************************************************
```

C O N T R O L I N F O R M A T I O N

NUMBER OF NODAL POINTS . . . . . = 4
NUMBER OF ELEMENT GROUPS . . . . . = 1
NUMBER OF CASES. . . . . = 1
SOLUTION MODE. . . . . = 1

N O D A L P O I N T D A T A

Coordinates and Degree of Freedom Constraints

NODE-#	X-COORD.	Y-COORD.	X-D.O.F.	Y-D.O.F.	Z-D.O.F.
1	.000	.000	1	1	0
2	168.000	.000	0	0	0
3	216.000	.000	0	0	0
4	240.000	.000	0	1	0

E Q U A T I O N N U M B E R I N G

Total #-of Eqns.= 9 #-of Substructure Eqns.= 0

NODE	X-EQN.	Y-EQN.	Z-EQN.
1	0	0	1
2	2	3	4
3	5	6	7
4	8	0	9

L O A D C A S E D A T A

CASE # 1 DEAD LOAD
NUMBER OF DATA ITEMS IN CASE . . . . = 2

NODE-#	DIRECTION	MAGNITUDE
2	2	-1.400000
3	2	-.800000

M E M B E R D A T A : GROUP # 1

----- ELEMENT DEFINITION

ELEMENT TYPE . . . . . = 2
NUMBER OF ELEMENTS . . . . . = 3

----- SECT. & MATL. DEFINITIONS

NUMBER OF MATERIALS. . . . . = 1
NUMBER OF SECTIONS . . . . . = 1

----- MATERIAL LIBRARY

MATL. ID-#	ELAS. MODUL.	SHEAR MODUL.
1	1500.	577.

----- SECTION LIBRARY

SECT. ID-#	SECT. AREA	SECT. I-Z	FORM FACT.
1	78.000	618.000	.000

----- STRUCTURAL CONNECTIVITY

MEMBER NUMBER	NODE @ END-#1	NODE @ END-#2	REL. @ END-#1	REL. @ END-#2	MATL. ID-#	SECT. ID-#
1	1	2	0	0	1	1
2	2	3	0	0	1	1
3	3	4	0	0	1	1

----- UNIFORM MEMBER LOADS

LOAD CASE # 1, 3 LOADED MEMBER(S)

MEMBER NUMBER	UNIFORM LOADING
1	-.03250
2	-.01580
3	-.01580

T O T A L S Y S T E M D A T A

NUMBER OF EQUATIONS . . . . . = 9
NUMBER OF MATRIX ELEMENTS . . . . . = 34
MAXIMUM HALF BANDWIDTH. . . . . = 6
MEAN HALF BANDWIDTH . . . . . = 3

R E S U L T S: CASE # 1 DEAD LOAD

N O D A L D I S P L A C E M E N T S

(inches)

NODE-#	DELTA-X	DELTA-Y	DELTA-Z
1	.000000	.000000	-.023189
2	.000000	-1.462103	.013342
3	.000000	-.566965	.022705
4	.000000	.000000	.024088

----- F O R C E R E S U L T S -----
M E M B E R G R O U P # 1:

Note: Moment & Shear Results @ Member Ends and Tenth Points

----> MEMBER 1, Length = 168.000, Axial Force = .000

(K-in-inches)

..Moments..	.000	66.304	123.434	171.392	210.177
239.790	260.229	271.496	273.590	266.511	250.260

(K-ips)

..Shears...	4.220	3.674	3.128	2.582	2.036
1.490	.944	.398	-.148	-.694	-1.240

----> MEMBER 2, Length = 48.000, Axial Force = .000

..Moments..	250.260	237.404	224.184	210.600	196.652
182.340	167.665	152.625	137.221	121.453	105.321
..Shears...	-2.640	-2.716	-2.792	-2.868	-2.944
-3.020	-3.095	-3.171	-3.247	-3.323	-3.399

----> MEMBER 3, Length = 24.000, Axial Force = .000

..Moments..	105.321	95.198	84.985	74.680	64.284
53.798	43.220	32.552	21.792	10.942	.000
..Shears...	-4.199	-4.237	-4.275	-4.313	-4.350
-4.388	-4.426	-4.464	-4.502	-4.540	-4.578

S U P P O R T R E A C T I O N S

NODE-#	X-RXN.	Y-RXN.	Z-RXN.
