ADDENDUM

HISTORIC STRUCTURE REPORT • LEMON HOUSE

ALLLEGHENY PORTAGE RAILROAD NATIONAL HISTORIC SITE
PENNSYLVANNIA

CONTRIBUTORS

Craig Blett, Civil Engineer
Tony Crosby, Historical Architect
Mary Frye, Historian
Jack Highland, Landscape Architect
Jed Levine, Archeologist
Mike McCluskey, Mechanical/Electrical Engineer
Bonnita Mueller, Historical Architect
Judith Quinn, Architectural Conservator
Robert Welton, Structural Engineer

DENVER SERVICE CENTER

WESTERN PENNSYLVANNIA PARTNERSHIPS BRANCH

UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

Draft *October 1993*

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

ADMINISTRATIVE DATA

I. HISTORICAL BACKGROUND AND CONTEXT
- A. Introduction
- B. Additional Research
- C. Historical Overview/Building and Site Evolution

II. HISTORIC ARCHITECTURE EVALUATION
- A. Background
- B. Analysis
  1. Methodology
  2. Architectural Exterior - Documentation Review
  3. Existing Architectural Evidence
  4. Archeological Evidence
  5. Contemporary Architectural Examples
  6. Architectural Exterior Conclussions
  7. Architectural Interior
  8. Painted Surfaces
- C. Character Defining Evaluation
  1. Character Defining Features of the Site
  2. Character Defining Features of the Lemon House
  3. Character Evaluation Summary

III. HISTORIC ARCHEOLOGY
- A. Archeological Research
- B. Conclusion

IV. EXISTING CONDITIONS-ARCHITECTURE
- A. Physical Description
- B. ICAP Summary
- C. Architecture
- D. Mechanical/Electrical
- E. Structural Evaluation
- F. Code Evaluation
- G. Existing Condition Drawings - 1965 and 1993

V. LEMON HOUSE TREATMENT RECOMMENDATIONS

VI. HISTORIC LANDSCAPE EVALUATION

- A. INTRODUCTION
  1. Purpose
  2. Historic Landscape Treatment Goals and Objectives

3. Scope and Methodology
4. Site Boundaries

B. EXISTING CONDITIONS
1. Geographic and Physiographic Setting
2. Land Use
3. Vegetation and Soils
4. Climate
5. Water Resources and Utilities
6. Site Circulation
7. Buildings, Structures, and Site Furnishings
8. Archeological Findings

C. ANALYSIS OF LANDSCAPE DATA
1. Chronology of Site Development
2. Topography
3. Natural Systems
4. Vegetation
5. Drainage and Water Features
6. Structures and Site Furnishings
7. Site Circulation
8. Spacial Organization
9. Landscape Integrity

D. LANDSCAPE TREATMENT RECOMMENDATIONS
1. Introduction
2. Landscape Schematic Plan
3. Conclusions

E. LANDSCAPE MANAGEMENT PLAN
1. Management Standards
2. Appropriate Management Options
3. Landscape Development Phasing

VII. EFFECTS OF RECOMMENDED TREATMENTS

VIII. ESTIMATION OF CONSTRUCTION COSTS
A. Phase I Lemon House and Site Treatment Costs
B. Phase II Lemon House and Site Treatment Costs

IX. RECOMMENDATIONS FOR FURTHER STUDY
A. Lemon House
B. Landscape
C. Archeology

BIBLIOGRAPHY

ILLUSTRATIONS

APPENDICES

A: Historic Structure Report - Batcheler
B: Inventory Condition Assessment Program
C: Recorded Oral History
    Mrs. Jessica Walters - March 1980
    Mrs. Zella Gailey - March 1980
D: Paint Samples
E: Restoring the Northeast Meadow
F: Structural Information
G: Lemon House; Adaptive Reuse
    As Constructed Drawings
H: Radon Information

I. HISTORICAL BACKGROUND AND CONTEXT

A. INTRODUCTION

The National Park Service has undertaken much historical, architectural, and archeological research in relation to the Allegheny Portage Railroad National Historic Site since its establishment in 1964. The following reports constitute a compilation of the principal historical research. They should be considered an important part of the historic structure report documentation.

* *Historic Structure Report; Historical Data Section,* by Anna Coxe Toogood, *Architectural Data Section,* by Norman M. Souder (Denver Service Center, 1972)

* *Historic Structure Report; Architectural Data Section,* by Penelope H. Batcheler, (Denver Service Center, 1982)

* *Historic Structure Report, the Lemon House: Archeological Data Section;* by Kathleen Fiero (Denver Service Center 1983)

B. ADDITIONAL RESEARCH

The thrust of the additional historical research associated with this Historic Structure Report Addendum was directed to additional information about the interior and exterior of the Lemon House and the summit level site, for, and subsequent to, the historic period.

The data already gathered by other historians who have searched various primary and secondary sources for information on the Portage Railroad and the Lemon House in particular was revisited. By far the most extensive and helpful information on the Lemon House has been the work of Anna Coxe Toogood (1972, 73). Her work has become the starting point for subsequent research.

In addition, research was undertaken at the State Archives in Harrisburg, Pennsylvania; newspaper files at the Blair County Historical Society that had not previously been researched due to time constraints; and other possible sources of information at Pattee Library at State College for historic landscape data. The Johnstown Public Library and Johnstown Flood Museum Archives were also researched. Unfortunately, these locations have failed to provide any substantial new source information concerning the Lemon House. However, contacts made through the Penn State Agriculture Department have been beneficial in supplying data regarding the historic landscape at ALPO.

Although new historical data has not been uncovered that sheds definitive light on the construction date of the Lemon House, fabric investigation of the interior has resulted in a suggested construction date to the mid to late 1830s.

In revisiting Toogood's work, a reinterpretation of documentary material also supports the later dates. Toogood states:

> it seems very likely that he (Samuel Lemon) started building during the summer of 1831 after the final decisions and surveys for the route over the summit had been completed, and that he saw it finished by July of 1832 when "Rails, etc." for the railroad were to be delivered at "Lemon's" on the summit. (pages 17-18)

This reference to "Lemon's" on the summit, especially in view of the new physical evidence obtained from the Lemon House, is probably not a reference to the Lemon House per se, but simply a recognition of Lemon's known presence in the area of railroad construction. It is possible that the delivery of rails at "Lemon's" at the summit reflects a geographical location rather than indicating the construction of the Lemon House.

The first specific reference to the house does not appear in documentation until July of 1837 when Samuel Lemon entered into a contract with the Commonwealth for the Allegheny Portage Railroad. The contract permitted Lemon to dig a ditch south of "his mansion house." It is unlikely that Lemon's two-story log house located on the turnpike (Route 22) would have been deemed a mansion house.

Lemon's annual tax valuations for his property and business remain consistent up to 1835 when records reveal an increase from $450 to $1,450. Between 1835 and 1839 tax records reveal that the (taxable) value of Lemon's holdings doubled. Furthermore, the value of a tavern in the Lemon tax listings is shown to double from $75.00 in 1834 to $150.00 in 1835, and then rise to $200.00 in 1839. In 1843 the tavern was valued at $400.00 and in 1847 at $600.00 (Toogood 1972, p.18 and 21). Tax records can be quite unreliable, due to inconsistent recording by collectors or under-reporting of property owners, but it seems clear that major improvements were made to his property during this period.

Certainly the construction of a two story stone house would have contributed significantly to the value of the property. In addition, the house was oriented precisely east/west along the bed of the portage railroad that was completed in 1834. The north (front) of the house faces the tracks, also perhaps suggesting that the house was constructed shortly after or at the same time as the railroad. A traveler on the portage in 1836 mentions the summit and having breakfast, but did not mention the Lemon house or any other structure (Tarr, p. 300).

It is possible that an 1834 date is likely since, as Toogood has pointed out, "it seems most likely that Lemon had for many years heard the plans of the railroad engineers who visited the area to survey the land near his tavern," and that he planned to capitalize on the anticipated trade and traffic that the Portage Railroad would bring. Certainly, as the tax records indicate, Samuel Lemon was successful in his plans to capitalize on trade from the railroad.

C. HISTORICAL OVERVIEW - BUILDING EVOLUTION

In 1826 Samuel Lemon purchased 286 acres 61 perches, which included the site of the present Lemon House. He built a two-story log tavern next to the "Northern Turnpike" east of the summit of the Allegheny Mountains. Sometime in the mid-to-late 1830s Samuel Lemon built the substantial stone house known today as the Lemon House.

The Lemon House is a large two story stone structure built by Samuel Lemon in the 1830s, most likely with the intention of capitalizing on a large volume of trade anticipated from the construction of the Portage Railroad. It became a focal point for travelers on the Portage Railroad at Incline 6, affording them rest and relaxation during the journey over the Allegheny mountains. The historic landscape adjacent to the Lemon House is an integral part of the history of the Portage Railroad. The working landscape of the Portage Railroad era (1831-1854) evolved from an isolated and heavily wooded mountainous region into a vital industrial, agricultural, and commercial landscape.

Samuel Lemon and family lived in the Lemon House and operated the tavern serving passengers of the newly built "Allegheny Portage Railroad" as well as the wayfarers of the "Northern Turnpike." There was, in addition to Lemon's tavern, "a large and commodious hotel," located at the summit where the turnpike and railroad crossed. In 1840 Samuel Lemon opened a vein of coal on his property. A store was apparently opened in the Lemon House in 1848. With the railroad declining in business, the store and his coal business apparently supplemented Lemon's income. Samuel Lemon purchased a house in Hollidaysburg in 1847 to which he moved his family.

A new railroad was completed in 1855 which bypassed the steep planes of the old Portage Railroad. However, local freight including product from the Lemon coal mines continued to use the old portage system.

Documentation for the remainder of the nineteenth century after the historic period of the Portage Railroad is even more sketchy. It was rumored that the Lemon House continued to be, or was again, a hotel during the Civil War, 1861-1865.

On February 25, 1867, at the age of 72, Samuel Lemon died. Although Samuel's wife, Jean Moore Lemon, did not die until 1880, two sons, John A. and Samuel H., inherited the stone house and property. A third son Robert, the eldest, had died previously. A daughter, Margaret A., was married and lived in Hollidaysburg. The Lemon House was now used in the summers by John A. Lemon and his family.

In 1878 the Pennsylvania Railroad Company leased land from the heirs of Samuel Lemon and a survey was drawn of the site showing the house, outbuildings (including the Engine House No. 6 which at that time served as a barn), fences, and coal structures.

The site in this same period is best reflected in a ca. 1884 photograph looking toward the Lemon House from the southwest. Several outbuildings are evident south and west of the house and the engine house is also clearly visible. Of particular interest are the clearly delineated fields, meadows, an orchard, and fence lines and road grades. What appears to be the vertical coal shaft is also visible north of the Lemon House. While the photo documents the condition of the site approximately 30 years after the historic period, the essential character is probably very similar.

During the years between 1882 and 1892 Mrs. Katherine Glass and her husband were tenants for a short time, living in the barroom. Their in-laws lived in the southeast parlor. The Glasses hung quilts over an opening from the bar to the central hall to keep down drafts. This opening was supposedly a pass-through from the hall to the barroom. However, fabric investigation associated with this addendum failed to uncover any evidence of such a feature. Mrs. Glass also remembered that the west wing held the kitchen, and wagons delivered goods to the cellar door.

John A. Lemon died in 1895 and the heirs of John A. and Samuel H. disputed the disposition of his estate. Samuel H. acquired sole ownership of the stone house and surrounding land.

Engine House No. 6, which was used as a barn subsequent to the demise of the Portage Railroad, was torn down in 1900. The old stone house had apparently been neglected for many years, but about this same time (1900) Samuel H. Lemon demolished the south wall of the old west wing and built a new larger wing. He redivided the second floor into small hotel rooms, added a new porch along the east gable end, installed new double doors at the main entry, a new fanlight sash in the east gable, and hung gutters and down spouts along the north elevation. It is likely that he and his wife planned this to be one of the hotels in "the handsomest resorts in Blair and Cambria Counties" (Altoona Mirror, August 14, 1900). In the Johnstown Tribune, August 17, 1900 he was reported to have been making major alterations.

The property changed hands rather frequently during the next few years after the death of Samuel H. Lemon in 1903. His wife, Mary E. Lemon sold the property to Joseph A. Gray in 1907, but he immediately sold it to W.J. Sherry the next year. During the period between 1907 and 1912 Mr. and Mrs. David Claussen were tenants in the house, living in the west wing. Their kitchen was in the cellar. Their living room was at the west wing first floor and bedroom was on the second floor (See interview with Mrs. Zella Gailey in Appendix C). In 1912 W. J. Sherry sold the property to Joseph and James Clyde Weston. The Weston's lived year round in the house according to their granddaughter, Mrs. Jessica Walters (See interview with Mrs. Walters in Appendix C). After Mrs. Weston died her husband took in boarders and for their convenience installed the second bathroom on the second floor.

Between 1943 and 1961 James and Zella Gailey leased the house from the Weston's. They also took in boarders during this period. The Lemon House and property were sold to Byron Roberts in 1954, but the Gailey's continued to live there.

In 1961 the Byron Roberts moved into the house and made major alterations. These included adding a garage and new porch along the south side; filling in earth to raise the grade around the south elevation; constructing a new porch at the northeast corner; adding a new front door installed with side lights; cutting a new entry through the north wall with exterior steps leading to a second floor apartment and cutting a new cellar entrance through the west wall. They made changes in the interior partitions and as well as other miscellaneous interior alterations.

In 1966 the property was condemned by the U. S. Government to create Allegheny Portage Railroad National Historic Site. The NPS removed the south and east porches, removed the garage, and reexcavated the old grades to expose the south cellar walls again in the 1970s. They installed park offices on the second floor, opening a new connecting door between the southeast chamber and the north hallway and set up interpretive facilities and visitor services on the first floor. A new cedar shake roof was added as well.

A major effort took place in 1980 as the first floor framing was reinforced, the cellar was rehabilitated by adding new toilets, storage rooms, and a conference room. The Service closed up the west exterior doorway into the cellar; and restored the front entrance doorway, the east gable fanlight, all the window sash and secondary doors, and repointed the exterior walls. A major portion of the west wall was taken down and rebuilt with this effort.

II. HISTORIC ARCHITECTURE EVALUATION

HISTORIC ARCHITECTURE EVALUATION

A. BACKGROUND

The NPS has conducted an extensive program of historical and architectural research relating to the Lemon House. In preparation for the development of plans to interpret the Lemon House, two sections of an Historic Structure Report (HSR) were completed in 1972. The Historical Data Section written by Anna Coxe Toogood reviewed the history of the house and its inhabitants, and made specific recommendations for restoring the site to its Portage Railroad era appearance. Among the recommendations offered were that the then standing porch additions on the east and south sides of the house, which were not original to the structure, be demolished. In addition, the report recommended that the garage and associated embankment on the south side of the structure be removed to restore the south facade to a condition more closely resembling its original appearance (Toogood 1972:40).

The Architectural Data Section of the 1972 HSR, prepared by Norman Souder, also recommended the removal of the south and east porches and the garage, and he concurred with Toogood's recommendation that the area adjacent to the south facade be graded to expose the basement level of the building. Souder concluded that the porches, the garage and the filling of the area to the south of the structure were site features introduced during the mid-twentieth century when Roberts owned the property (Souder:4). The analysis conducted by Souder led him to infer that the only porch contemporaneous with Lemon's occupation of the site was a porch on the south elevation of the structure which had, by the time of his report, "...long since disappeared" (Souder:17). The most visible evidence suggesting the presence of an original south porch rests on the presence of a first floor doorway on the south elevation of the building. The Lemon House is built into steeply sloped terrain; when originally constructed, the first floor was at ground level on the north facade, but on the south facade ground surface corresponds to the basement level of the structure. The report concludes that, since the first floor rear doorway is an original feature, it must have opened onto a south porch which was original to the structure but was later removed (Souder:3,4).

Souder concluded that because no physical or documentary evidence had come to light suggesting the existence of a porch on the east during Lemon's tenure at the site, it could be inferred that none existed. Thus, his argument for the lack of an original east porch is based on negative evidence: "[t]he lack of evidence of an early east porch precluded the existence of a porch at this location" (Souder:17).

In addition to recommending the demolition of the later additions to the Lemon House, the 1972 Architectural Data Section of the HSR

recommended the reconstruction of the original south porch. The report concludes that the actual dimensions of this rebuilt porch would have to be determined by archeological excavations conducted after the then standing porch, garage and fill soils had been removed from the south of the house (Souder:4).

In his report Souder also concluded that the extension of the house to the west was a later addition and was not present during the historic period. In a manuscript completed in 1978, Shelly King reached the same conclusion (King 1978:no page). Subsequent architectural investigation (Batcheler:1982) and archeological investigation (Fiero:1984) proved conclusively that the west masonry extension was, in fact, original to the structure. There was an alteration to the original extension which resulted in the present configuration. This portion of the structure was enlarged by adding approximately six feet to the south in ca. 1900. This enlargement incorporated the space occupied by a small porch which existed at the time of the ca. 1884 photograph (Figure 1).

B. ANALYSIS

B.1. Methodology

The methodology for developing a [more clear] CLEARER understanding of the Lemon House porches was to begin by reviewing the main secondary sources. A second step was to review the issues with those persons associated with the project in the past. The next step was to undertake additional fabric investigation to look for physical evidence of porches. In association with the fabric investigation, examples of similar structures, contemporaneous with the Lemon House were examined for clues of what to look for. The results of the fabric investigation on the exterior of the building were discussed with knowledgeable individuals who in sharing their insight, could provide additional information. The consideration of additional factors such as functional and management needs, the interpretive value of the suggested treatments, the effects of the proposed treatments on the existing and the historic character and of other values associated with the inclusion of the site as a National Historic Landmark were incorporated and resulted in the treatment recommendations for the exterior.

A similar approach was taken for the interior, but the emphasis was on more fabric analysis to add to the information already available through Batcheler's work. The questions were more of a detail nature rather than the larger questions associated with the exterior porches.

B.2. Architectural Exterior - Documentation Review

Figure 2 shows the Lemon House from the southeast between c. 1905 and 1920. This photograph is dated to pre-1920 based on the

assumption that the ancillary structure at the left of the frame is the icehouse, which burned down in 1920, as related by Mrs. Jessica Walters (Appendix C). The tree to the northeast of the house appears to be approximately the same size as the same tree in the 1908 postcard in Batcheler's HSR. The west portion of the visible roof of the main house is distinctively different from the remaining portion, probably reflecting a partial re-roofing. The roofing shingles would probably show a difference between new and old materials for up to about 5 years. If the roof work coincided with the new west wing partial addition, that would mean this photograph probably can be more accurately dated to ca. 1905.

The chimney at the ridge at the end of the main house exists NO LONGER no longer. An indentation of where it used to be is visible at the ridge. The new, small chimney at the intersection of the new addition and the main house seems to have been recently built. There seems to be construction debris below the chimney, either from cutting a new hole in the roof or from tearing out the old chimney at the ridge, or both. One sees the missing edge course of shingles at the ridge, directly above the new, small chimney.