1	.000	4.220	.000
2	.000	.000	.000
3	.000	.000	.000
4	.000	4.578	.000

```
 ROBLEM
   GARFIELD&BEAM&IN&PARLOUR
   N=4  G=1  L=1  X=1
COORDINATES
   1  X=0.0  Y=0.0
   2  X=14'0  Y=0.0
   3  X=18'0  Y=0.0
   4  X=20'0  Y=0.0
CONSTRAINTS
   1  C=1,1,0
   2  C=0,0,0
   3  C=0,0,0
   4  C=0,1,0
GRUP1
   E=2  N=3  M=1  S=1
   1  E=1500
   1  A=78  I=618
   1  J=1,2   M=1  S=1
   2  J=2,3   M=1  S=1
   3  J=3,4   M=1  S=1
   1  N=3
   M=1  U=-.0325
   M=2  U=-.0158
   M=3  U=-.0158
CASE1
   N=0  T=DL&NO&CONC&LD


*****************************************************
*     2-D  S T R U C T U R E  A N A L Y S I S       *
* GARFIELD BEAM IN PARLOUR                          *
*****************************************************


 ----------------------------------------
  C O N T R O L   I N F O R M A T I O N
 ----------------------------------------

      NUMBER OF NODAL POINTS . . . . . =    4
      NUMBER OF ELEMENT GROUPS . . . . . =    1
      NUMBER OF CASES. . . . . =    1
      SOLUTION MODE. . . . . =    1


 ------------------------------------
  N O D A L   P O I N T   D A T A
 ------------------------------------
    Coordinates and Degree of Freedom Constraints

   NODE-#    X-COORD.    Y-COORD.    X-D.O.F.   Y-D.O.F.   Z-D.O.F.
        1        .000        .000           1          1          0
        2     168.000        .000           0          0          0
        3     216.000        .000           0          0          0
        4     240.000        .000           0          1          0

 ---------------------------------------
   E Q U A T I O N   N U M B E R I N G
```

Total #-of Eqns.= 9 #-of Substructure Eqns.= 0

NODE	X-EQN.	Y-EQN.	Z-EQN.
1	0	0	1
2	2	3	4
3	5	6	7
4	8	0	9

L O A D C A S E D A T A

CASE # 1 DL NO CONC LD
NUMBER OF DATA ITEMS IN CASE . . . . = 0

M E M B E R D A T A : GROUP # 1

----- ELEMENT DEFINITION

ELEMENT TYPE . . . . . = 2
NUMBER OF ELEMENTS . . . . . = 3

----- SECT. & MATL. DEFINITIONS

NUMBER OF MATERIALS. . . . . = 1
NUMBER OF SECTIONS . . . . . = 1

----- MATERIAL LIBRARY

MATL. ID-#	ELAS. MODUL.	SHEAR MODUL.
1	1500.	577.

----- SECTION LIBRARY

SECT. ID-#	SECT. AREA	SECT. I-Z	FORM FACT.
1	78.000	618.000	.000

----- STRUCTURAL CONNECTIVITY

MEMBER NUMBER	NODE @ END-#1	NODE @ END-#2	REL. @ END-#1	REL. @ END-#2	MATL. ID-#	SECT. ID-#
1	1	2	0	0	1	1
2	2	3	0	0	1	1
3	3	4	0	0	1	1

----- UNIFORM MEMBER LOADS
LOAD CASE # 1, 3 LOADED MEMBER(S)

MEMBER NUMBER	UNIFORM LOADING
1	-.03250
2	-.01580
3	-.01580

T O T A L S Y S T E M D A T A

NUMBER OF EQUATIONS . . . . . = 9
NUMBER OF MATRIX ELEMENTS . . . . . = 34
MAXIMUM HALF BANDWIDTH. . . . . = 6
MEAN HALF BANDWIDTH . . . . . = 3

R E S U L T S: CASE # 1 DL NO CONC LD

N O D A L D I S P L A C E M E N T S

NODE-#	DELTA-X	DELTA-Y	DELTA-Z
1	.000000	.000000	-.018410
2	.000000	-1.085609	.010508
3	.000000	-.412967	.016640
4	.000000	.000000	.017495

----- F O R C E R E S U L T S -----
M E M B E R G R O U P # 1:

Note: Moment & Shear Results @ Member Ends and Tenth Points

----> MEMBER 1, Length = 168.000, Axial Force = .000

..Moments..	.000	57.904	106.634	146.192	176.577
197.790	209.829	212.696	206.390	190.911	166.260
..Shears...	3.720	3.174	2.628	2.082	1.536
.990	.444	-.102	-.648	-1.194	-1.740

----> MEMBER 2, Length = 48.000, Axial Force = .000

..Moments..	166.260	157.724	148.824	139.560	129.932
119.940	109.585	98.865	87.781	76.333	64.521
..Shears...	-1.740	-1.816	-1.892	-1.968	-2.044
-2.120	-2.195	-2.271	-2.347	-2.423	-2.499

----> MEMBER 3, Length = 24.000, Axial Force = .000

..Moments..	64.521	58.478	52.345	46.120	39.804
33.398	26.900	20.312	13.632	6.862	.000
..Shears...	-2.499	-2.537	-2.575	-2.613	-2.650
-2.688	-2.726	-2.764	-2.802	-2.840	-2.878

S U P P O R T R E A C T I O N S

NODE-#	X-RXN.	Y-RXN.	Z-RXN.