Unidentified elements in this photograph include what appears to be a stain on the south wall of the main building just to the east (right) of the west cellar window. At the base of the southwest corner of the main building, there seems to be a short wall of some type extending south from the southwest corner, and then turning to the east. Because of the picket fence in the foreground, it is not clear how far this material at the ground surface extends. There is a possibility that this is part of a porch structure, since it appears to come out perpendicularly from the wall where archeological excavations have uncovered a foundation wall in this approximate position. The uncompleted fence may reflect on-going construction. The porch on the east side appears to be relatively new and may be painted the same darker color used for the eave cornice and window frames. INCOMPLETE

The east porch is supported by posts which do not appear to be centered beneath the round columns which support the roof. The exception is the south corner post where there are a pair of posts; there are also a pair of similar posts directly to the west, adjacent to the east masonry wall. In addition, there are masonry piers or bases which do not appear to be associated with the support posts. In another ca. 1905 photograph taken from the north east prior to 1908 when it was used as a post card, the non-axial alignment is even more clear (Figure 3). While not visible in Figure 2 because of summer vegetation, three stone walls or piers are located along the north end of the porch. These masonry piers probably relate to what appears as a deck in an earlier photograph which predates the construction of this porch (Figure 4). As Batcheler points out, this latter photograph is probably the last photograph taken prior to the construction of this porch and the

extension of the south wing, which is assumed to have occurred during the same building period after Samuel H. Lemon acquired sole ownership of the property in 1899 and before his death in 1903. In addition to the major change with the addition of the east porch in the ca. 1905 photograph, the picket fence, here made up of what appear to be square pickets with a pyramidal point, was replaced by a fence with wide pickets with a single slope point.

The next photograph of this portion of the house can probably be dated after 1920, when the ice house burned, and definitely prior to 1933, when a bathroom was added on the second floor and a vent pipe penetrated the roof (Figure 5). It was obviously taken after the ca. 1905 photograph as the picket fence has been replaced by a post and roll wire fence, the south basement windows have been replaced by 2-light sashes and the board and batten south basement door has either been replaced of a small single light added. Only the roof of the east porch is visible because of the thick vines which cover the entire porch. The porch does still have a wood shingle roof as does the main house.

The next datable photographs of the house are a series credited to the Altoona Mirror and dated 1948 (Figure 6). These photographs show the house and the east porch to be in rather poor condition. The basement level supports for the ca. 1900 east porch appear to have been altered and the entire area under the porch has been screened with thin vertical boards. There is no longer evidence of the foundation extension south of the south wall (Figure 2). Roll roofing has now replaced the original wood shingles on the porch and what appears to be asphalt shingles cover the roof of the main house.

The significant changes to the south and the east sides of the house are clear in a ca. 1965 photograph (Figure 7). The ca. 1900 porch has been removed and porches have been added at the north east corner and to the south side above a garage which was also added at that time. The additions of these features required a significant grade change along the east and the south sides. The actual sequence of these alterations by the Roberts was that the garage and south porch were constructed and shortly thereafter the ca. 1900 east porch was removed and the smaller porch was added.

There has been no additional work to the exterior walls of the house in this location since the removal of the Roberts' porches and garage, the consolidation and pointing of the late 70's and the rebuilding of the west wall of the west wing in 1981.



Figure 1: Lemon House and site from the southwest, c. 1884. Allegheny Portage Railroad National Historic Site park files.

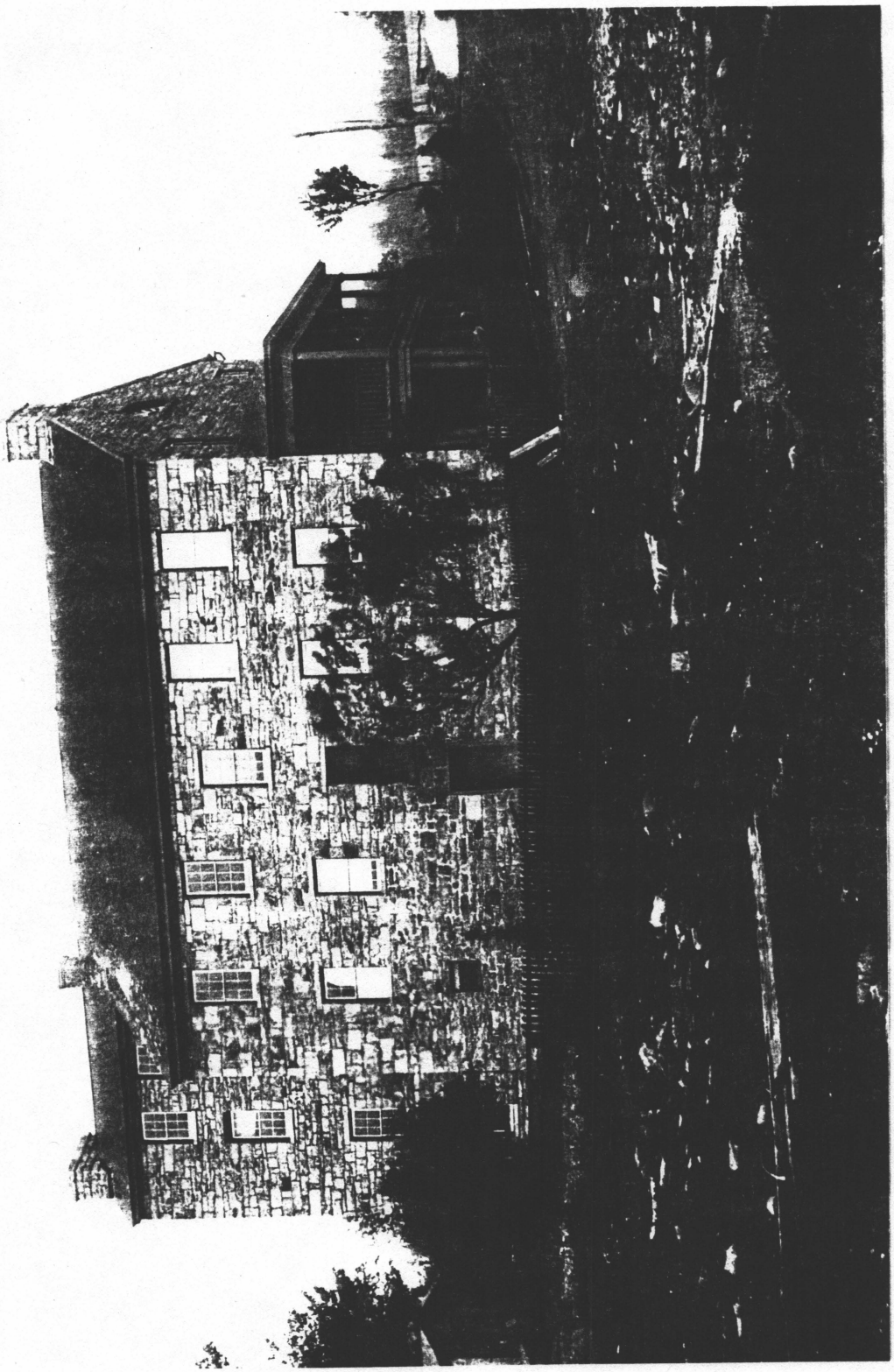


Figure 2: Lemon House from the southeast, c. 1905 showing the evidence of what may be the construction associated with the alteration of the west portion of the structure and the addition of the east porch.

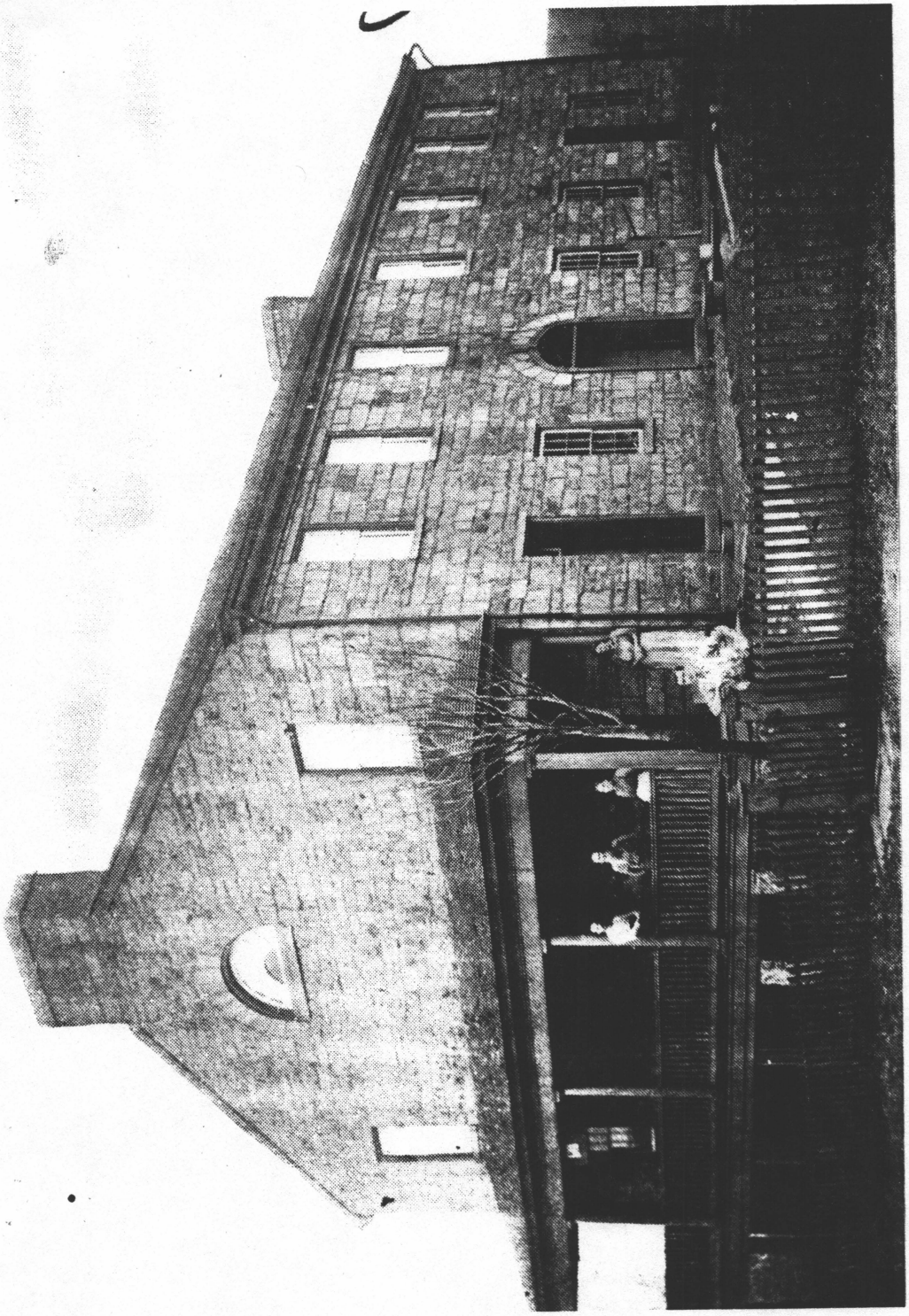


Figure 3: Photograph used on a post card postmarked 1908. The supports for the ca. 1900 east porch are clearly visible. Photograph courtesy of the Postcard Collection MG-213, Cambria County Section, Division of Archives and manuscripts, Pennsylvania Historical and Museum Commission.

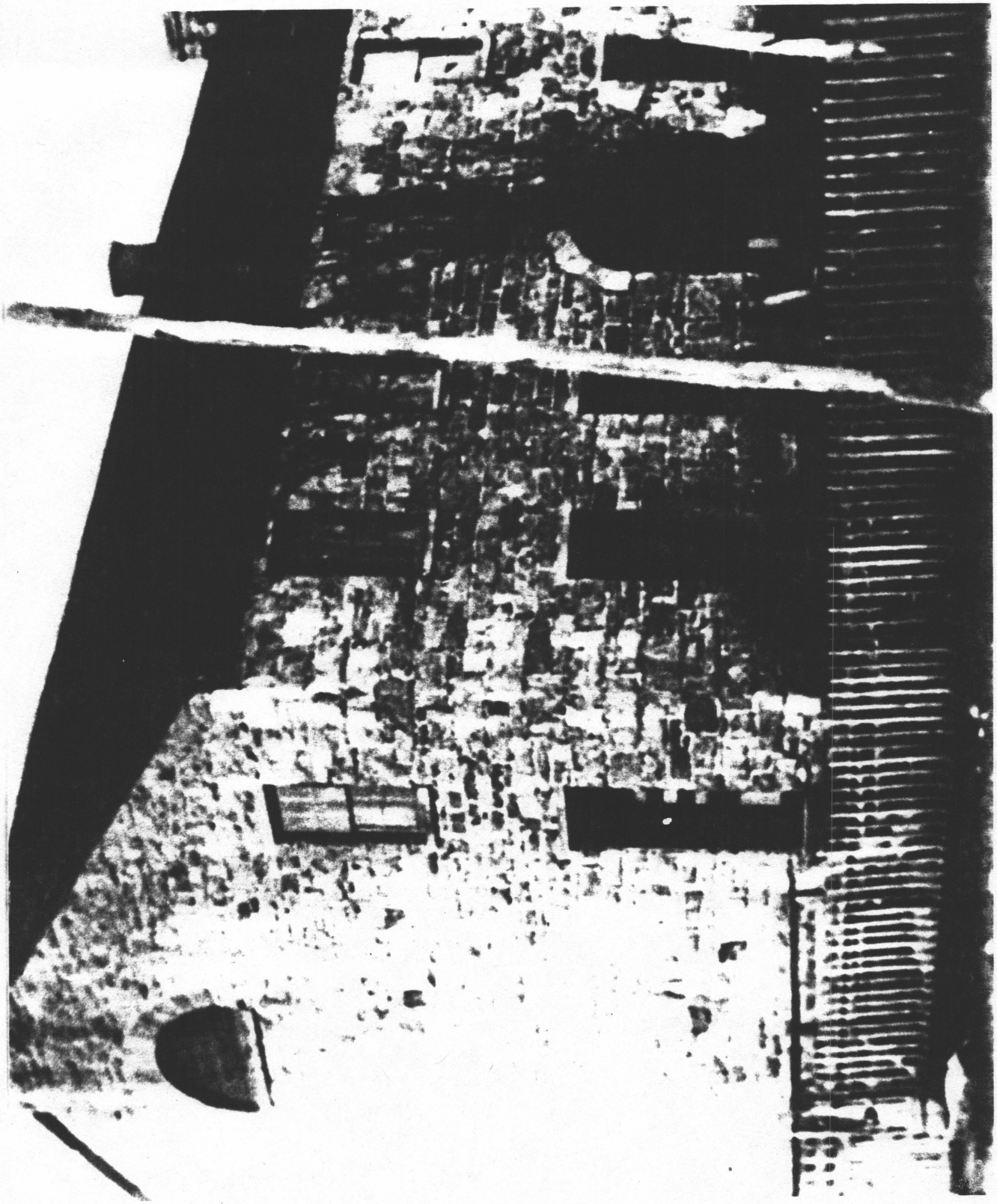


Figure 4: View from the northeast photographed before the ca. 1900 east porch was added. A partial deck can be seen through the picket fence. Photograph in park files; the source is unknown.

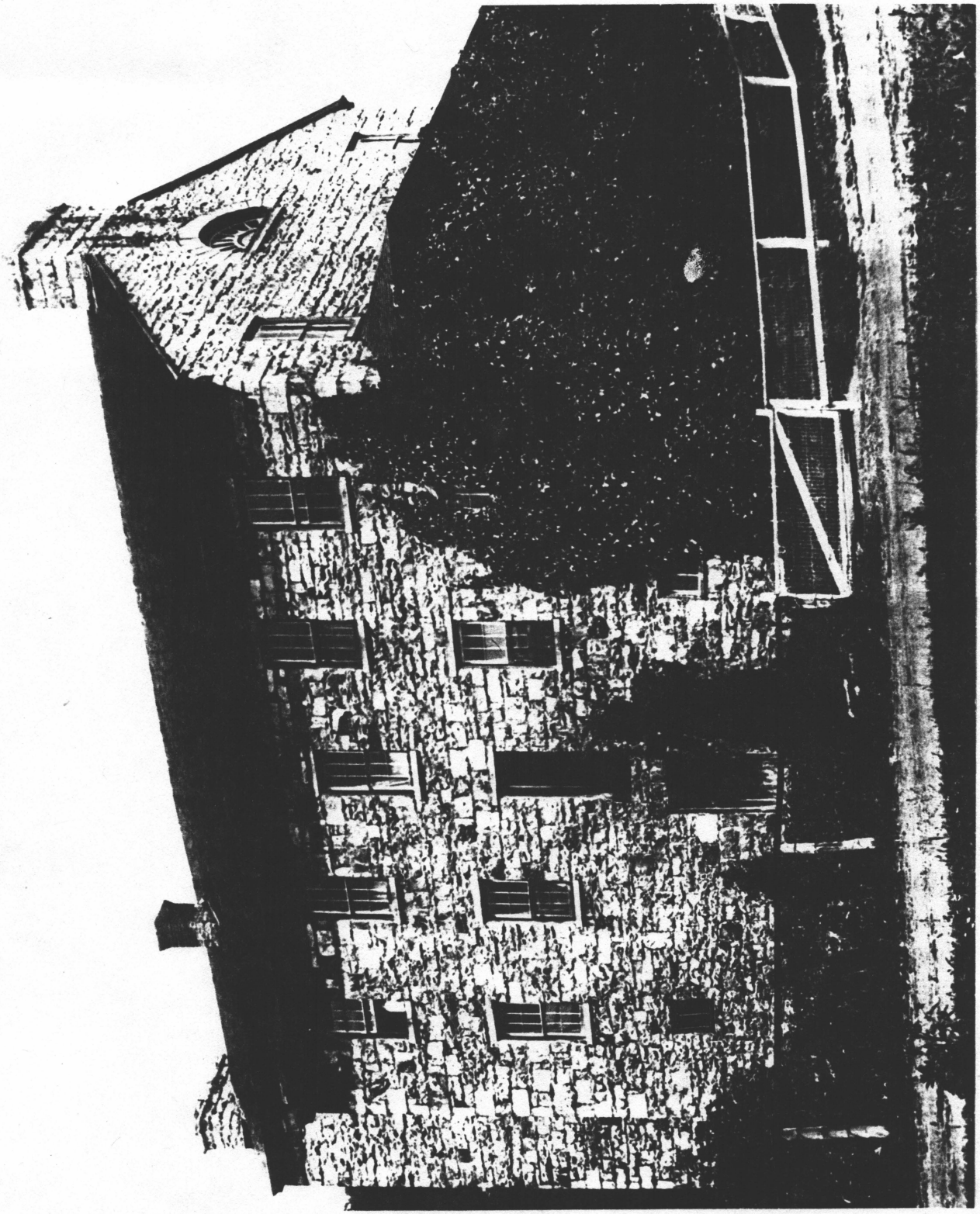


Figure 5: Ca. 1920 view of the Lemon House from the southeast. Because of the thick vegetation, little is visible of the ca. 1900 east porch. The basement windows have been replaced and the basement door either replaced or altered. Photograph on file at the park;the source is unknown.

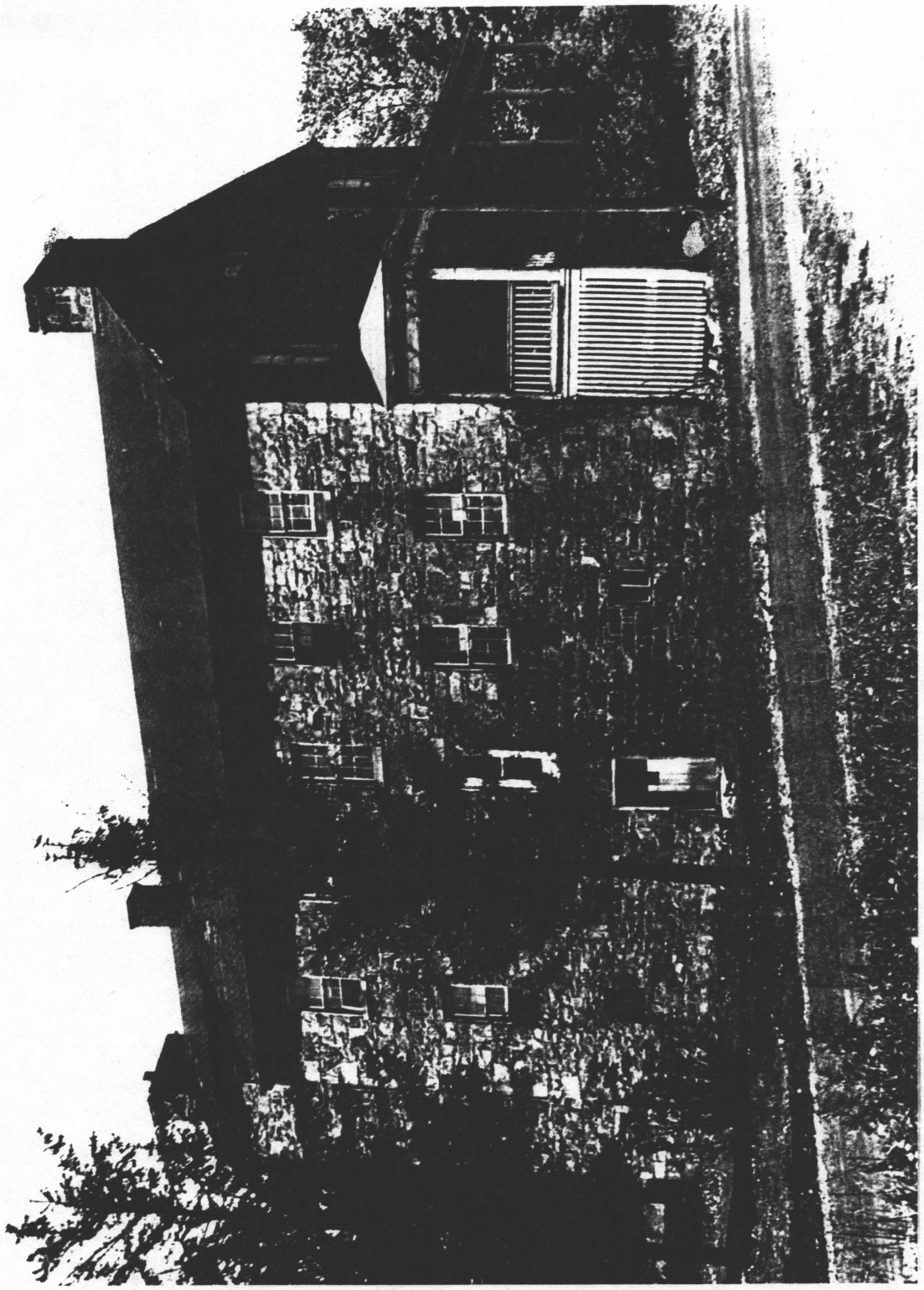


Figure 6: One of a series of photographs taken in 1948 by the Altoona Mirror. There is no longer any evidence of an extension from the south wall, clearly visible in the ca. 1905 photograph from the southeast (Figure 2).

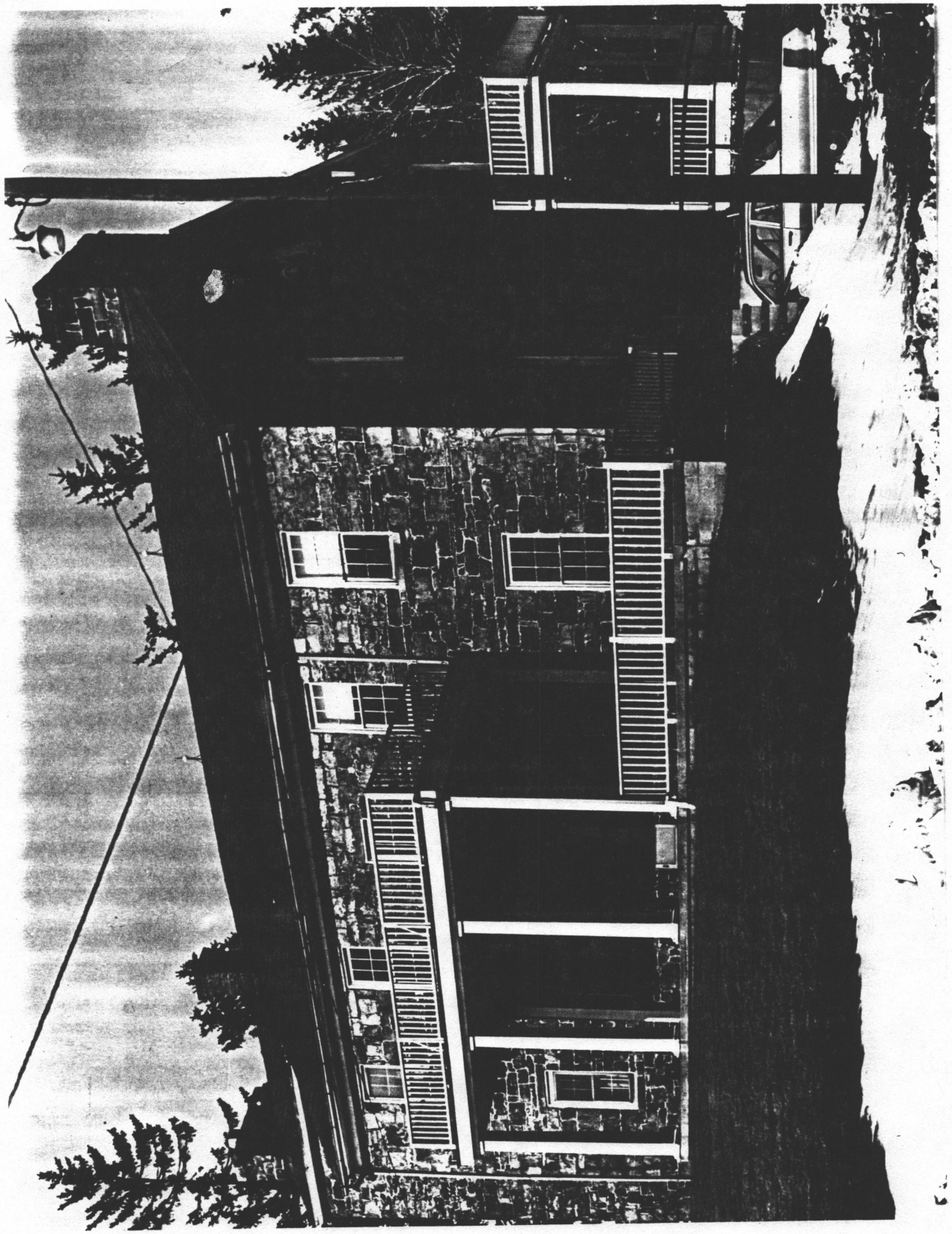


Figure 7: A 1968 view showing the alterations to the south and east sides of the house by the Roberts. Photograph taken by Barndt for the Johnstown Tribune Democrat. Copy in Park files.

B.3. Existing Architectural Evidence

Historical Architects Souder and Batcheler have suggested that reconstructing the porches would be an appropriate treatment. The presence or absence of south and east porches on the Lemon House dramatically affects the overall character of the building. The importance of the character and its significance in making treatment recommendations is discussed in section II.C. This addendum has been the place to examine all of the issues, evidence and impacts of such an action.

There are no known photographs showing porches which might be associated with the historic period of the 1840s. Another porch, for which no physical evidence remains, is the one at the west wing before the wing was enlarged is documented in the 1884 photograph. There is no known historic documentation, either written or graphic, which directly provides additional support for the existence of the porches in the historic period. While the specific extant physical evidence on either the south or east walls for pre-1900 porches is not conclusive, there is evidence of the previous existence of porches at these locations.

The principle architectural evidence is the existence of the door from the first floor hallway to the south which opens one story above grade (Figure 2). It is original to the building and to its position in the hall from the historically significant period. The other architectural evidence is the asymmetrical location of the basement window and door opening, and the size of the windows themselves. Both the asymmetry and the window size may well reflect that the basement and upper portion of the south elevation were not originally intended to be compared, visually. In addition, the porch floor would have provided a clear distinction between the upper and the ground floor levels of the house. There is no similar direct architectural evidence on the east wall. The north door on this east wall would have required some steps or a deck, but not necessarily a full porch with a roof.

The author of the 1982 historic structure report, Penny Batcheler, was consulted at length over a period of time. All subject related issues were discussed at one point or another. That included the existing fabric data, the new fabric investigation associated with this historic structure report addendum, and the evidence from similar structures. During these discussions various scenarios were considered so that the fabric investigation could be directed to what logically might remain of an earlier porch. While considering what methods of porch attachment might have been used, it was decided that ledger boards, metal anchors or joist pockets would have been the most typical. Penny also suggested that information about the roof slope, the level of the porch ceiling, the porch width, the position of the floor and balustrade details should be investigated.

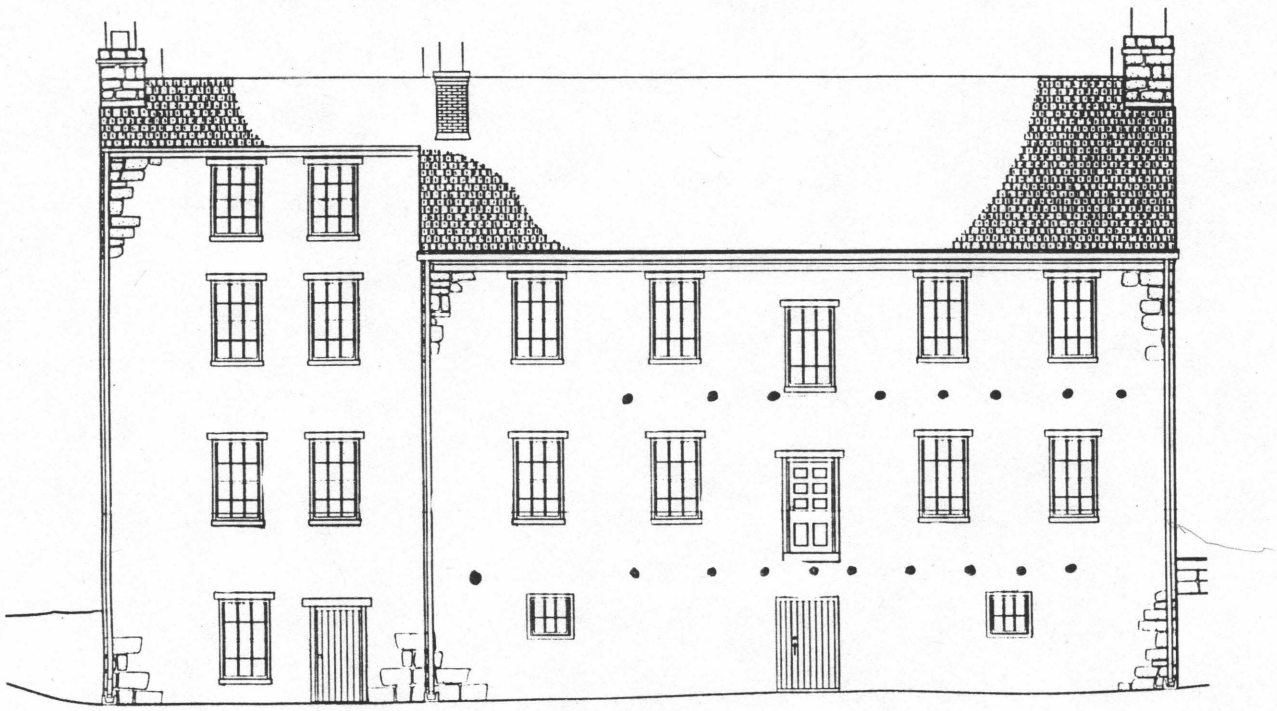
The first step of the on-site investigation was to look at the exterior walls for any hint of possible porch features. Exterior elevation drawings were used to indicate the zones in which porch connections would, based upon contemporary examples, have been located. With this in mind, photographs of the building facades proved to be an excellent recording tool. By standing in front of the east and south facades with photographs, one was able to note the specific stones/features which needed to be investigated. All visible markings and repetitively-oriented stones were noted. All suggestive configurations were reviewed and compared to the series of historic photographs available. Comparing the position of stones and various markings during the earlier time periods was a way to try to date or eliminate from consideration any of the wall features noted. By this procedure, stone discoloration and apparent remnants of 1960's anchor bolts (set in Portland cement mortar with the ends sawn off) were discovered and discounted from being parts of the original construction.

Historical Architect John Ingle later pointed out that what might be earlier beam pockets would not necessarily be associated with the concrete construction which characterized the porch/garage of the Roberts era, and could therefore, be associated with a porch from the historic period. As a result of Mr. Ingle's review of the MARO files, further documentation of the condition from 1975-1976 was found (Magaziner 1976). Some of these references cite the holes as vestiges of a porch pre-dating the concrete 1960's addition. Mr. Henry Magaziner revealed that he possibly remembers more joist pockets at what probably would have been the floor level for a south elevation historic period porch. This memory predates the consolidation and repointing work done on the Lemon House in 1978 - 1982. In addition, a review of Batcheler's field notes identified other possible locations of previous beam pockets on the second floor, or roof level of a south porch; these would not have been affected by the construction or the demolition of the Roberts' garage.

Scaffolding for the south wall investigation was set up, making it possible to examine the wall between the basement level center door and the 2nd story stair window for evidence of past porch configurations. Mortar samples were taken in an area expected to yield some information. The recent repointing at the surface covered a more disintegrated sand based lime mortar underneath. The information obtainable from mortar sampling was descriptive, as opposed to pivotal in elaborating a construction theory. These conclusions were echoed by Peggy Albee, architectural conservator from Building Conservation Branch, Cultural Resources Center, North Atlantic Regional Office. Scaffolding erected at the east end of the south facade made the southeast corner of the building more accessible.

Close examination of the south wall above-ground stone masonry reveals the locations of two rows of possible joist pockets. These were filled as part of the park- and region-directed maintenance work under project 423/80,000. The work was conducted by former park mason Sal Morano and apparently directed by former Regional Historical Architect Henry Magaziner, after recommendations made by structural engineer Nicholas L. Gianopulos in 1976. Size and spacing of the patched holes conform only partially to a regular pattern. Mr. Morano related that he recalled locating wooden wedges in the holes which he related to historic beam pockets.

Figure 9 represents the compilation of information from the notes of Magaziner and Batcheler as well as the results of the current fabric investigation for the presence of vestigages of an earlier porch. The exterior fabric investigation confirmed some previously suggested evidence, but did not add measurably to that previously known.



SOUTH ELEVATION

Figure 8: Elevation of the south wall showing the evidence which might be associated with a missing attached structure. The two horizontal rows of dots are the approximate locations of might have been beam pockets.

B.4. Archeological Evidence

Archeological excavations which were summarized in 1984 by Fiero indicate the presence of a two alignments of stones on the south side of the main building which were dry laid. The report assumes that these configurations are the foundation walls for a porch that would have existed during the 1840's. See Section III of this report for more detailed information on the site archeological investigations and drawing AR 1 for the composit results.

An alignment of stones along the south wall of the Lemon House, called the inner alignment in the 1984 Fiero Archeological report, butts against the wall. The second, or outer alignment, is approximately two feet wide with the south face of the alignment fairly straight and a little over 6' from the south wall of the Lemon House. There are short rows of stones between the two features connecting the west and east ends. Sufficient excavation of the outer alignment shows that this one is continuous.

Two postholes were found, each in the outer alignment of stones. One was located 2' east of the corner of the foundation and 6' from the south wall of the Lemon House. Another was found 9.5' east of the first posthole, 6.25' south of the house. Each was used to support a 4" diameter post, the easternmost one actually holding a wood fragment identified as red pine. Fiero concluded that these posts probably did not relate to actual column placement. However, if one extends the spacing of the two postholes at the southwest corner of the main house block assumed to relate to columns above, to the east on 9'-6" centers, the last column position falls approximately six feet east of the east wall.

An extension to the south foundation to the east was interpreted by Michael Parrington as contiguous. This extension is the most direct evidence of a connecting east and south porch. Fiero drew a completely different conclusion; she believed the portion of the foundation which extended beyond the east wall was related to a feature constructed after the historic period.

Also associated with the possibility of an east porch, Bryan Aivazian concluded from his 1978 field work that the foundations which presently support the existing porch deck at the north east corner were a very early addition which probably occurred immediately after the house was constructed. Parrington concurred with Aivazian's findings, which were primarily based upon the association at the base of the south foundation of coins dated between 1820 and 1837, but thought that the south wall foundation could not be dated before 1855. The subsequent work by Batcheler and Fiero contradicted Parrington's conclusions and Fiero concluded that the south wall foundation was probably of a porch which was constructed soon after the house was built.

Subsequent to the report by Fiero, excavations on the east side of the building in 1984 uncovered another alignment of stones at approximately the same distance from the east wall as the south outer alignment stones are from the south wall. Unfortunately, much of this feature seems to have been disturbed, revealing only a part of what may have been there. One post hole was discovered as well; it was two feet deep and was used to support a 4" diameter post. However, there does not appear to be a direct correlation with the remainder of the alignment of stones or for the ca. 1900 porch.

B.5. Contemporaneous Architectural Examples

The study of examples of buildings contemporaneous with the Lemon House began with Batcheler's field work in the 1982 Historic Structure Report. She suggested that additional field work be undertaken to further define the architectural details for the reconstruction of the porches. However, the additional survey undertaken in association with this addendum was directed more toward (1) the identification of additional examples to be referenced during the subsequent phases of design and (2) the identification of construction details which might assist during the exterior fabric investigation.

Charles Morse Stotz's The Architectural Heritage of Early Western Pennsylvania (1936, 1966), considered to be one of the authoritative works to treat pre-1860 architecture of Pennsylvania was reviewed. Additional research was undertaken at the Carnegie Library of Pittsburgh to research the Western Pennsylvania Architectural Survey (WPAS) and other resources for historical evidence of porches analogous to the one believed to have been in place at the Lemon House. The investigation concentrated on inns, specifically with porches. The following buildings were represented in the Western Pennsylvania Architectural survey.

Anderson Inn, Bedford county; 1767, 1795
Compass Inn, Ligonier Township; 1799
Defibaugh Tavern, Bedford County; ?
Dungan Hotel, Beaver County; 1840
Dennison Tavern, Bedford County; 1818
Hatfield Tavern. Fayette County; 1817
McCullough Wagon Stand, Fayette County; ?
Monongahela Tavern, Washington County; 1835
Moorhead House "Temperance House", Erie County; 1837
Moxley Tavern, Fayette County; 1818
Riffles Tavern, Cresson, Cambria County; ?
Searight Tavern, Fayette County; 1819
Smith House, Bedford County; 1812
White Swan Tavern, Fayette County; 1805 - 1818
Ling Tavern, Claysburg, Blair County; 1838
The Jolly Post, Frankford; ?

Additional field work of a less specific nature was undertaken while driving from Harpers Ferry WV to Bedford, Pennsylvania. Some historic houses and former taverns were seen by taking secondary roads, where development had not made so many changes in the architecture. William Defibaugh, Sr., an architect in Bedford interested in historic buildings, assisted in a tour of the area around Bedford, PA to look at buildings and porches contemporary to the Lemon House. These structures were photographed and measurements were taken of selected elements. The search for historic period buildings in the landscape continued with each drive through the area, including the back roads from Bedford to Altoona. Several county historical societies furnished information about where the WPAS listed buildings were located. They also determined which ones were extant. The following list of buildings represents the pertinent structures seen on these visits.

Brice Tavern 301 W. Pitt St. Bedford, PA
Bedford House 230 W. Pitt St. Bedford, PA
Union Hotel, Bedford, PA
Hurry Sundown Tavern, Bedford, PA
National House (formerly the Anderson House) front of house 1790, Golden Eagle Tavern built in back : 1810, Return Porch at back (1830) Bedford, PA
Washibaugh House 1835, Bedford, PA
Casper Defibaugh House 1784, Bedford, PA
Blacksmith Shop, then a Gunsmith shop - on East 30 1800
The Hartly House 1780 - Mt. Dallas Tavern
Funcks Tavern
Chalybeate Springs Hotel main portion - 1790, when facing front (left side 1810), back section 1856.
House in Schellsburg, north side of road
Millstone Inn in Schellsburg on Highway 30

Another visit to three historic houses/inns with Nancy Shedd, Director of the Huntingdon County Historical Society added to the understanding of the architecture of these contemporaneous structures. These buildings were also useful in illustrating the variety of interior wood molding profiles, surface finishes and details that could co-exist in one historically cohesive structure.