1	.000	3.720	.000
2	.000	.000	.000
3	.000	.000	.000
4	.000	2.878	.000

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAGA 135 SHEET ..... of .....
MAIN HOUSE MADE BY R. WELLMAN
DATE 8/23/ES CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: PARLOOR Ceiling Bm Rm110 cont

Deflection - 1.46" @ 14'
M_{max} = 273 K-inch
Shear = 4.22 K^L 4.578 K^R

} Dead Load only w/con DL from walls

Bending

$$f_b = \frac{M}{S} = \frac{273 \times 1000}{126.8 in^3} = 2153 \text{ psi} > 1.25 \times 1200 = 1500 \text{ UG.}$$

Shear

$$f_v = \frac{3V}{2A} = \frac{3(4.578)}{2(7.5)} = 58 \text{ psi}$$

Deflection

$$1.46 = \frac{L}{X} \Rightarrow X = \frac{L}{1.46} = \frac{20 \times 12}{1.46} = 164$$

1/80 Reqd for outside Deck.

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

COMPUTATION SHEET

JOB JTAGR 135 SHEET ..... of .....
Mammoth MADE BY D. Wilson
DATE 6/13/05 CHECKED BY .....
(Initial and date)

GPO 843-761

Subject: Parlour Ceiling Bm Rm 110 (west)

Check without Conc. Dead Loads

Mom = 213 $f_b = \frac{213}{99.3}(215.3) = 1650$ psi

Shear = 3.72 $f_v = 3.72/4.22(ff) = 76$ psi

Defl = 1.1 $\Delta \simeq \frac{1.21}{1.1}(164) = 218$

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JAAA 1ST SHEET ..... of .....
MAIN HOUSE MADE BY D. WELSH
DATE 6/23/05 CHECKED BY .....
(initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Ratio of crushing to allowable

Ref: Wood Handbook by US Forest Products Lab

Species		Max of Rup	All Bdg	Ratio	Max shear	All shear	Ratio
Doug Fir	No 2	7500	1450	5.4	960	95	9.5
	Dense	12000	2450	4.9	1130	"	
Southern Pine Short Leaf		7400	1400	5.3	910	90	10
		13100	2350	5.6	1390	100	
Ponderosa Pine		5100	1000	5.1	700	70	10
		9400	1400	6.7	1130		
Western White		7700	950	8.1	680	65	10.5
		8600	1350	6.4	900	"	
Red Pine		5800	975	5.9	690	70	9.85
		11000	1400	7.9	1210	"	

∴ Avg Bearing Ratio = 5 — use 3 max

∴ Avg Shear Ratio = 10 — use 5 max

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

JOB JACA 135 SHEET ..... of .....
MAIN HOUSE MADE BY D. WELLS
DATE 8/23/89 CHECKED BY .....
(Initial and date)

COMPUTATION SHEET

GPO 843-761

Subject: Compute "Ultimate Load" for Parlour Beam

$F_b^{ULT} = 3 \times 1200 = 3600$ psi

$F_v^{ULT} = 5 \times 70 = 350$ psi

E is the same

Bending

$M_{CAP} = F_b^u S = 3.6(127) = 457$ K-inch

$M_{DL} = \underline{273}$

184 K-inch

$M = wL^2/8 \rightarrow w = \frac{8M}{L^2} = \frac{8(184)/12}{(20)^2} = 306$ PLF

Hallway width $\approx 6'$ use $3'$

$306/3' = 102$ PSF ULT for Hallway.

Shear

$V = \frac{2}{3} f_v A = \frac{2}{3}(350)(78) = 18.2$ KIPS

$- \underline{4.2}$

$14K/10' = 1.4$ KLF

Bearing ULT forces.

APPENDIX H, CODE REVIEW

CODE REVIEW

PARK:	JAGA	DATE:	8/10/87
PROJECT:	HSR	PERSON:	P. Newman
PACKAGE:	103A	STRUCTURE:	Lawnfield (main house)

GENERAL: *Prepare a review of the building code at the beginning of every project before starting design. Follow the list below and add other items as appropriate. Indicate the applicable paragraph in the code and the determination. If there is a conflict or an exception, indicate this also and show the proposed variances and justifications. Submit the code review to the section chief for commentary. Variances may be reviewed by the safety officer and the region.*

ZONING: *This may not be applicable in the park, but state the proposed location and equivalent zoning. The site is located on 7.82 acres along U.S. Route 20 in Mentor, Ohio. The property is bordered on the north and west sides by single-family residences, and on the east side is a large church.*

FIRE ZONE: *Determine the existing system and equivalent zone.*

CODE: *Follow procedures recommended by Uniform Building Code (UBC).*

Chapter 5

Occupancy: *Determine the classification. Note if it is mixed occupancy, and show the required fire separation.*

Classification: House Museum, Group A-3

Location on Property: Located at front center of the property. The main house is set back from the nearest property line over 65 feet and is well separated from all other structures, with the exception of the campaign house (approximately 15-foot separation).

Allowable Floor Areas: There are 6,000 square feet currently on the first floor; 12,000 square feet allowable for all floors by code; with 13,000 square feet currently existing on all floors. It is permissible that it is greater than the allowable floor area because of the separation from other buildings on three sides.

Maximum Height: One floor allowed, three floors existing.

Roof and Floor Loads: (To be completed.)

Increases for Fire Resistive Substitutions: No major changes anticipated.

Area Separations: Not required for special hazards such as a boiler or furnaces, if they are below 400,000 BTU/HR. Regardless, it will be recommended to install a 1-hour fire separation at the boiler and furnaces in the main house.

Protected Openings: Not required.

Toilet Calculations: Not able to meet required load in the main house. The future visitor center in the carriage house will meet this need.

Fire Ratings of Systems (Floors, Roofs, Walls, Structure): One-hour fire-resistive construction required above the first floor.

Chapter 6-12

Requirements for Occupancy: Depends on the type.

Exit Facilities: To meet the requirements of Chapter 13.

Light, Ventilation, Sanitation: The rest room in the gift shop has no window or mechanical ventilation.

Chapter 17-22

Classification Based on Type of Construction: Type V-N.

Communicating Floors: All three floors are connected by unenclosed stairways.

Atriums: Not applicable.

Chapters 23-28

Engineering Regulations: *Get assistance from the engineers.*

Chapter 25, Wood. (To be completed in future study.)

Chapter 29

Excavations, etc.: Not required.

Chapter 30

Veneer: The stone veneer on the foundation apparently has no ties. Delaminating units will be repaired; poses no danger at this time.

Chapter 32

Roof Construction/Material

Wood shingles: Structure (main house) does not have fire-retardant roof, nontreated wood shingles. A Class B rating is required.

Chapter 33

Exits: *Always a major question.*

Code Section 3302, Occupant Load: The expected maximum occupant load is 30 persons per floor multiplied by three floors which equals 90 persons at one time.

Code Section 3303, Exits Required: Two exits are required. There are five existing exterior doors on the first floor; and additional exit will be needed from the third floor.

Code Section 3304, Doors: The doors do not swing in the direction of exit travel; all exits have screen doors. Current exit hardware is nonconforming. The doors are not fire-rated construction.

Code Section 3305, Corridors and Exterior Balconies: Depending on where you are starting travel distance, some exit paths are not direct or obvious and/or pass through adjoining rooms.

Code Section 3306, Stairways:

Number: Two.

Width: All stairways are 42 inches wide or greater, except the stairway from room 215 to room 218 is 36 inches wide.