Inns and houses contemporary to the Lemon House include contiguous porches when doors are present at each facade. Stylisticlly, the typical levels of detail include the high style with decorated colums and turned balusters, the farm house and tavern level with chamfered square columns, turned, square or slat ballusters, and the rear porch level of detail. The Farm house or rear porch level had chamfered columns and horizontal board rails are used. The majority of structures compared for this study consist of the farm house or tavern style with the above-mentioned characteristics. The vertical space between the first floor window lintels and the sill of the central stairway window on the Lemon House would allow

for a shallow sloped roof relative to the position of the excavated foundations, also typical of comparable porches. On two sided porches, the roof appears in a shed style, hipped at the intersection of the two roof slopes. Porch widths appear to fall between 6 to 10 feet. Ceilings of several builidngs visited enclose, and thus hide the roof structure with wood boards. Most of these examples used either tongue and groove or beaded boards. It is consistent with historic examples to conclude that this level of detail could be historically correct at the Lemon House.

B.6. Architectural Exterior Conclusions

The architectural investigation undertaken in association with this addendum to the HSR has concentrated on the south and east porches. After the resolution of questions about the provenance of the west wing and the later addition to the west wing were resolved by Penny Batcheler and confirmed by the additional archeological investigations by Kathleen Fiero, questions regarding the porches were the only significant ones which remained. While this addendum does not result in the "smoking gun", important new information was available and was incorporated in reaching conclusions.

The important information available to the authors of this report which was not available to Batcheler during the preparation of her report was (1) the archeological investigation of the east porch, (2) a description of the south beam pockets during the ca. 1980, and (3) a ca. 1905 photograph of the Lemon House (Figure 2).

The 1984 archeological investigation identified a masonry foundation parallel to the east wall and approximately the same distance to the east, six feet, as the south foundation was from the south wall. The area had been disturbed and it was not possible to date the construction of the foundation. However, by comparing construction details available in photographs in several ca. 1900 and ca. 1905 photographs it is clear that the foundations are not associated with the ca. 1900 porch. Figure 9 is a plan of the east end of the Lemon House which compares the dimensions and column spacing of the ca. 1900 porch with the archeological map.

The dimensions and the column spacing in Figure 9 were located by a geometric analysis of the available photographs. The spacing of the ground level porch floor supports definitely have some relationship to the below grade foundation remains. The second and third supports from the south are placed in close proximity to a foundation feature.

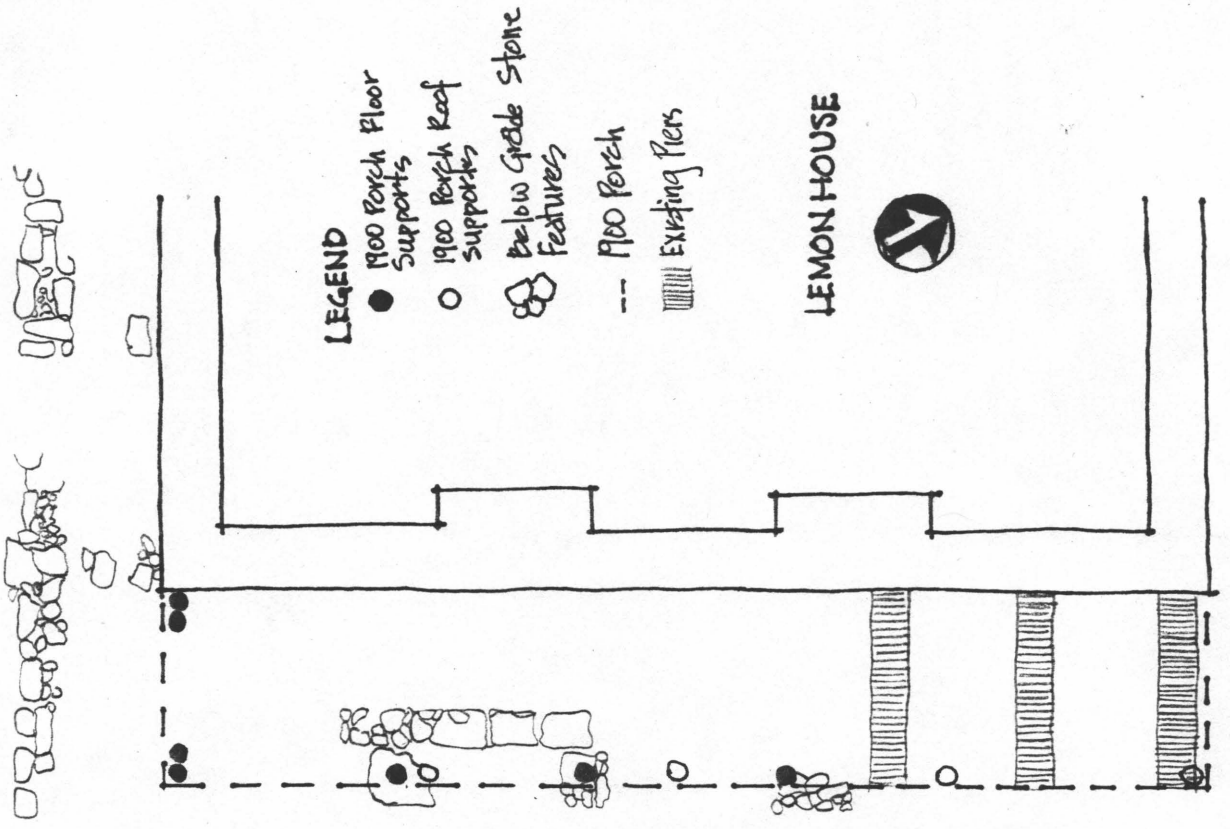


Figure 9: The 1900 east porch floor and roof supports have been located on the 1984 archeological map. Note the relationship between the supports at both levels and to archeological features.

In addition, the historic photograph represented here as Figure 2 shows what appear to be foundations or footing or some other portion of a ground support system. These features do not appear to be consistent with the construction of the existing porch. The porch supports, which appear as round columns, have either been located on top of an existing feature, or located next to an existing feature. In either case, there is every indication that there was a partial existing foundation at the time of the construction of this porch.

The relationship of the existing masonry supports for the existing deck and the archeological foundations is not obvious. The existing supports are located on six-foot centers; that spacing is not reflected in the ca. 1900 porch supports. However, a repeat of that six-foot rhythm would fall approximately at the south end of the

The relationship of the existing masonry supports for the existing deck and the archeological foundations is not obvious. The existing supports are located on six-foot centers; that spacing is not reflected in the ca. 1900 porch supports. However, a repeat of that six-foot rhythm would fall approximately at the south end of the east wall. One of the archeological features is located six feet south of the existing south support and extends approximately the same distance east of the east wall as do the supports. There are other relationships which could also be described, but none seem to be particularly enlightening.

Similar rhythm and spacing scenarios can also be described for the south porch, and several particular geometric relationships can be developed which will appear reasonable. However, further explanation would be just imposing order where there is simply not enough information available to know whether or not that particular order existed. Further study of these issues are appropriate for the next phases of design where the actual architectural details will have to be developed.

The evidence available from fabric and archeological research, from the study of contemporary examples and from the study of the available photographic images is that porches existed on the south and east sides of the Lemon House and had disappeared quite early. The remaining foundations predate the only structures on the east and the south sides for which photographic evidence exists. Also, the porch on the south side of the main portion of the house which was related to the foundations had apparently disappeared by ca. 1884. Not only were porches very typical of this type of structure at this time, but we know that the Lemon House had one rear porch in ca. 1884, the location of which was much less predictable than the ones on the east and the south. It is logical to conclude that the east and the south porches existed during the historic period as well.

Figure 10 includes two line drawing perspectives of the Lemon House from the southeast. The upper one shows the house with dotted lines representing an outline of a south porch and an east porch. The lower one shows the house with a connecting porch which wraps around the southeast corner. These seem to be the two most reasonable schematic appearance of the Lemon House porches during the historic period. Even these very basic schematic porches are based to some degree on conjecture. The overall characteristics of the porches such as the dimensions, the column spacing, the width of the floors and the slope of the roofs, as well as the details are not known. The recommended treatment is to contruct a contiguous porch which wraps around the southeat corner of the house; the specific treatment recommendation is in section IV of this addendum.

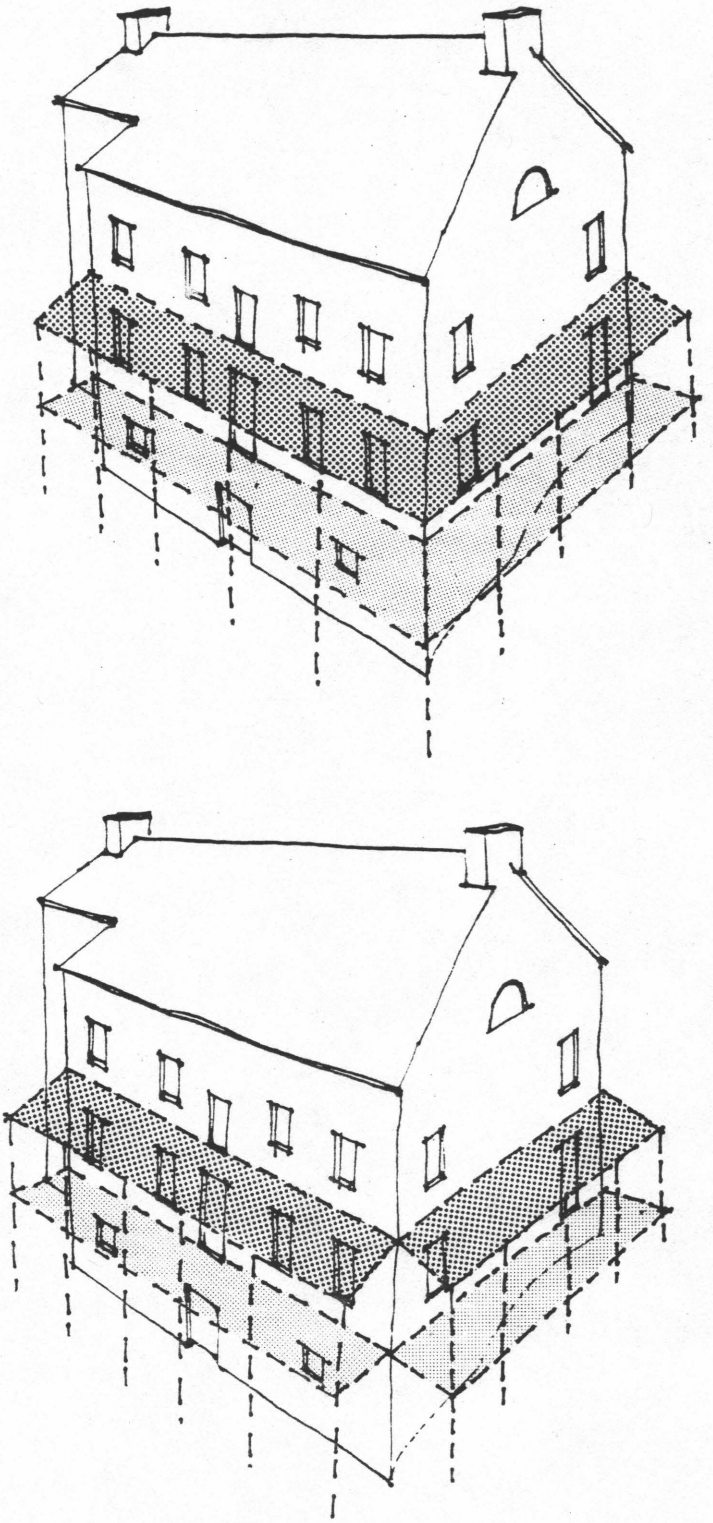


Figure 10: Bird's eye sketch of the Lemon House from the southeast. The two most logical porch configurations are shown, one with separate porches and one with connecting porches.

B.7. Architectural Interior

Overview

Starting from Batcheler's HSR as a point of departure, questions on the building interior remaining to be answered relate mainly to the use and evolution of the bar room and finishes throughout the first floor area to be restored. On-site destructive investigation was conducted to uncover historic fabric and discover the sequence of construction. Finish analysis was performed to determine the type and chronology of historic architectural finishes used in the building. The Restoration Paint Finishes for the Lemon House Interior, included in the paint analysis section which follows, describes the complete process used and findings obtained.

Basement

From the historic period to the present, significant changes have been made to the basement. Various occupants in the past have used portions of the basement for storage as well as cooking. Since NPS ownership, not only have the wood support posts been replaced with a structural steel system, but the entire interior has been divided into distinct spaces. Interior finishes have changed from stone walls and a dirt floor to those listed in the Inventory Conditions Assessment Program (ICAP) in the appendix. Also see 1993 existing condition basement floor plans.

First Floor

Wiliamsport Preservation Center did the physical labor to remove carpeting, padding, nailing strips and staples in all of the first floor rooms except the west wing to get down to the significant period fabric. They also removed the c. 1976 projection room enclosure in the barroom (room 101). Park maintenance staff removed all associated conduit and wiring. Significant changes to the interior fabric of the barroom (room 101) occurred before NPS ownership. Investigations uncovered three major layers of wood flooring including the original.

Barroom, Room 101

On at least two separate occasions, fire damaged the barroom. The first episode occurred when machine cut nails were still in use. They were used to fasten the subsequent floor. The second instance occurred after large-headed wire nails were popular, as these were used to fasten the second floor in the same location.

Approximately twelve square feet of plaster was systematically removed from the west wall in order to (1) confirm the provenance of the door leading into the hall, (2) identify details such as

chair rails and peg boards known to exist in other areas of the building, and (3) look for evidence of a pass through which may have existed between the bar room and the hall.

A great deal of the historic fabric remains in the barroom. The original peg board is still in place, and although the chair rail has been removed, there is clear evidence of its existence. There is also enough remaining painted surfaces to recommend an accurate historic painting scheme. The painted surfaces portion of this report presents the color schemes for all the rooms which are proposed for restoration. That material follows in section II.B.8.

According to tradition, a "pass-through", located between the barroom and the hall, existed during the historic period. This feature would certainly have been an important character defining feature of this part of the interior. Extensive investigation at the west wall, the wall separating Room 101 from the hall, Room 100, did not reveal any physical evidence for such a feature. This wall had been altered during the ca. 1980 renovation and earlier, probably after one of the two fires. However, there remained significant historic fabric to enable a thorough analysis to be made.

The provenance of the two doors leading into the barroom from the parlor, room 102, and the hall, room 100 have been confirmed. The door from the parlor is not original, and was probably added during this century. There was no evidence of any other door in this same wall. The door from the barroom to the hall is in its original location.

Wallpaper was inplace on the historic period plaster, under the metal lath on several areas of the west wall; there were approximately seven that can be identified, but the earliest surface was painted initially. Behind the sawn lath is hand split lath on the other side, or hall side of the wall, with original plaster. In the wall cavity is a very dark, sooty material on the back side of the horsehair hand split lath wall on the other side. Apparently, the soot resulted from the fire and the sawn lath was added after the fire. Perhaps, because of the fire, the walls were damaged and then replaced with a sawn lath; soot does not occur on the back side of the sawn lath.

A large number of holes were found in the original pine flooring, particularly in the north third of the room. There seemed to be a pattern as some of the approximately 1-inch diameter holes were lined along a north-south axis in one case and an east-west axis in another. It was originally thought that the may have been a way that a large peice of furniture, such as a bar would have been attached. With the location of the ghost of the bar on the floor, further investigation of the relavence of these holes was not continued. The significance of them is simply not known.

The actual ghost of the bar was discovered after a thorough cleaning of the original floor. It is shown on drawing sheets A2 and A10. Sections of the ceiling plaster were removed above the ghost on the floor, but there was no evidence on the original ceiling plaster. The continuation of the ghost of the bar to the south wall terminated at the present door opening into the parlor. Consequently, any evidence of its height which may have been on that wall no longer exists. The location on the west wall where the bar may have terminated has no remaining original plaster or lath, consequently there is no indication of the bar there, either.

Parlor, Room 102

The closet in the northeast corner is original to the room. The north closet wall was never plastered. In the closet, several layers of wall paper exist; they appear to all be relatively late. A beaded rail, rounded on both edges, exists on the south side of the closet. On the north closet wall the chair rail was sawn off. The chair rail also extended into the closet in Room 101, similarly. A large diameter hole was cut through the floor and the ceiling for a duct or heating vent at one time. Under the plywood, the hole was cut into the floor.

The outline of a painted floor is delineated in Drawing A2. The center portion of the floor is painted dark red-brown and appears to be the second painted surface on this floor. The surrounding area is yellow ocher painted over the same red-brown. Apparently, the floor was painted yellow ocher when a partial floor covering was positioned in the center of the room. The entire area of the center portion of the floor is covered with small, sharp indentions. These same indentions exist on some of the other floor in this room, but they are not as distinct because they were painted over and the yellow ocher filled much of the indentions. These indentions are similar to that which might be cause by boots or shoes with small spikes. They were also found in the hall and extended into the parlor in what appears to be a pattern of foot traffic.

Dining Room, Room 103 and 104

Little new information resulted from the additional fabric investigation in this room with the exception of the paint analysis and recommendations. The partial partition between 103 and 104, floor coverings, and other room partitions which existed during the time of Batcheler's investigation subsequently removed. The partial partition is the area which historically contained the folding doors, separating the two rooms. Batcheler assumed that the four folding doors in the attic made up the complete historic set. However, a closer investigation of the floor in the area of the partition has raised questions of whether there were four or

perhaps six, historically. This question will have to be answered during the next stages of design.

The existing door from Room 103 to the hall was relocated approximately 4 inches to the south during the renovations in the 1970s. There was also a door between Room 104 to the hall; the exact location of this door was located and and appears on the treatment drawing for the first floor.

The patch in the floor along the noth wall was also investigated. Batcheler was certainly aware of its presence, but did not know its significance. Frank Connicker lived here in the 1940s and said that the patch was not there at the time. The nails are all wire indicating that it was closed off after the historic period. The question remains as to whether it might have been open during the historic peirod. It would be an important room feature and requires further evaluation, although it is not anticipated that there is need for more than a brief review of the physical conditions.

The door from Room 104 to the west goes into what historically was the kitchen. This door is in the historic location.

B.8. Painted Surfaces

Introduction

The purpose of this paint analysis is to provide recommendations for the restoration of the painted finishes in Rooms 100, 101, 102, 103, 104, 200, and 202 and to provide a general interpretation of the early painted history of the interior of the building.

An incomplete paint analysis of the interior and exterior finishes of the Lemon House was carried out in 1981 by Penelope Bachelor for the architectural data section of the 1982 Historic Structure Report (HSR). Some 253 paint samples were taken from the exterior, first floor, and second floor. The samples were taken primarily from original trim and plaster. Microscopic examination of the layering sequence was made for most of the samples. No attempt was made to determine the exact colors for restoration. A short, general synopsis of the findings of the paint study was written and included in the HSR. The samples taken in 1981 are today largely unusable due to deterioration, and much of the documentation of the microscopic examination of the samples is missing; 41 of those samples were actually analyzed.

In order to provide recommendations for the restoration of interior finishes it was therefore necessary to carefully review Batcheler's notes and findings, determine what additional samples were necessary to flesh out the picture, and cross-check new sample information against samples examined in earlier reports. Peggy

Albee visited the site on April 22-23, 1993 and took 93 samples from the rooms of the building that are scheduled for restoration; Rooms 100, 101, 102, 103, 104, 200, and 202. She also took several samples from the first floor of the West Wing. An additional 8 paint samples from plaster walls and ceilings were taken by historical architect Bonnie Mueller and forwarded for analysis.