Construction: Wood frame.

Rise/Run: Stair No. 1, 7/12; Stair No. 2, 6/11

Handrails: The balustrade is on one side only; there are no continuous handrails on either side.

Enclosure Rating: No enclosures are existing.

Code Section 3307, Ramps: None existing. One ramp is planned for the transition between the gift shop floor at the rear of the house to the main first-floor level (approximately 13 inches). This ramp will be designed to meet handicapped accessibility standards.

Code Section 3308, Horizontal Exit: None.

Code Section 3309, Stairway Enclosures: Required. No enclosures are existing.

Code Section 3310, Smoke Proof Enclosures: Not required.

Code Section 3311, Exit Courts: None.

Code Section 3312, Exit Passageways: None.

Code Section 3313, Exit Illumination: The existing illumination is adequate, but it will be necessary to add emergency lighting.

Code Section 3314, Exit Signs: None existing. Exit signs are required.

Code Section 3315, Aisles: Not applicable.

Code Section 3316, Seat Spacing: Not applicable.

Code Section 3317-21, Group Occupancy: None other than those already stated.

Code Section 3322, Special Hazards: Not applicable.

Code Section 3323-24, Miscellaneous: Not applicable.

Chapter 34

Skylights: Not applicable.

Chapter 35

Sound Transmission: No requirements for separation are dictated.

Chapter 36

Penthouse and Roof Structures: None required.

Chapter 37

Chimneys: The structural loads are transferred to the chimneys in the basement. The size of the flues is undetermined. The fireplaces are generally nonconforming in size. The hearths are supported by combustible material. The chimneys are unlined. It is proposed to line only the chimneys used for furnaces and boilers. All other flues and fireplaces will not be used.

Chapter 38

Fire Extinguishing: (Note the effect on other code items.) Fire extinguishing equipment is required in the basement. It is proposed that the entire house will get an automatic sprinkler system to alleviate the exit and material deficiencies.

Chapter 39

Stages: Not applicable.

Chapter 40

Motion Picture Projection Rooms: Not applicable.

Chapter 41-42

Fire Resistive Standards: The effect on the house, if sprinklered, would be to protect the generally nonconforming walls and ceilings both for fire rating and flame spread.

Chapter 47

Wall and Ceiling Coverings: (Flame spread requirement.) Class III is required.

Chapter 48 & 50

Special: (If applicable.) Not applicable.

Chapter 51

Elevators, etc.: Not applicable.

Chapter 52 & 54

Plastic and Glazing: (If applicable.)

Appendix: Included with the major chapters.

Historic Structure: *A variance is allowable, but must be obtained.* This is a historic structure listed on the National Register of Historic Places. No change in use is planned.

Handicapped Requirements: *Consult with the team specialist, federal requirements, and NPS "Accommodation of Handicapped Visitors at Historic Sites." Propose a system to meet the intent of the code, if the letter of the code cannot be met (i.e., door swings, hardware, landings, railings, etc).*

To Meet First Phase of Accessibility:

1. Improve parking lot surface.
2. Exterior on grade ramp; add a new ramp to the gift shop entrance door.
3. Handicapped accessible. Toilet (one); retrofit existing in gift shop.
4. Add a new interior ramp from gift shop to first-floor level.

Provide interpretation by other methods (photographs and video) of elements of the significant parts of the site which are not able to be made accessible.

NFPA: *Check for additional requirements above UBC.* No additional requirements.

101: No additional requirements.

Other: *As required. If remodeling, use a percentage of changes to determine if the entire building has to meet code. Also, revise this form as required and at the completion of design; include a copy with the design analysis and formal review.*

Some code requirements may not be required under Part I, Section 104 b and f. While a large amount of money will be spent on this house, the thrust of the effort is preservation/restoration. There will be no change in use, and no additions will made to structure. It is not anticipated that the entire building will ever meet a strict interpretation of the code. However, all unsafe conditions will be corrected.

Variances Requested: List each item separately with the problem, proposed variance, and justification. Include a sketch if required to explain.

1. A3 Type V-N: Construction should not exceed one floor in height. This building is three floors high. The code also requires a 1-hour fire rating above the first floor. It is requested that these requirements be waived. When in use, the building will be watched by trained personnel. A fire detection system and an automatic sprinkler system will also be installed. It is not planned to have the public above the second floor.

2. The existing wood shingle roof is in generally good condition, but it does not conform to the required Class B rating. It is proposed to spray a fire retardant on the roof to bring the rating up from nonrated to Class C. It is requested to waive the Class B requirement for this wood shingle roof until it needs to be replaced.

3. Exits: Exit doors swing in the direction opposite to the flow and hardware is, in some cases, nonconforming (meaning it does not all work in a single action). The stairs are not enclosed, and the handrails are not continuous, and occur only on the open side of stair. Exit paths are not presently marked, nor are exit paths always obvious, depending upon the path traveled. A limited number of exit signs will be placed, but not at all required locations. It is recommended that these requirements be waived to preserve the accuracy of the historical appearance, and to avoid destruction of the historic fabric. The risk of loss of life in a fire is lessened considerably with trained personnel, an early warning system of fire detection, an automatic sprinkler system, and emergency lighting. The area of the house used for public occupancy is scheduled to be reduced in the future with the construction of the visitor center.

4. Toilet Facilities: The existing load cannot be satisfactorily handled with the present facilities. Future construction of a visitor center will provide all required facilities including handicapped requirements. Present facilities will be adapted to meet the minimum handicapped standards.

ENDNOTES

1. Ronald W. Johnson, *Historic Resource Study, James A. Garfield National Historic Site,* National Park Service, Denver Service Center, September 1984.

2. *Historic Resource Study,* September 1984.

3. *Historic Resource Study,* September 1984.

4. Deed, James R. Garfield *et al* to the Western Reserve Historical Society, Lake County, Ohio, Deeds, v. 160, p. 385. The family members who signed the deed included Harry A. and Belle M.; James R. (widower); Joseph and Mary (Mollie) Stanley-Brown; Irvin and Susan; and Abram and Sarah Williams. At this time the estate contained about 69.53 acres.

5. Ibid.

6. Ibid.

7. James R. Garfield Diary, May 14 and 19, 1936, in James R. Garfield Papers, Box 13, Library of Congress. Hereafter cited as JAG Papers, LC. James had met with WRHS representatives in May 1936 to discuss the official transfer which occurred in July.

8. Laurence H. Norton to Fred (Mrs./Mr. G. Clark, February 18, 1936, in Lawnfield Files, the Western Reserve Historical Society.

9. Norton to Mr. and Mrs. Orville W. Pescott, February 18, 1936. Lawnfield Files, WRHS.

10. S. Prentiss Baldwin to Norton, December 8, 1935, in Lawnfield Files, WRHS.

11. Norton to Sidney S. Wilson, June 1, 1936, in Lawnfield Files, Folder 54, WRHS.

12. *Painesville Telegraph,* August 20, 1936.

13. JRG Diary, September 10, 1936, in JRG Papers, Box 13, LC. Janet was the daughter of James R. Garfield.

14. Ibid. September 20, 1936; November 20, 1936. (Cleveland) *Plain Dealer,* November 15, 1936. The article reports much about the grounds and their agrarian character in the 1930s, as well as the appearance of the barnyard and rear portion of the farm. The barn still had the cupola attached in 1936.

15. "Minutes," The Lake County Chapter of the WRHS, in Lawnfield Files, LCHS, Mentor, Ohio.

16. Draft Membership Drive letter, A.O. Beamer's Activities Folder, Lawnfield File 1938, LCHS. President, Lake County Chapter of the WRHS to Beamer, March 10, 1938, Lawnfield Files, WRHS.

17. "Inventory Prest. Garfield's House--July 1, 1938," in Real Estate--Garfield Home, Inventory of Furnishings, 1938 (&1962) File, WRHS.

18. Irvin McDowell Garfield to Mollie Stanley-Brown, August 7, 1939, in Harry A. Garfield Papers, Box 38, LC. Hereafter cited as HAG Papers.

19. See Maude A. Smith to HAG, February 14, 1941, in HAG papers, box 37, LC.

20. Mrs. Ivan (Veda) Sutliff interview, August 26, 1982, Mentor, Ohio.

21. Undated (ca. 1936) "Disbursements for Garfield Home," in Lawnfield File, WRHS. Helen Norris to J.C. Cotesworth, March 3, 1939, in Lawnfield File, WRHS.