A total of 101 samples were mounted and analyzed for this report. Samples were assigned identification numbers beginning where numbering of 1981 samples left off. The samples analyzed for this report are ALPO P254 - P355. A complete list of the samples and their locations is included at the end of the report.

Samples were mounted in petri dishes in microcrystalline wax, labelled, and examined under a Bausch & Lomb stereozoom microscope with fiber-optic illumination. The layering sequences (stratigraphies) were recorded and re-examined. Chemical testing was carried out as described below and reactions noted.

Chemical Testing

Most paint samples were tested for lead content by an application of sodium sulfide. Lead reacts to sodium sulfide by darkening to brown or black. The reaction of lead-based paints to sodium sulfide is immediate and the area of the sample tested is usually unsuitable for further use after testing. Therefore, careful observation must be made during and immediately after the application.

Suspected lime-based paints were tested with dilute hydrochloric acid. Lime produces a vigorous bubbling reaction when subjected to a drop of HCL. When testing on plaster samples it is important to try to isolate the paint from the plaster; plaster will react just as vigorously to HCL. Occasionally it is impossible to distinguish whether it is the paint or the plaster that is reacting. In this report the paint reaction was successfully isolated. Conclusions concerning lime-based paints were made, therefore, from observing only the express reaction of the paint to the HCL.

Suspected casein (milk paints) were tested with strong ammonia for solubility. Casein paints are insoluble in water and alcohol, but soluble in ammonia.

The chemical testing employed in this analysis was limited to the identification of the presence of certain paint ingredients; it could not determine the exact recipe of the mix. It is valuable for broad determinations of paint types

but should not be expected to provide detailed identification of binders and pigments.

Ultraviolet Exposure

Extended exposure to long wave ultraviolet (UV) light will frequently remove yellowing tones caused by aging oils from light-colored pigments. Several samples were color matched to Munsell hues and exposed under UV light for 36 hours. After exposure, samples were re-examined under the microscope and re-matched to Munsell color chips. Changes in hue and value were noted. The UV test was particularly helpful in determining the true appearance of the tan cream paint that was used throughout much of the house as an initial finish. The recommended tan cream found in this report was matched after UV exposure.

A comparative study of the stratigraphies was carried out to determine similarities, glaring differences, and parallel finish schemes. Colors were frequently matched to the Munsell Color Notation System to facilitate comparisons from room to room. A general history of the finishes in each room is included below in the room-by-room descriptions.

The earliest paint finish (next to the substrate) was identified and microscopically color-matched to the Munsell Color Notation System to determine the hue and value for restoration purposes. The Munsell color was then compared and matched to the 1987 Benjamin Moore "Moor-O-Matic Color System" to provide a commercial brand of the paint color for use in the restoration. Color chips of matched Benjamin Moore paints are affixed to the recommendation pages of this report. No attempt has been made to identify specific pigments as the techniques and research required for pigment identification are outside the scope of this project.

The conservator tried at all times to take note of conditions such as fracturing and dirt layers. Both fracturing and dirt can supply evidence of finish layers and suggest if finishes were in quick succession, or in place over a length of time. Where possible, prime and top coats were identified. Representative paint samples were photographed using the microscope with a Nikon photographic attachment. Photographs are included in this report.

Please take note that colors as described in this report may reflect only the faded hue visible today. Greens and blues particularly, have a tendency to fade to gray. Occasionally, strong colored pigments (such as deep blue, emerald green, and orange) survive in a sample and are visible under the microscope. Visible pigments are noted.

General Findings:

In trying to understand the early history of the painted finishes in the house I first looked to the brief paint study by Penelope Bachelor. The surviving stratigraphies and field sketches carried out for the study were extremely helpful in providing a base to work from. However, the 1982 study is very general and in several cases the conclusions determined by the current examination of samples differ from conclusions found in the 1982 study. For example, the 1982 conclusions are quite sweeping. Batcheler wrote,

> In the 1831 period the trim of the whole house apparently was painted a monochrome of a grayish yellow. Thereafter some of the baseboards were painted a contrasting blue-green layer and the mantels black. At the second floor the grayish yellow was used until 1900 when the rooms were rearranged (Batcheler 1982:151).

This quote is the sum total of her written conclusions concerning interior finishes with the exception of a few remarks regarding plaster ceilings in Rooms 102 and 103 and the walls of Room 103.

Although tan cream [grayish yellow] does dominate the first finish in most of the rooms, the overall color scheme is slightly more complicated. Also in contrast to the above, during the 1993 examination a blue-green layer was not always found following upon the tan cream on all baseboards, and neither was black paint detected on the mantels.

Generally, there are 10 to 12 finish layers on most of the trim (baseboards, chair rails, door and window trim) and the doors of the house. Fewer colors have survived on original plaster. Patterns within the layer sequences are evident. Some finishes repeat from room to room at the same layer suggesting that they were applied at the same time. An attempt has been made below to line-up the finishes of trim, baseboards, doors, and walls in each room to provide an approximate finish history of the room.

However, it is important to note that placing the colors found in the samples within the history of the building is nearly impossible. Currently, no documentation for work done to the interior of the building has been located with the exception of several twentieth-century references. Until conclusive documentation comes to light that pins a certain finish to the building chronology, any assignation of dates must remain speculative.

After examining and comparing stratigraphies, and considering the little architectural history available, several finishes were tentatively dated. The first dated finish is the initial finish in each room assigned a date of ca. 1834-1837. Secondly, there is

some speculation that a finish associated with the ca. 1900 renovations can be identified. Following this, the next possible date for a specific finish is ca. 1943 - 1961, being the first finish after the installation of new plaster walls laid on expanded metal lath. The use of expanded metal lath, a mesh of diamond-shape wire, began to be common during the 1920s and 1930s. It was used through the 1980s and was especially valued for its "fireproof" qualities. A final possible date for a specific finish is ca. 1961 during the extensive changes made by Byron Roberts. These dates are assigned and highlighted in the stratigraphies for each room that follow.

Nothing is known of work to the interior of the house during the nineteenth century after construction. It is documented that the tavern was run by the Lemon family just until 1847 when they moved to a town house in Holidaysburg. Following the family's move to Holidaysburg, the house continued to function for several years as a tavern and store (until 1852). The house was rented out for much of the second half of the nineteenth century and used by the Lemon family as a summer retreat (Batcheler 1982:9-10).

The house reportedly suffered much neglect and in 1899 Samuel H. Lemon (son of Samuel Lemon Sr.) acquired sole ownership of the stone house and surrounding land. In 1900, Samuel H. Lemon embarked on a huge renovation including the enlargement of the west wing, the division of the second floor into small hotel rooms, and the construction of a new porch along the east gable end (Ibid.,10-11).

These 1900 renovations may be associated with a particular finish. The 1982 Study identified a "light grayish olive" on the second floor as the first finish following the 1900 work. This was accomplished by sampling a patch of door trim that was moved in 1900 to form a new door way and then protected by the installation of a transom above the door. Bachelor compared samples from the protected portion of the trim (revealing tan cream paint only), and the exposed part of the trim (revealing tan cream followed by grayish olive). This "grayish olive" may be the "light gray green" identified as the third or fourth finish in this report. A corresponding color was not evident in the appropriate sequence on the first floor. Therefore, a specific finish from 1900 alterations can not be identified on the first floor.

At some point in the first half of the twentieth century, new plaster walls were installed in Rooms 101 and 102. The plaster was laid on expanded metal lath. Expanded metal lath was valued for its fire-stopping characteristics and used in buildings beginning in ca. 1930. Its use continued into the 1980s and is still used today where ever drywall is not installed in place of plaster. The metal lath at the Lemon House replaced the original hand-riven, hand-split wood lath.

The use of lath as a dating tool in buildings is appropriate because different types of lath developed in a broad but recognizable chronology. The five major categories of lath are as follows:

1) individual boards hand-riven on all four sides - used from the seventeenth century through the mid-eighteenth century;

2) thin hand-riven wood slabs partially split apart accordian-style - used from ca. 1725 - 1825;

3) thin boards sawn on two sides, split on the ends and partially pulled apart accordian-style or split into individual laths - used from the late-eighteenth century until ca. 1825;

4) individual boards sawn on all four sides of constant thickness and width - used ca. 1830 to 1920;

5) expanded metal lath - used ca. 1930 - present (Batcheler 1982: 151).

All of the above dates are broad generalizations that varied according to local building traditions and available sawmill technology. Variations and exceptions to the broad patterns are frequently encountered. For example, the original lath at the Lemon House does not fit within the general chronology as it consists almost exclusively of individual straps hand-riven on all four sides. One would not expect such lath in a house constructed as late as 1834-1837. However, we know the the building was not constructed prior to 1834 and the lath is affixed with cut nails suggesting a date no earlier than ca. 1810. Clearly, lath alone can not date a building, but the general lath chronology combined with an examination of hardware and other features can provide a fair estimate of the age of the structure.

The first finish used in the Room 101 after the new expanded metal lath plaster was installed was a pink brown. This is made evident in Room 101 on the west wall. The new metal lath covered the wooden peg board inset into the original plaster. The last paint used on the pegboard was a yellow brown. In other trim in the room, yellow brown is consistently followed by a pink brown finish. No pink brown is present on the pegboard. Therefore, if we could date the installation of the plaster, we could assign a general date to the pink brown finish that followed. This is particularly important because the same pink brown finish appears consistently as the sixth or seventh layer in Rooms 100, 102, 103/104, 200, and 202.

As explained above, the type of lath used (expanded metal lath) suggests a ca. 1930-1980 date. It may be possible to narrow the

date further. A section of the baseboard on the north wall between the window and door in Room 101 exhibits early and late finishes but is missing several middling finishes, including the pink brown flagged above. Why? Did something conceal this portion of the baseboard at some time. Yes. According to conjectural plans drawn from oral history, a radiator covered this section of the baseboard from 1943 to 1961. Prior to 1943 there was no radiator, there was a coal stove in the fireplace (Batcheler 1982:67,71). Therefore, the pink brown paint was applied to the rest of the room while the radiator stood in front of the baseboard at this location; ca. 1943 - 1961.

A more specifically dated finish was established by documentation and paint evidence; the later tan cream that appears in all the rooms to be restored except Room 202. It appears consistently as the eighth or ninth finish layer in most samples. This tan cream was applied in ca. 1961. Evidence was specifically taken from the door architrave and baseboard in the hall (Room 100) as one enters the southwest room (Room 104). This doorway was moved approximately one foot to the south in 1961 by Byron Roberts to accommodate a built-in bookcase in the partition wall between Rooms 103 and 104. Paint on the new door architrave (a copy of original Type A trim) reveals that the first paint finish was tan cream. Thus, after the new door was installed it was painted tan cream. The tan cream finish therefore dates to 1961. In addition, a piece of baseboard was reused just north of the new opening and affixed to the new wall patch at former opening location. The finishes stratigraphy of this piece of baseboard matches that of Room 103/104 until the ninth layer where tan cream is introduced.

Following the ca. 1961 tan cream is a very distinctive sequence of finishes that reoccurs throughout the house as follows; white, antique gold, white, pale yellow, white. The ca. 1961 tan cream heralds this sequence of modern paint finishes.

As a result, assigning a ca. 1961 date to the tan cream finish dates several other alterations including: closing off door from the hall into Room 104 and removing architrave; reusing Room 104 side of door architrave in Room 101 on the south wall door head; and installing new sides of door architrave in Room 101 on the south wall door.

Assigning a ca. 1961 date to this tan cream finish also helps to establish that the speculative ca. 1943-1961 pink brown finish was certainly applied prior to 1961 because the tan cream is present on the (above-discussed) piece of baseboard once located behind the radiator in Room 101.

In conclusion, this analysis found that there is an average of 13 finishes extant in each of the rooms to be restored at the Lemon House (with a range of from nine to fifteen finishes). There are

slight variations in the number of finishes from room to room but overall a rather comprehensive continuity. Room 103/104 experienced the least number of finishes (9) perhaps because the west side of the house seems to have received less use in the twentieth century and the walls were furred out concealing original trim. Room 101, the Barroom, experienced the most number of finishes (15), perhaps because it was the most used room in the building. The other rooms on the first floor, (Room 100, 102, and the west wing) all had fourteen finishes. On the second floor the upper hall had twelve finishes and Room 202 had thirteen finishes. (See the room-by-room descriptions that follow for details.)

Spacing these finishes evenly over the history of the building (1837-1993), it would seem that new finishes were introduced approximately every twelve years. However, there is a somewhat uneven distribution of finishes in that nearly half of the finishes in each room date to 1961 or later.

Just seven to nine finishes pre-date 1961 in each room; in 124 years the rooms were painted only seven to nine times. Nearly half of the finishes were applied in the last 30 years. Rooms 101 and 202 each show nine pre-1961 finishes. Room 102 shows eight pre-1961 finishes. Rooms 100, 103/104, the west wing, and Room 200 each show seven pre-1961 finishes. If one evenly distributes the pre-1961 finishes over the 1837-1961 history of the building, one finds that new finishes were applied approximately every 16 years.

This seems to be a rather lengthy life for a painted finish (or between finishes). However, for much of the nineteenth and early twentieth century the Lemon House was a public hostelry, boarding house, or rented property. The owner may not have been motivated to maintain as pristine an appearance of the interior as one might expect in an owner-occupied residence. Likewise, it is possible that some finishes may have deteriorated beyond detection for this analysis. Finally, it is dangerous to apply our current aesthetic expectations to an historic interior.

Room 100 - Hallway:

A total of thirty paint samples were taken from Room 100 and analyzed for this report. Samples were taken from baseboard, door trim, doors, stair elements, walls, and ceiling.

Original material in the hall as revealed in paint analysis includes:

-all baseboard (Type E);
-all door trim (Type B) on north, south, and east walls;
-all elements of stair;
-south door (Type A);
-door to Room 101 (Type A);
-door to Room 102 (Type A);

-cellar door (Type C).

Non-original material in the hall includes:

-north door;
-door architrave at bottom of stairs.
-ball finial of newel post

Samples from the ball finial were not taken in 1993. Samples were taken in 1981 by Bathceler and revealed only two layers of reddish brown, perhaps representing a grained finish. No original paint layers were present and therefore it is very unlikely that the ball finial is original.

Moved/reused material in the hall includes:

-section of baseboard north of new door opening to Room 103.

The initial finish scheme in the hallway on the first floor included tan cream paint on doors, door trim, stair stringer, baluster, and the baseboard up the stairs. Baseboard at the first floor level in the hall was gray. Tan cream and gray paint tested positive to the presence of lead. The original yellow mud plaster walls were covered with a white skim coat, primed with a thin coat of greenish blue, and finished with a slightly darker greenish blue coat. Wall paint was not lime-based (no reaction to HCL). The absence of lime in the wall paint precludes the possibility that the paint was whitewash, calcimine, or casein. Wall paint was a water-based distemper paint with glue size as a binding agent.

The second finish in Room 100 consisted of a re-application of tan cream paint to door trim, stair stringer, and balusters. All baseboard was painted a dark charcoal gray. All doors except the cellar door were grained a deep red orange (perhaps in imitation of mahogany). The walls may have been papered; the second finish detected on the plaster walls is a thick soft fibrous layer that may represent remnants of paper sizing. However, after the first finish on the original plaster, it is impossible to line-up wall finishes and trim finishes in any meaningful way as the walls were surely not painted as often as the other architectural elements.

The third finish treatment in the Room 100 was a uniform gray green on all elements including the grained doors. Wall treatment is unknown. The uniform gray green finish treatment was followed by a uniform medium gray finish.

A second graining campaign followed the medium gray finish on door trim and baseboards. Doors remained medium gray. The graining is visible in samples as a dark red brown followed by a varnish layer.

The next distinct finish is found only on the baseboards and is a

dark blue gray green. Nothing else exhibits this color. Baseboards often took more abuse than other woodwork and required more frequent painting.

The next comprehensive finish in the hall appears to be the pink brown finish mentioned above as (possibly) dating to ca. 1943-1960 following a re-plastering campaign. The pink brown seems to represent a comprehensive re-painting campaign as it reoccurs in every room (except Room 202) at approximately the same layer in sample stratigraphies. In the hall the pink brown was followed directly by a deep red brown on doors, stair stringer, baseboard up the stairs, and the stair risers. Door trim and first level baseboard may have remained pink brown. The 1961 tan cream was then applied.

Initially, it was believed that the Type A door into Room 101 was a reproduction as it does not exhibit any of the early finish layers. However, its method of construction and appearance match the original Type A doors on the south entrance and at Room 102. Furthermore, it appears that the door was burned at some point and very thoroughly scraped and repainted. Blackened wood is visible on the substrate under microscopic examination. The 1982 Paint Study (Batcheler 1982:87) provides evidence for a fire at this location reporting,

> The floor in the old barroom (101) was partially destroyed by fire at an unknown date. The areas in front of the fireplace and at the hallway door are burned through, and the joists are charred underneath these areas.

The paint sequence on this door suggests that it was scraped and painted just after the ca. 1961 tan cream. No tan cream is present, but the following sequence of white, antique gold, pale yellow, and white is clear. It may be helpful to take several extra samples from various areas on this door to be sure that the early finishes are absent from the entire surface.

Two Type B doors are free floating in the hall against the east wall. They are not original and no match was found on the first floor to their finish stratigraphies. They may have been introduced on the second floor at or around ca. 1900. They do not exhibit the modern sequence of colors heralded by the ca. 1961 tan cream and therefore may have been removed and stored before the Roberts' alterations in the 1960s. Further analysis of known ca. 1900 material may provide a link to these Type B doors. The current information can only determine that they do not belong in the rooms examined in this report.

ROOM 100 - FIRST FLOOR, HALLWAY
General Finishes Line-up

	Finish	Door Trim	Baseboard	Doors	Walls	Ceiling
ca. 1834-37	1)	Tan Cream	Gray	Tan Cream	Grn Blue	Cream
	2)	Tan Cream	Dark Gray	Burnt Orange/ Graining	Grn Blue	Tan Cream
	3)	Gray Green	"	Gray Green	Paper?	Paper
	4)	Medium Gray	Medium Gray	Lt. Gray	Sky Blue	X
	5)	Dk. Red Brown/varn.	Red Brown/varn.	"	X	X
	6)	"	Muddy Gra Brn	Muddy Gra Brn	Off White	Brn Gra
ca. 1943?	7)	Pink Brown	Pink Brown	Pink Brown	Off White	Paper
	8)	Tan Cream	Tan Cream	Deep Red Brown	X	Paper
ca. 1961	9)	Tan Cream	Tan Cream	Tan Cream	X	Paint
	10)	White (+)	White (+)	White (+)	X	Paper
	11)	White	White	White	X	X
	12)	Antique Gold	Antique Gold	Antique Gold	X	X
	13)	Pale Yellow	Pale Yellow	Pale Yellow	X	X
	14)	White	White	White	X	X

ROOM 100 - FIRST FLOOR, HALLWAY, STAIRS
General Finishes Line-up Continued

	Finish	Stair Stringer	Riser	Baluster	Baseboard
ca. 1834-37	1)	Tan Cream	Black	Tan Cream	Tan Cream
	2)	Tan Cream	Tan Cream	Tan Cream	Dark Gray
	3)	Gray Green	Taupe Brown	Tan Cream	Gray Green
	4)	Gray	?	Lt. Gray	Medium Gray
	5)	Grayish Brown	Grayish Brown	Dk. Brown Gray	Grayish Brown
ca. 1943?	6)	Pink Brown	Pink Brown	Pink Brown	Pink Brown
	7)	Red Brown/Deep Red	Red Brown	?	Deep Red
ca. 1961	8)	Tan Cream	Tan Cream	Tan Cream	Tan Cream
	9)	White (+)	White (+)	White (+)	White (+)
	10)	White	White	White	White
	11)	Antique Gold	Antique Gold	Antique Gold	Antique Gold
	12)	Pale Yellow	Pale Yellow	Pale Yellow	Pale Yellow
	13)	White	White	White	White

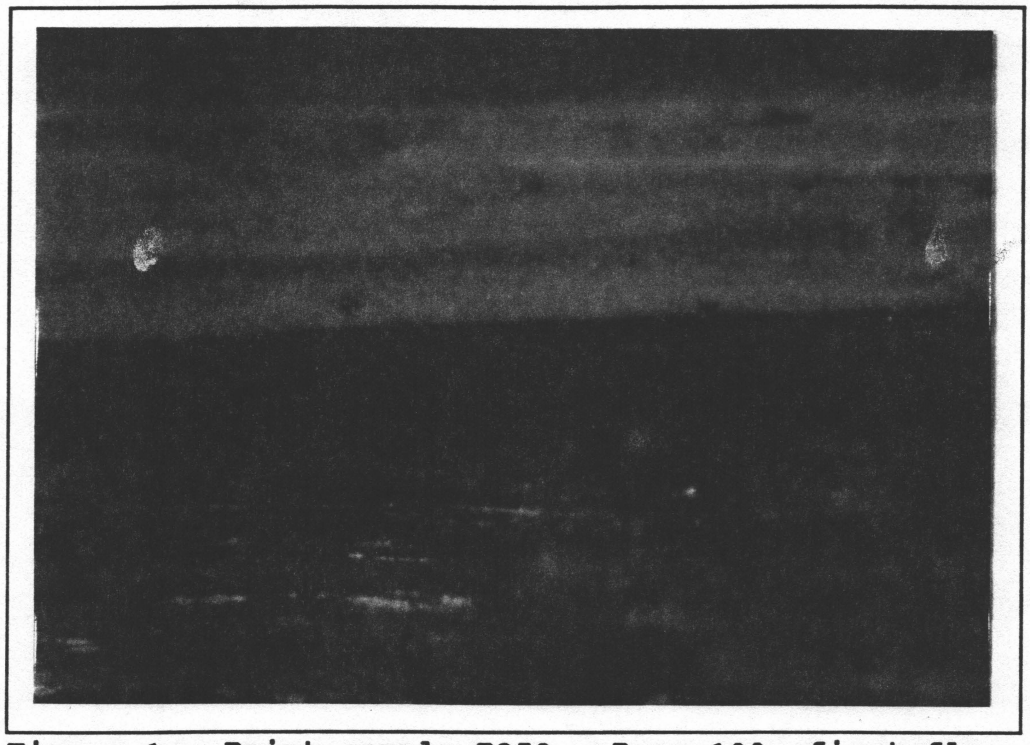


Figure 1. Paint sample P259. Room 100, first floor hall, south wall, south door, hall side. Substrate shown at bottom of photo.

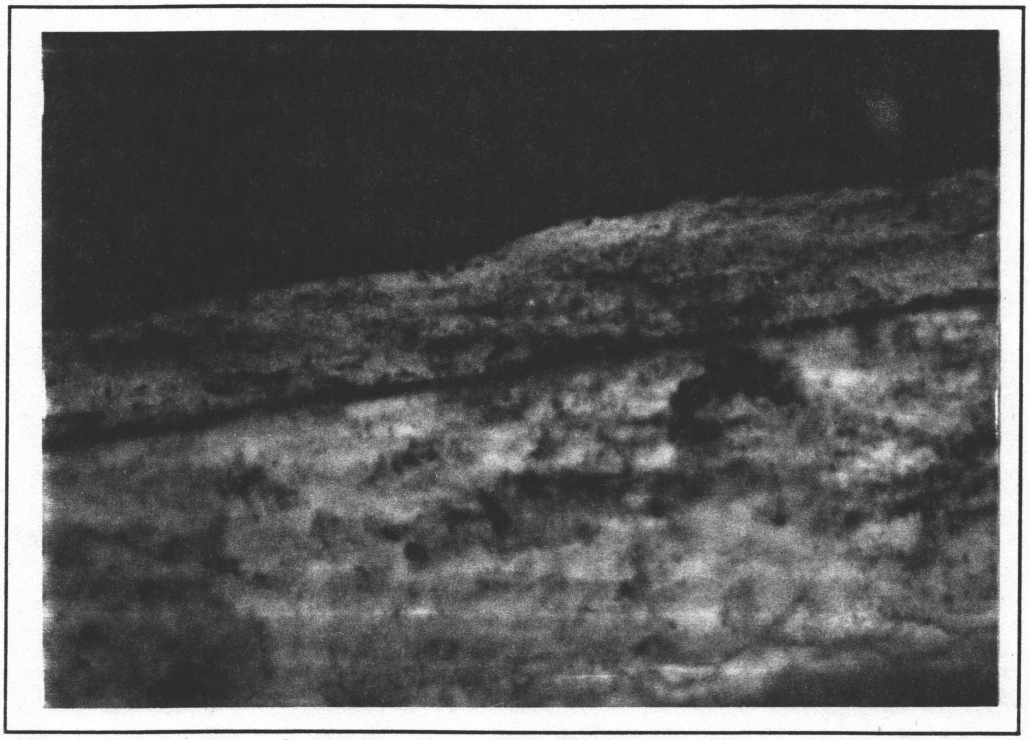


Figure 2. Paint sample P349 from original plaster wall. Room 100, first floor hall, east wall to south of door to Room 102. Substrate at bottom of photo.

ROOM 101 - Northeast Room, Barroom:

A total of 21 paint samples were taken from Room 101 and analyzed for this report. Samples were taken from baseboard, door trim, window trim, chair rail (in closet), pegboard, doors, walls, and ceiling. The early finishes in Room 101 are quite distinct from those used in the rest of the rooms examined. For example, it is the only room in which the dominant initial finish was <u>not</u> tan cream.

Original material in Room 101 as revealed in paint analysis includes:

-all baseboard (Type E);
-pegboard on west wall;
-all door trim (Type C) on north, west, and east walls;
-all window trim (Type C);
-Type A door on west wall, into hall;
-Type D door, closet.

Non-original material in Room 101 includes:

-north door to exterior;
-east door to exterior;
-east and west sides of south door architrave.

Moved/reused material in Room 101 includes:

-Head of south door architrave (from Room 104);
-Type B door on south wall.

The initial scheme of finishes in Room 101 included gray paint on baseboard, door trim, window trim, and the pegboard on the west wall. The gray paint seems to have been finished with a clear gloss or varnish. The gray paint tested positive to the presence of lead.

The original yellow mud plaster walls were covered with a white skim coat and finished with a bright yellow paint. The ceiling was also painted bright yellow. The wall and ceiling paint was not lime-based (no reaction to HCL). Wall paint was a water-based distemper paint with glue size as a binding agent. The appearance of the yellow paint was flat (not glossy). Surviving evidence of this first yellow paint is fragile and thin, as though it was partially removed for subsequent paint application. Distemper paints could, theoretically, be washed from the walls. Perhaps the walls of Room 101 were washed in preparation for the second finish. A scattering of soot balls are visible under the microscope in the early finish layers on the walls. This may be evidence of a fire, or simply cinders and soot from the incline rail engine traffic.

The original finish of the doors in Room 101 is not certain. The Type A door to the hall is believed to be original but it has been recently stripped and refinished. An original Type D door is

present in the room and may have been hung on the closet. However, the door may have been moved here from a different location later in the history of the building. (This is discussed in detail below.) Therefore, no original finish survives on original doors. In the other rooms of the house the doors were painted to match the rest of the trim in their respective rooms. The recommendation is therefore to paint the room side of the doors in Room 101 gray to match the trim. The fireplace is closed off and the mantel missing. If a fireplace and mantel are re-introduced into Room 101, the mantel should be painted to match the trim and doors.

The second finish scheme in Room 101 consisted of the application of a blue gray paint to door trim, window trim, and pegboard, and a dark blue gray paint to all baseboard. Again, the fate of the doors is unknown. However, it is suspected that the door into the hall was grained a deep red orange on both sides at this time as described above on the hall side of original doors. The walls may have retained their bright yellow paint through this second finish. They may also have been changed at this time to the second finish detected on the plaster consisting of a grayish tan primer coat and a dark salmon lime-based paint. Any matching of wall and trim colors is strictly speculative.

The third finish treatment in the Room 101 represents a very distinct color. It is found only in Room 101. Door trim, window trim, and pegboard were painted a pale green with emerald pigments. A gloss coat was applied over the pale green. The baseboard was painted taupe with a dark brown gloss coat or varnish (the brown may be due to aging). The walls may have been the salmon described above.

Several finishes seem to have been introduced following the pale green and prior to the pink brown found throughout the house (ca. 1943-1960). A medium gray, a taupe brown, and a yellow brown are clear in the samples from trim and pegboard. Each layer is highlighted by a distinct layer of gloss or varnish. The baseboard was painted gray but not taupe or yellow brown, and exhibits no varnishes during this interval. The walls may have been white. At least four layers of white were detected as the last finishes on the plaster before being covered by new plaster walls.

The pink brown finish appears as the seventh layer in Room 101. The pink brown finish is found on door trim, window trim, and baseboards. Following the pink brown finish is a light gray green and a sky blue layer of paint. The 1961 tan cream paint was then applied uniformly through out the room on all trim and baseboards.

The modern sequence of paints heralded by the tan cream is found in Room 101 and matches the sequence found in the other rooms with the addition of an apple green finish before the recurring antique gold finish. Curiously the apple green seems to be present only on the

south and west wall baseboard and the south wall door trim. It does not appear on the west wall door trim or the north wall baseboard. Could there have been furniture or partitions obscuring these areas or was the paint job interrupted?

Several other questions were raised by the examination and comparison of finish stratigraphies in the room. For example, the baseboard along the north wall seems to have been painted less frequently than that on the south and west walls. There is a gap in the layer sequence between the third (brown) finish and the ca. 1961 tan cream. The 1982 HSR includes conjectural plans from oral history. From 1912 to 1943 the north wall in this room was accessible. From 1943 - 1961 a radiator was along the north wall between the window and door. This may account for the apparent missing finishes on the north baseboard (including medium gray, pink brown, and light gray green). This was discussed above in the "General Findings."

Paint also reveals that the installation of the door architrave on the south wall dates to ca. 1961. The two sides of the architrave are new with ca. 1961 tan cream as the first finish followed by the recurring modern sequence of white, antique gold, and white. The head of the architrave is an original piece of trim from Room 104 (layer sequence clearly matches that of trim in Room 103/104). It begins matching Room 101 with the ca. 1961 tan cream. It is safe to assume that the piece was installed in this location in ca. 1961. The opening itself pre-dates the installation of the architrave, but according to oral history (and substantiated by physical investigation) the opening is not original.

The door architrave on the east wall, like the baseboard on the north wall, seems to be missing several intermediate finishes including the fourth, fifth, and sixth finishes. The paint sequence resumes with pink brown and follows with light gray green and sky blue and finally several layers of white paint. The ca. 1961 tan cream and following antique gold are absent. Could the door have been blocked for an interval of time and therefore remained unpainted for several years? Conjectural plans in the 1982 HSR do not reveal any obstructions. Perhaps this door trim simply was not included during several painting campaigns. In any case, the finish history is erratic.

As described above, the pegboard on the west wall was plastered over just prior to the application of pink brown paint. The pegboard had six finishes before it was covered.

The doors in Room 101 are particularly problematic. After extensive analysis it is possible to speculate as to the original locations of the doors. The Type A door to the hall is probably original. (It has been described above as an element of Room 100.) The north and east wall exterior doors are reproductions revealing

only white paint finishes.

One Type D door is free floating in Room 101. This door is an original door and may have been located on the closet. Unfortunately, there are no stratigraphies for original doors surviving for Room 101 to compare this Type D door to. The early finish sequence, however, compares favorably to the original Type A door leading from Room 102 into the hall suggesting that original doors may have been treated alike from room to room.

The Type D door (front) has two finishes of tan cream followed by a third finish of deep red orange graining. The first three finishes found on other trim in the room (gray, dark blue gray, and pale green) are not found on this door. If the door was in this location, they would have been accompanied by tan cream, tan cream, and deep red graining respectively. However, following the graining, the other room sequences and the door sequence do generally line-up. For example, the Type D door shares the fourth (medium gray), fifth (yellow brown), seventh (pink brown), and eighth (light gray green) finish with the rest of the trim in the room. This evidence suggests that original doors may have been painted tan cream, followed by graining, followed thereafter by the finishes chosen for each room. On the other hand, it is possible that this door belonged in a room in which tan cream was the initial finish and was moved to Room 101 around the fourth painted finish.

Because there is not enough surviving evidence to definitely establish that all original doors were painted tan cream, it remains the recommendation of this analysis to paint the doors in Room 101 gray to match the trim. However, if the restoration team feels that the evidence for tan cream is compelling enough, they may choose to incorporate tan cream into the color scheme.

Between Rooms 101 and 102 hangs a Type B door. This door may be an original door as its initial finish was a thick tan cream matching other original finishes of tan cream. The door probably hung between two living spaces (not on a closet) because both sides of the door have a similar number and sequence of finishes. There is no compelling match of the early finishes following the initial tan cream to any room on the first floor. This Type B door probably originated on the second floor.

Samples from the door do exhibit the bright red brown (finish 5), pink brown (finish 6), and dark glossy brown (finish 7) found on samples in the southeast room on the second floor (Room 202). Following the dark glossy brown finish is the modern sequence of white, antique gold, pale yellow, and white. No ca. 1961 tan cream is present on this Type B door. The door was, therefore, removed sometime (shortly) before 1961 and re-installed downstairs, perhaps on the closet in Room 102 (as the other Type B door described below

was at the time hanging between the rooms). Sometime within the last several finishes (i.e. with the pale yellow), these two Type B doors switched locations. Perhaps they were taken down to paint and inadvertently switched. In any case, this door was rehung between the Room 101 and 102. The Type B door described below was rehung on the closet in Room 102.

ROOM 101 - FIRST FLOOR, NORTHEAST ROOM
General Finishes Line-up

	Finish	Door Trim	Window Trim	Baseboard	Door to Hall	Walls	Pegboard
ca. 1834-37	1)	Gray/gloss	Gray/gloss	Gray	X	Yellow	Gray/gloss
	2)	Dk Blu Gray varnish	Dk Blu Gray varnish	Charcoal Gray	X	Tan/Gray	Dk. Blu Gray
	3)	Pale Green gloss	Pale Green gloss	Taupe Brown varnish	X	Salmon	Pale Green
	4)	Medium Gray dk varnish	Medium Gray dk varnish	Gray	X	Cream	Medium Gray
	5)	Taupe Brown	Taupe Brown	X	X	White	Taupe Brown
	6)	Yellow Brown varnish	Yellow Brown varnish	X	X	White	Yellow Brown varnish
ca. 1943?	7)	Pink Brown	Pink Brown	Pink Brown	X	X	X
	8)	Lt Gra Grn	Lt Gra Grn	Lt Gra Grn	X	X	X
	9)	Lt Blu Gra	Lt Blu Gra	Lt Blu Gra	X	X	X
ca. 1961	10)	Tan Cream	Tan Cream	Tan Cream	X	X	X
	11)	Apple Green	Off White	Apple Green	X	X	X
	12)	White (+)	White (+)	White (+)	White (+)	X	X
	13)	Antique Gold	Antique Gold	Antique Gold	Antique Gold	X	X
	14)	Pale Yellow	White	White	Pale Yellow	X	X
	15)	White (+)	White (+)	White (+)	White (+)	X	X

ROOM 101 - FIRST FLOOR, NORTHEAST ROOM
General Finishes Line-up Continued

	Finish	Ceiling	South Wall New Door Trim	South Wall Reused Door Trim	Type B South Door	Type D Closet Door
ca. 1834-37	1)	Yellow	X	Tan Cream	Tan Cream	Tan Cream
	2)		X		Red Brown	Gloss/yellowed
	3)	Dk Gra Grn	X	Gra Grn	Burnt Orange varnish	Burnt Orange varnish
	4)	Pink Brown	X	Dk Blue Gra	Dk Brwn Glossy gloss	Pink Brown
	5)	Pink Brown	X	Brown	X	Dk Blue Gra
	6)	Taupe	X	Dk Red Brown	X	Yellow Brown gloss
	7)	Blue Gra	X	Sage Green	X	Pink Brown (thin)
	8)	Paper	X	X	X	Lt. Gra Grn
	9)	Pink	X	X	X	Lt. Gra Blue
	10)	Dk Green	X	X	X	DIRT/White
	11)	X	X	X	X	Cream
ca. 1961	12)	X	White (2+)	White (2+)	White (2+)	X
	13)	X	Antique Gold	Antique Gold	Antique Gold	X
	14)	X	White	Pale Yellow	Pale Yellow	X
	15)	X	White (+)	White (+)	White (+)	X

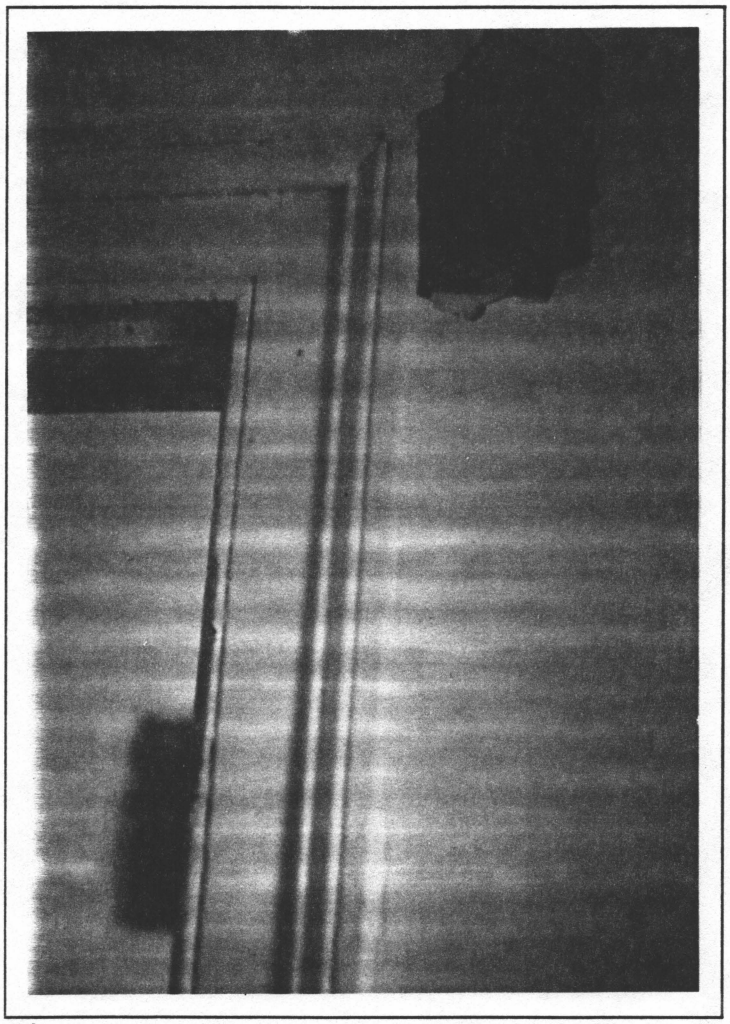


Figure 3. Room 101 west wall at door into hall. Test patch in plaster showing modern expanded metal lath. Plaster samples taken from behind wire lath.