22. "Combined Recommendations of Assistant State Fire Warden and Ohio Inspection Bureau of National Board of Fire Insurance Underwriters for the Purpose of Rendering the President James A. Garfield Home as Fireproof As Possible," undated, in Lawnfield Files, WRHS.

23. "Advances Made by Mr. L. H. Norton For Operating Expenses of the President Garfield Home," ca. 1939, in Lawnfield Files, WRHS.

24. S. J. Steinmann to WRHS, February 17, 1937, in Lawnfield Files, WRHS. Laurence H. Norton to S. J. Steinmann, April 23, 1937, in Lawnfield Files, WRHS.

25. Garfield Home Committee, April 23, 1940, in Lawnfield Files, LCHS.

26. Paul J. Brady to WRHS, June 12, 1939, in Lawnfield Files, WRHS.

27. Joseph Stanley-Brown to Laurence Norton, August 14, 1936, in Lawnfield Files, WRHS.

28. "Long Range Plan of Development For Garfield Home," ca. 1940, in Lawnfield Files, LCHS.

29. Probably A.O. Beamer, "Report on Garfield House," ca. 1940, in Lawnfield Files, LCHS, pp. 7-8. Through these early years, A.O. Beamer demonstrated a substantial commitment to Lawnfield. He served as curator from 1939 to 1942, and was succeeded by his wife Thelma. Beamer, "1940 Summary: Hours Worked," Lawnfield Files, LCHS

30. Beamer, "Report on Garfield House," p. 8., Summary of Survey Based on Study of Volume Entitled "Handbook of American Museums," ca. 1940, in Lawnfield Files, LCHS.

31. Ibid.

32. Garfield Home Committee, Lake County Chapter WRHS, November 7, 1940, in Lawnfield Files, WRHS.

33. "Report on Garfield House," pp. 8-9.

34. Edward F. Olsaver to Lake County Chapter, WRHS, September 14, 1940, in Lawnfield Files, LCHS. "Minutes, Garfield Home Committee," September 10, 1940, in Lawnfield Files, LCHS.

35. Lake County Chapter, WRHS to J.A. Easton, January 8, 1941.

36. (Mentor) *Monitor*, June 13, 1941. *Plain Dealer*, June 12, 1941. Ohio State Legislature, *An Act to Make General Appropriations for the Biennium Beginning, January 1, 1941, and Ending December 31, 1942* (House Bill No. 65), June 3, 1941, in Ohio State Archives, Columbus, Ohio. Lake County Chapter, "Resolution," July 17, 1941, in Lawnfield Files, LCHS.

37. *Painesville Telegraph*, October 9, 1941. *Lake County News Herald*, October 17, 1941.

38. *Monitor*, January 16, 1942. "Expenditure of 1941-42 Appropriations," in Lawnfield Files, LCHS. Beamer to Easton, March 10, 1945, in Lawnfield Files, LCHS. "Budget Sent to Zepp for Additions and Betterments 1945-6," in Lawnfield Files, LCHS. "Expenditures by the State, 1947," in Lawnfield Files, WRHS. "Maintenance Budget Request for 1946 & 1947 (per year)," in Lawnfield Files, WRHS.

39. Lake County Chapter, "Financial Report of Garfield Home Fund From January 1, 1950 to March 31, 1951," Lawnfield Files, WRHS. Richard S. Fatig, "Report on Garfield Home Situation, January 19, 1950, Lawnfield Files, WRHS. *Cleveland Press*, September 14, 1961.

40. R. H. McLeod to Mr. Beymer (sic), May 13, 1940, in Lawnfield Files, LCHS. Garfield Home Committee, January 14, 1942, March 27, 1942, in Lawnfield Files, LCHS.

41. Garfield Home Committee, November 28, 1941, in Lawnfield Files, LCHS. John F. Shaffer to A.O. Beamer, December 11, 1941, in Lawnfield Files, LCHS.

42. The Union Sand and Supply Corporation to The Garfield Home Committee, June 27, 1941, July 8, 1941, in Lawnfield Files, LCHS. "Estimates Recommended by Mr. A.L. Lindsay Heating Engineer of University Hospitals and Western Reserve University, ca. 1941, in Lawnfield Files, LCHS. "Analysis of Heating Problem at Garfield Home," ca. 1941, in Lawnfield Files, LCHS. "Specifications and Contract Agreement for Heating Improvements" described herein the President Garfield Home," January 29, 1942, in Lawnfield Files, LCHS.