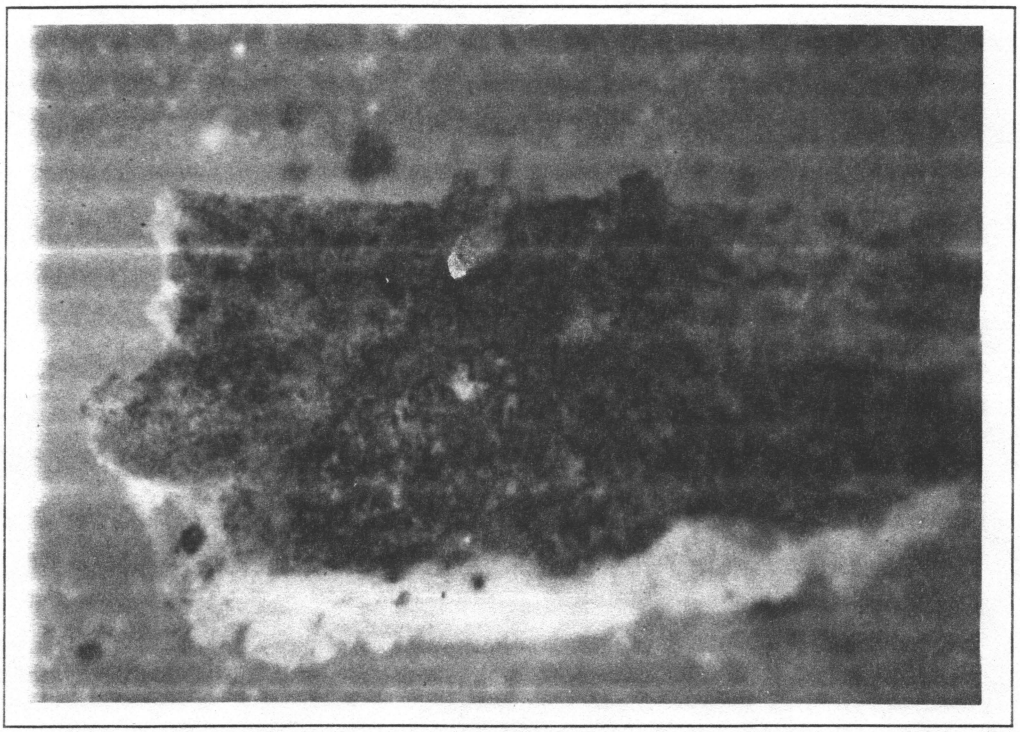


Figure 4. Paint sample ALPO P299 from original plaster showing original yellow finish beneath later salmon finish.

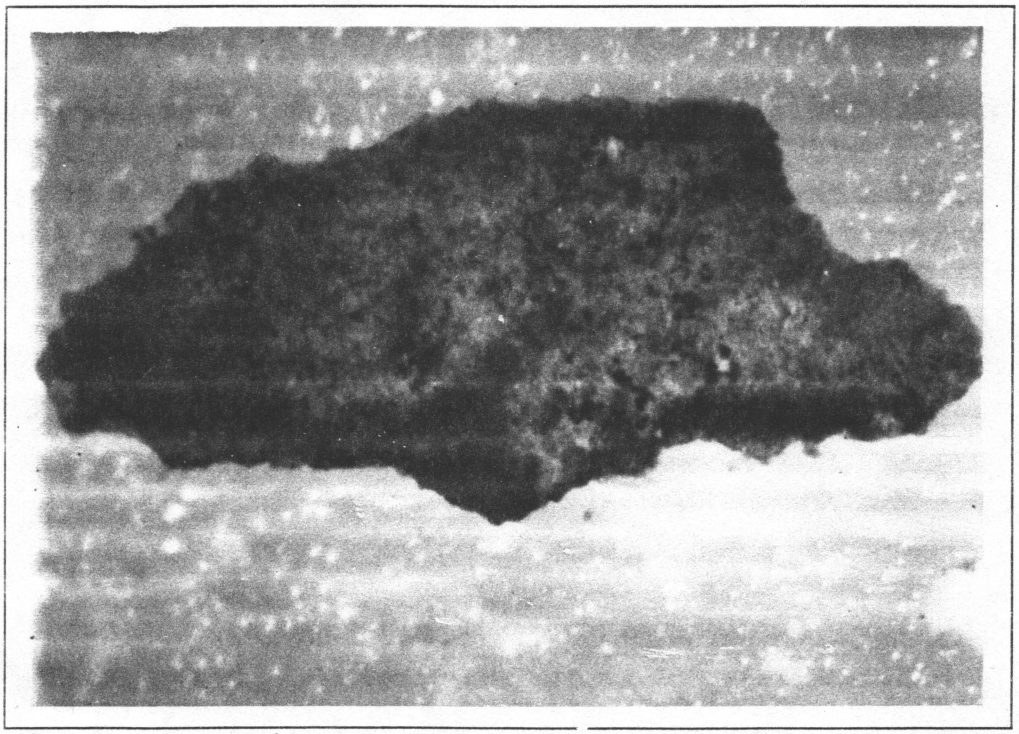


Figure 5. Paint sample ALPO P299, showing isolated piece of original yellow finish.

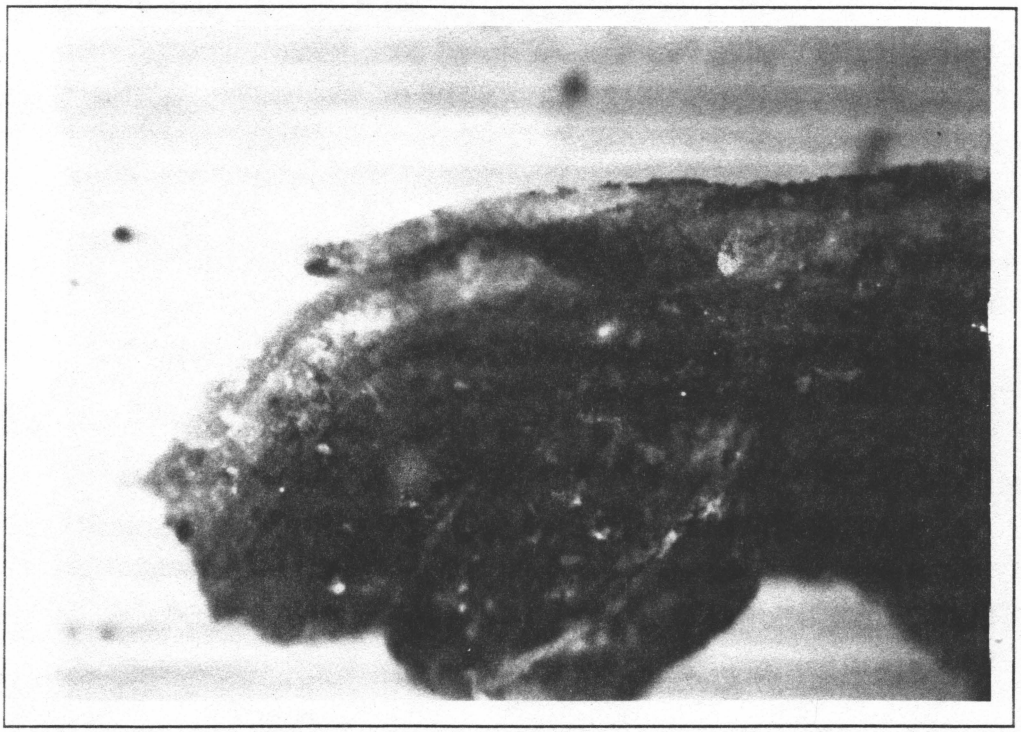


Figure 6. Paint sample ALPO P285. Room 101, window apron, north wall. Substrate shown at bottom center of photo.

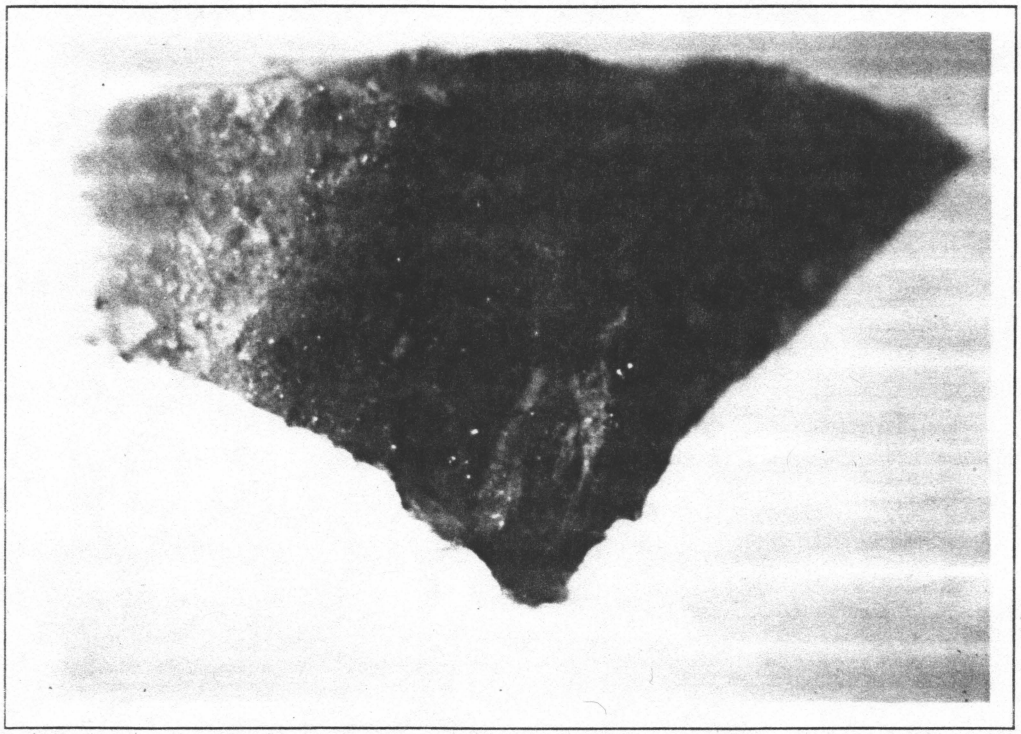


Figure 7. Paint sample ALPO P285. Room 101, window apron, north wall. Substrate shown at bottom of photo.

Room 102 - Southeast Room, Parlor:

A total of 21 paint samples were taken from Room 102 and analyzed for this report. Samples were taken from baseboard, door trim, window trim, mantel, chair rail doors, walls, and ceiling.

Original material in Room 102 as revealed in paint analysis includes:

-all baseboard (Type E);
-door trim (Type A) on east and west walls;
-all window trim (Type A);
-chair rail;
-mantel;
-door to hall (Type A);
-door once on closet (Type D).

Non-original material in Room 102 includes:

-architrave of door on north wall.

Moved/reused material in Room 102 includes:

-door on north wall (Type B);
-closet door (Type B).

The initial finishes scheme in Room 102 included a uniform tan cream paint on all baseboard, door trim, window trim, and doors. The tan cream paint tested positive to the presence of lead. Only the mantel exhibited a contrasting color. Samples from the mantel reveal an initial finish of deep glossy green with glimpses of a dark moss green and clear evidence of a thick clear glaze (or glazes). This finish was not found anyhwere else in the house and it is suspected that it represents a marbleizing treatment.

The original appearance of the walls in Room 102 is unknown. Evidence on the two plaster samples available is inconclusive. The original yellow mud plaster was covered with a thick skim coat and a very thin light gray finish. The gray finish is too thin for a cross-section and may in fact simply be a layer of dirt on a thin coat of wash. The surface reacted to HCL, but the reaction may have been between the skim coat and the acid. Although wallpaper fragments are extant in the closet, there is no sizing evidence or fiber evidence of wallpaper on the plaster samples.

The ceiling was painted a light cream. The skim coat beneath the cream paint is very clean suggesting that the paint was applied shortly after the skim coat was applied and therefore constitutes a first finish. The paint used is a water-based distemper paint with a glue size binder. The paint exhibited no reaction to HCL (no lime present). The paint softened and broke apart when exposed to water.

Subsequent finishes in Room 102 include several high gloss or

varnished treatments before a sequence of recurring modern paints beginning with a tan cream in 1961. Following the initial finish, all color schemes are consistently mono-chromatic.

Finishes identified in samples between the original and the modern (ca. 1961) are found in other rooms on the first and second floors. For example the third finish (gray green) is also found as the third finish in Room 100. The sixth finish (pink brown) is found as the sixth to eighth finish in Rooms 100, 101, 103/104, 200, 202. The seventh finish (yellow brown), is also found as the seventh or eighth finish in Rooms 101 and 202. Therefore, the sequencing of paint finishes in Room 102 is remarkably consistent with the finish histories of the rest of the house. In addition, the room was painted tan cream in 1961 and shares the modern "antique gold, pale yellow, white" color-sequence with Rooms 100, 101, and 200.

Paint analysis revealed that the door architrave on the north wall is not original to the opening. (The opening pre-dates the architrave but is not original to construction.) The first finish applied to the architrave was the pink brown identified as the sixth or seventh finish in most other locations dating to ca. 1943-1960.

Three doors within Room 102 are problematic; 1) a Type B door hanging between Rooms 101 and 102; 2) a Type B door presently hung on the closet; and 3) a Type D door floating against the north wall. The first Type B door has been discussed above as an element of Room 101.

The Type B door presently hanging on the closet is not original. The first finish on the door is pink brown suggesting that the door, like the architrave on the north wall, was not introduced until ca. 1943-1960. The door hung between Rooms 101 and 102 for a length of time. Color sequences on the front and back side of the door clearly suggest that the current front side of the door faced Room 101 and the current back side faced Room 102. Sequences also indicate that the door was moved to the closet in Room 102 after the application of antique gold. (At this time the Type B door described above was moved from the second floor and hung between the rooms.) The front of the door includes the most recent pale yellow and white finishes. The back of the door was not painted after the antique gold finish confirming that the back of the door was concealed (i.e. in the closet) after the antique gold finish.

The Type D door is an original door but Room 102 is not its original location. Door construction and the presence of the original tan cream finish on the substrate characterize the door as original material. The finish sequence of the door is best matched to finish sequences identified in samples from Room 202 on the second floor. Finishes 1, 2, 3, 6, 8, 9 and following, from the

Type D door match corresponding finishes in Room 202. Like the woodwork in Room 202, the door did not receive any of the modern sequence of colors including the ca. 1961 tan cream. The door, and Room 202, each received at least eight layers of white paint following the eighth (yellow brown) finish. This Type D door, therefore, probably hung on the closet in Room 202.

ROOM 102 - FIRST FLOOR, SOUTHEAST ROOM
General Finishes Line-up

	Finish	Door & Window Trim	Baseboard	Door to Hall	Mantel	Walls	Ceiling
ca. 1834-37	1)	Tan Cream	Tan Cream	Tan Cream	Dk. Green	Lt. Gray	Cream
	2)	Tan Cream	Tan Cream	Burnt Orange/ Varnish	X	X	Cream
	3)	Lt Gra Grn	Lt Gra Grn	X	X	X	Paper
	4)	Lt Blu Gra	Lt Blu Gra	Lt Blu Gra	Lt Blu Gra	X	X
	5)	Taupe	Taupe	Taupe	X	X	X
ca. 1943?	6)	Pink Brown	Pink Brown	Pink Brown	Pink Brown	X	X
	7)	Dk varnish	Red Brown	Red Brown	Red Brown	X	X
	8)	Yellow Brown	Yellow Brown	Yellow Brown	Yellow Brown	X	X
	9)	Dk Brn Glossy	Dk Brn Glossy	Dk Brn Glossy	Dk Brn Glossy	X	X
ca. 1961	10)	Tan Cream	Tan Cream	Tan Cream	Tan Cream	X	X
	11)	White (+)	White (+)	White (+)	White (+)	X	X
	12)	Antique Gold	Antique Gold	Antique Gold	Antique Gold	X	X
	13)	Pale Yellow	Pale Yellow	Pale Yellow	White	X	X
	14)	White	White	White	White	X	X

ROOM 102 - FIRST FLOOR, SOUTHEAST ROOM
General Finishes Line-up Continued

	Finish	North Wall Type B Door	North Wall Door Trim	Closet, Type B Door	Floating, Type D Door
ca. 1834-37	1)	Tan Cream	X	X	Tan Cream
	2)	Orange Brown/ clear varnish	X	X	
ca. 1943?	3)	Pink Brown	Pink Brown	Pink Brown	Pink Brown
	4)		Lt Blu	Lt Blue	
	5)		Pink Brown	Pink Brown	
	6)	Brown	Yellow Brown	Lt Gra Grn	Yellow Brown
	7)	Dk Brown Glossy	Dk Brn Gloss	Lt Blu Gra	
	8)		Apple Green		
	9)		Tan Cream		
ca. 1961	10)	White (2+)	White (3+)	White (3+)	White (8+)
	11)	Antique Gold	Antique Gold	Antique Gold	
	12)	Pale Yellow	Pale Yellow	Pale Yellow	
	13)	White (+)	White (+)	White (+)	

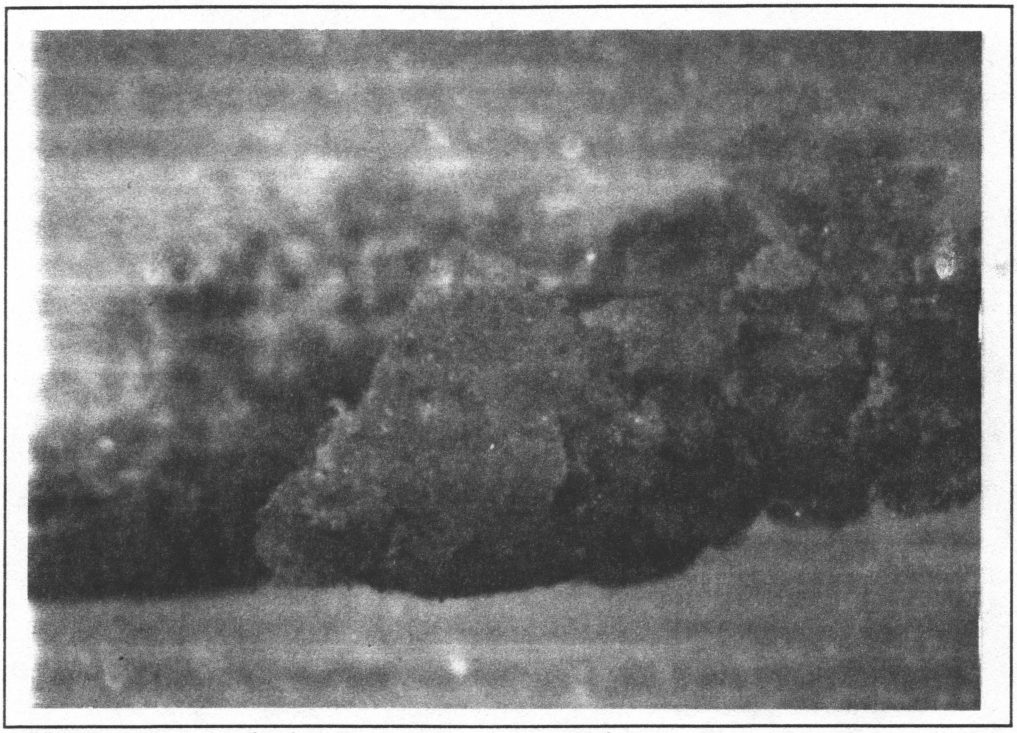


Figure 8. Original tan cream paint after UV exposure. Paint sample ALPO P311. Room 102, door trim, west wall, north side of architrave.



Figure 9. Paint sample ALPO P315. Room 102, original door, west wall into hall, Room 102 side. Substrate shown at bottom of photo.