43. Beamer to Norton, August 13, 1943, Lawnfield Files, LCHS.

44. Beamer to Mark Roberts, August 26, 1943, in Lawnfield Files, LCHS.

45. "List of Carpenter Work Needed at Garfield Home," ca. 1944, in Lawnfield Files, LCHS.

46. *The Delaware* (Ohio) *Gazette*, March 20, 1942. *Painesville Telegraph*, October 21, 1943. Ohio Archaeological and Historical Society, *Annual Report* (1943), Columbus, Ohio, in State Archives.

47. A.O. Beamer to Laurance Norton, February 6, 1942, Lawnfield Folder, LCHS.

48. Abram Garfield to Beamer, February 27, 1942, Lawnfield Folder, LCHS. Garfield suggested that Beamer test the 300-gallon water tank on the third floor for leaks. Abram thought it had been filled for at least 15 or 20 years, but could have deteriorated since last being used. Also see Abram to HAG, June 10, 1942, in HAG papers, Box 38, LC. According to Abram Garfield, the walk gate was erected in the summer or autumn of 1885. Abram also indicated that the Mentor group wanted to reproduce the fence and gate directly in front of the house. He also had found the "exact kind of double acting springs and latch." Abram to JRG, June 3, 1942, in Lawnfield Files, LCHS.

49. Erwin C. Zepp to Beamer, July 30, 1941, in Outside Work in the 1940s Folder, Lawnfield File, LCHS. Apparently the level of contact between the local group and the state organization never became too significant in the 1940s. Contact with the Ohio State Historical Society on July 13, 1983, has indicated that Zepp's files no longer remain extant. The stone piers that mark the late 19th-century entrance drive remain on private property adjacent to Lawnfield.

50. Ibid.

51. Beamer to James R. Garfield, October 21, 1943, in Lawnfield Files, LCHS. Beamer to the Board of Control of Ohio, January 20, 1944, in Lawnfield Files, LCHS. Beamer to Norton, July 21, 1944, in Lawnfield Files, LCHS.

52. Alfred J. Wells (Gimco Rock Wool Insulation Proposal) to A.O. Beamer, October 27, 1943, in Lawnfield Files, LCHS. Air-Way Insulation Company to WRHS (Invoice A-346), January 18, 1944, in Lawnfield Files, LCHS. "Mineral Wool in Homes of Former Presidents," *Performance*, clipping, ca. 1946, in LCHS Scrapbook, 1936-1952, p. 96, LCHS.

53. WRHS, "Application for Authority to Begin Construction," October 18, 1943, in Lawnfield Files, LCHS. Beamer to A.J. Wells, October 31, 1943, in Lawnfield Files, LCHS.

54. Beamer to Archie Reichert, March 15, 1944; Reichert to Garfield Home, October 16, 1944; Beamer to Reichert, October 25, 1944; Beamer to Reichert, December 8, 1944, in Lawnfield Files, LCHS.

55. Beamer to Reichert, December 8, 1944, in Lawnfield Files, LCHS.

56. L.Y. Wendling to Garfield Home, January 1, 1944, in Lawnfield Files, LCHS.

57. *Lake County News Herald*, July 15, 1941.

58. "Expenditure of 1943-44 State Funds;" Beamer to Daniels Bros. Co., October 23, 1944; H.F. Thurman to President James A. Garfield Home, December 1, 1944; T.H. Beamer to the Davey Tree Expert Company, Inc., December 5, 1944, in Lawnfield Files, LCHS.

59. T. H. Beamer to A.C. Frank, November 17, 1944; "Expenditure of 1943-44 State Funds," in Lawnfield Files, LCHS.

60. "Report of the Expenditure of A&B Appropriations (1945-1946)," in Lawnfield Files, LCHS.

61. "Proposed Capital Expenditures Garfield House, 1945-46," Budget Request Folder, Lawnfield Files, LCHS.

62. T.H. Beamer to J.A. Easton, December 30, 1948, in Lawnfield Files, WRHS.

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105. Estimate to be supplied by Harpers Ferry Center.

106. Estimate to be supplied by Harpers Ferry Center.

107. This figure does not include the estimates needed for archeological work, the furnishings report or interpretive planning.

U.S. GOVERNMENT PRINTING OFFICE: 1992—836-208







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Publication services were provided by the Branch of Publications and Graphic Design of the Denver Service Center. NPS D-9 November 1991.