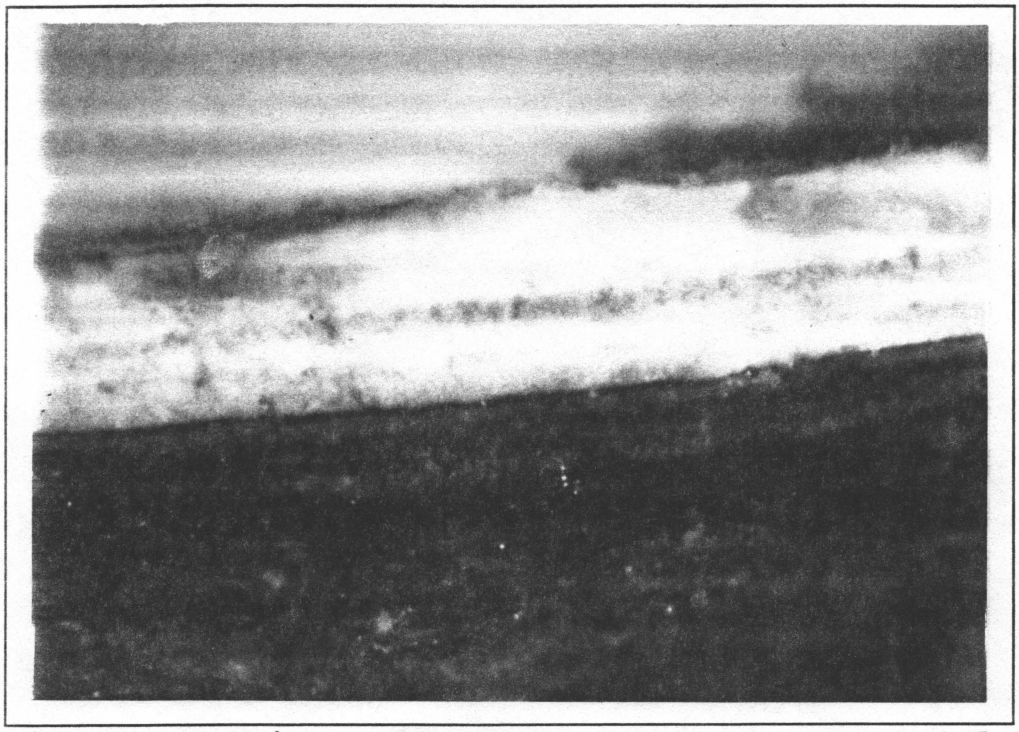


Figure 10. Paint sample ALPO P320. Room 102, mantel, south pilaster. Substrate shown at bottom of photo.

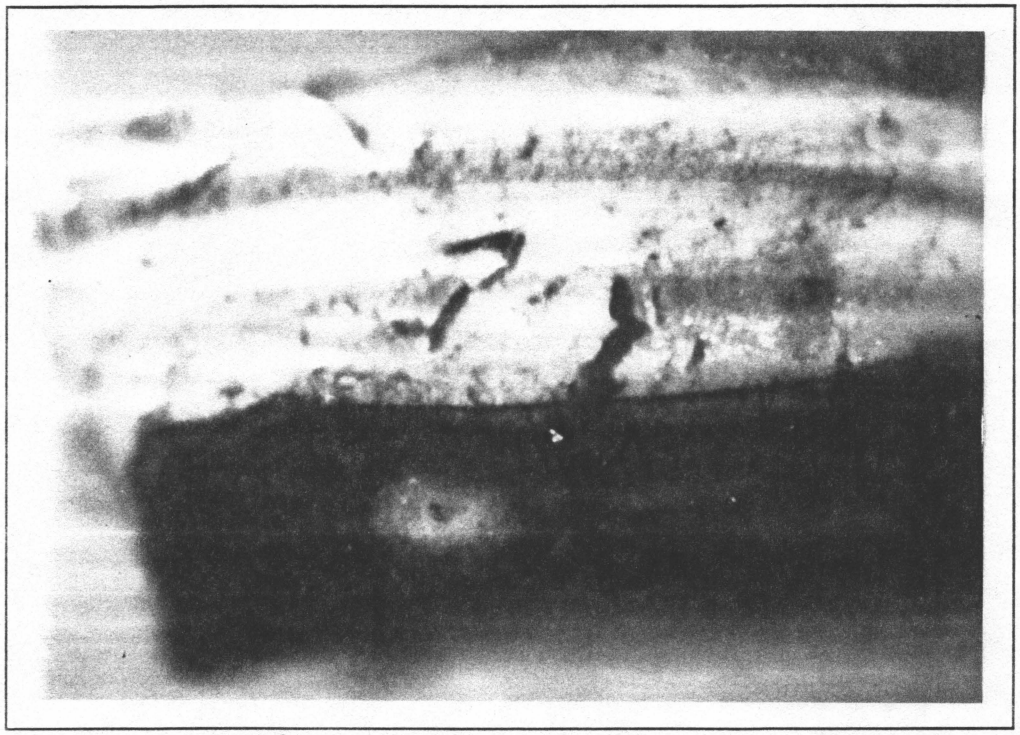


Figure 11. Paint sample ALPO P320. Room 102, mantel south pilaster. Substrate missing, first finish shown at bottom of photo.

Room 103/104, Southwest and Northwest Rooms, Dining Room:

Original material in Room 103 and 104 is scant. Extensive alterations to original fabric including furring out walls, installing baseboard heaters, and altering partition walls have obscured a significant amount of original fabric. Just seven samples from these two rooms were taken and analyzed. Samples were taken from the window trim, folding doors between the rooms, and the plaster walls. No original door trim survives except a header that was removed and reused in Room 101. No original doors survive, with the exception of the over-sized folding doors originally located between the rooms and now in storage.

The original color scheme of Room 103/104 consisted of a monochromatic tan cream on all woodwork inclusive of doors and sash. (No baseboards were extant where the physical investigation exposed the original wall, but like the public parlor, Room 102, baseboards probably matched the rest of the trim.) Original plaster walls consist of a yellow mud ground coat on split lath followed with a white skim coat. Walls were initially unpainted. the ceiling was probably painted a light cream. Ceiling paint was a water-based distemper paint.

A thin layer of dust or dirt is discernible on the skim coat on the walls indicating that the skim coat was probably exposed for some length of time. There is also some evidence of a brown sizing and possible wallpaper fibers. Sizing and wallpaper evidence was also identified by Penelope Batcheler in her 1982 paint study. The evidence is very hard to detect even under the microscope. However, after extensive examination and the consultation of several conservators, the consensus is that the walls were either unpainted or wallpapered. The wallpaper was subsequently thoroughly removed, but future finishes consistently fracture off from remnants of the sizing. If a paint had been applied to the walls as a first finish, the paint would have bonded closely to the plaster. No such bond between original plaster and painted finishes is evident here.

Room 103/104 may have had a second tan cream finish followed by a two-layer finish of off white. The fourth finish on trim and doors in the double dining rooms consisted of a prime and finish coat. The prime coat was a light blue green and the finish coat a dark blue green.

The walls during the fourth finish were painted shades of blue green as well. This represents the first <u>painted</u> finish visible on the original plaster. This wall finish also consisted of a prime and finish coat. The color scheme was two-tone with the finish coat of the north and south walls a dark spruce blue green, and the east and west walls a lighter minty green. The primer used in this finish is a lime-based paint (perhaps calcimine) exhibiting a

strong reaction to HCL. The finish coat is a water-based distemper paint exhibiting no reaction to HCL. Both the primer and finish coats were mixed with considerable amounts of mica. Mica was used in paint for its structural properties and for its reflective properties. Mica thickens the paint and makes it extremely flexible over flat surfaces. Rutherford Gettins and George Stout include mica in their Painting Materials, A Short Encyclopedia, (Gettins 1966:131). They wrote that ground mica is used as a lubricating agent and as a re-enforcing pigment in paints. The mica is clearly visible inside of the sample, but the surface of the paint does not appear sparkly or reflective. It is doubtful that age alone could be responsible for the flat surface of the finish. Therefore, mica was probably added to this paint for its structural properties.

During the preliminary stages of this investigation it was thought the light blue green mica primer was the original finish, and the dark blue green mica paint as a subsequent finish on the walls of Room 103/104. Further examination and consultation provided evidence to the contrary. The two mica paints are extremely well bonded to one another. These were separate finishes, the layers would not adhere as solidly to one another and resist separation as they do. In addition, the two mica paints fracture off easily together from the plaster itself, strongly suggesting that some other material is, or was, present between the skim coat and the paints. Bluish green paint appears as the fourth finish on window and door trim and it is realistic to believe that it was applied to complement the blue green walls. There is no finish on top of the mica paints. The walls must have been furred out after this finish. The walls are furred out with twentieth-century materials. It is unlikely that an original finish would have survived in a public dining room into the twentieth century. Other conservators have encountered mica in paint samples and believe that the use of mica dates to the late-nineteenth and early-twentieth centuries (Powell:1993. For all of these reasons, it is more responsible to conclude that the blue green mica paint is not an original finish.

The blue green finishes were followed by brown (finish 5) and sage green (finish 6) paints. Sage green is the last finish before the recurring pink brown appears in the samples and the last color present on the re-used door architrave in Room 101. The architrave must have been removed, and the door presumably filled in, just before the application of the pink brown paint (ca. 1943-1960).

The most recent finishes in Room 103/104 include tan cream (ca. 1961) and multiple layers of white. No antique gold or pale yellow were identified in the samples.

ROOM 103/104 - FIRST FLOOR, NORTHWEST & SOUTHWEST ROOM, DOUBLE DINING ROOM
General Finishes Line-up

	Finish	Window Trim	Double Doors	South & North Walls	East & West Walls	Ceiling
ca. 1834-37	1)	Tan Cream	Tan Cream	Dirt/White?	Dirt/White?	Cream
	2)	Tan Cream	Tan Cream	Sizing/Paper	Sizing/Paper	Cream
	3)	Off White	Off White	Skim Coat	Skim Coat	Lt Gray
	4)	Lt Blu Grn	X	Blue Grn	Lt Blu Grn	X
		primer		w/mica	w/mica	
	4)	Dk Blu Grn	X	Pine Grn	Dk Blu Grn	X
	5)	Brown	Brown	X	X	Pinky Cream
	6)	Sage Grn	Sage Grn	X	X	Paper
ca. 1943?	7)	Pink Brown	Pink Brown	X	X	Paper
ca. 1961	8)	Tan Cream	Tan Cream	X	X	Paper
	9)	White	White	X	X	X

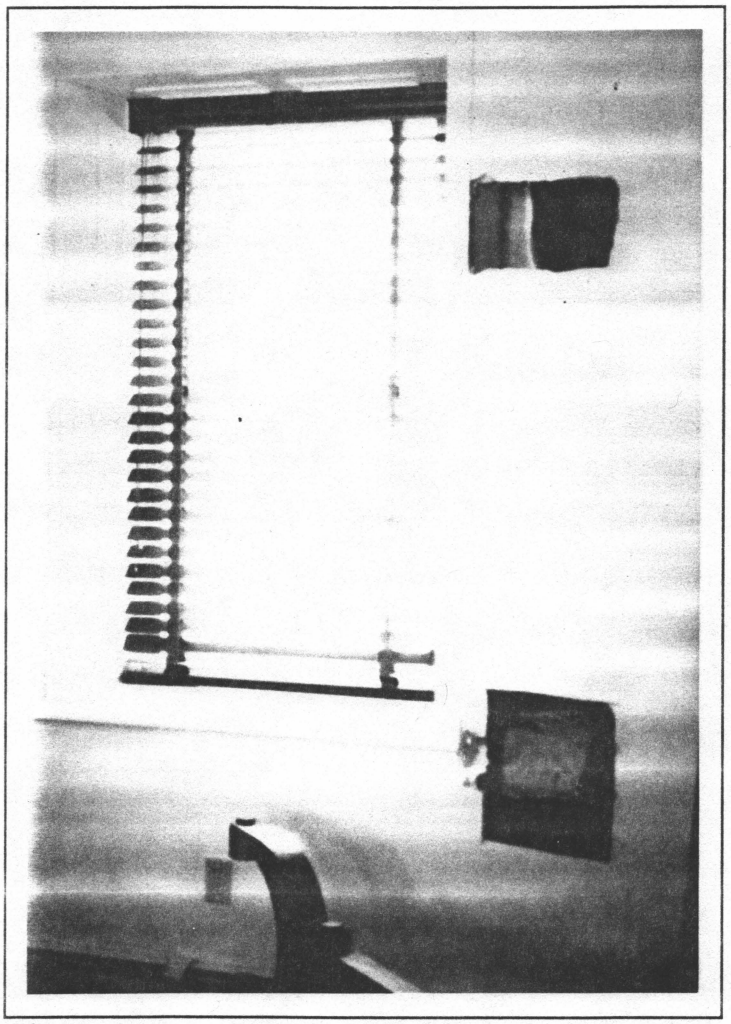


Figure 12. Room 103/104 north wall showing test holes in furred out wall. Plaster samples taken from test holes.

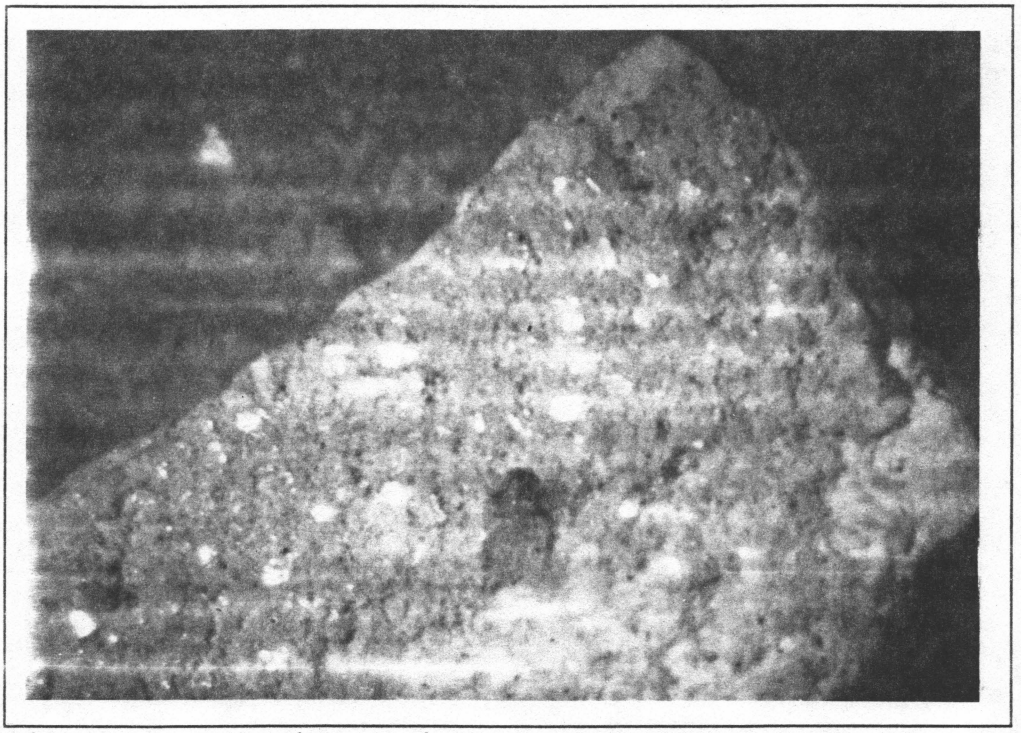


Figure 13. Mica paint, sample ALPO P325. Room 103/104, west wall, south corner, side wall cavity. This is the prime coat of this finish. Finish is third or fourth on the original plaster.

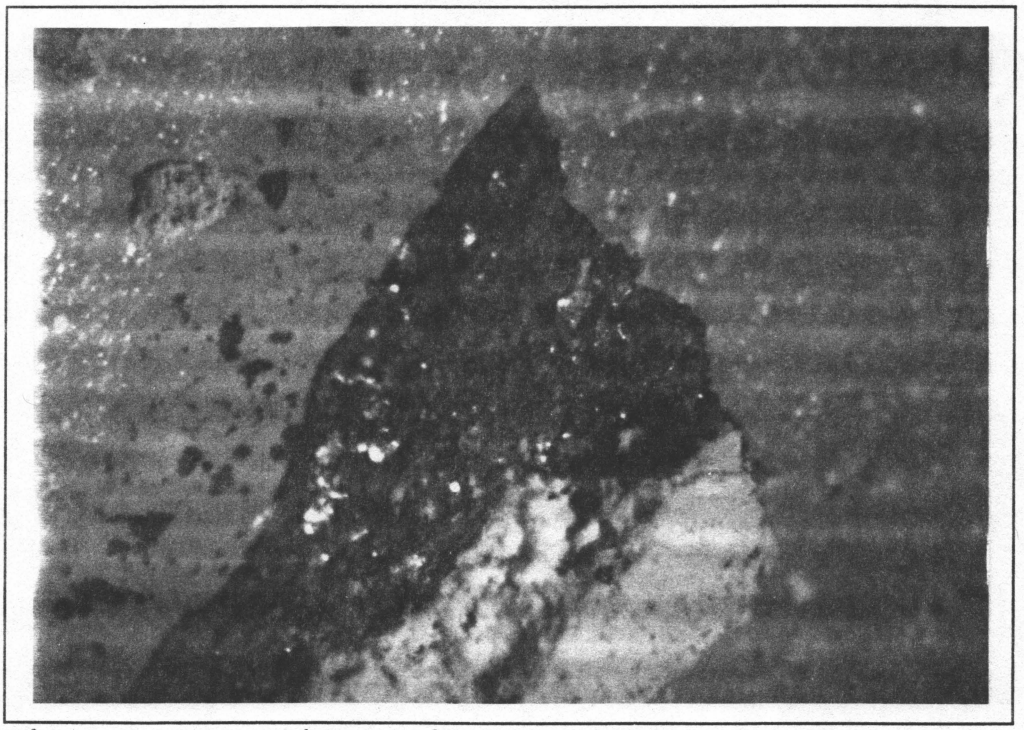


Figure 14. Mica paint, sample ALPO 324. Room 103/104, south wall,west side of east window behind furred out wall. This is the finish coat of application.

West Wing:

This area is not to be restored to 1840s period and I have therefore not included a chart of recommended color matches in this report. The information gleaned from the samples available raises more questions than it answers. Further sampling and analysis should be carried out to understand the finishes history.

Five sample were taken and examined. The samples were taken from baseboard, window trim, door trim, door, and plaster. Samples generally do not reveal paint layers that correspond to the rooms in the main block of the house. It was impossible to determine the original finish on the wood in the room. It appears to be a light brown followed by a thick clear varnish. This may have been tan cream paint discolored from carbon and cooking residue? The first finish on the plaster is the blue green mica paint from Room 103/104. There is speculation that this sample was mislabeled.

Paint revealed that the door on the north wall is clearly a reproduction exhibiting only white paint. The baseboard also may not be original as it exhibits only two finishes before the modern tan cream (ca. 1961) appears. The window trim contained the most comprehensive stratigraphy. Further sampling is recommended if a painted history of this room is desired.

WEST WING - FIRST FLOOR
General Finishes Line-up

	Finish	Door Trim	Window Trim	Baseboard	Walls	North Door
ca. 1834-37	1)	X	Lt Brown	X	Lt Mint Grn w/mica	X
	2)	X	Thick varnish Charcoal Gray	X	Dkr Mint Grn w/mica	X
	3)	Lt Gra Grn	Pale Grn	Lt Gra Grn	Tan Cream/Dirt?	X
ca. 1900?	4)	Olive Grn	Gray Olive Grn	Olive Grn	X	X
	5)	X	Brown, trans.	X	X	X
	6)	X	Burnt Orange/ Graining?	X	X	X
	7)	X	Blue Gray	X	X	X
	8)	X	Blue Green/gloss	X	X	X
ca. 1961	9)	Tan Cream	Tan Cream	Tan Cream	X	X
	10)	White	White	White	X	White (+)
	12)	Aqua	White	White	X	
	13)	Off White	Antique Gold	White	X	
	14)	White (+)	White (+)	White (+)	X	



Figure 15. West wing, first floor. Paint sample P331, baseboard, east wall. Substrate shown at bottom of photo.

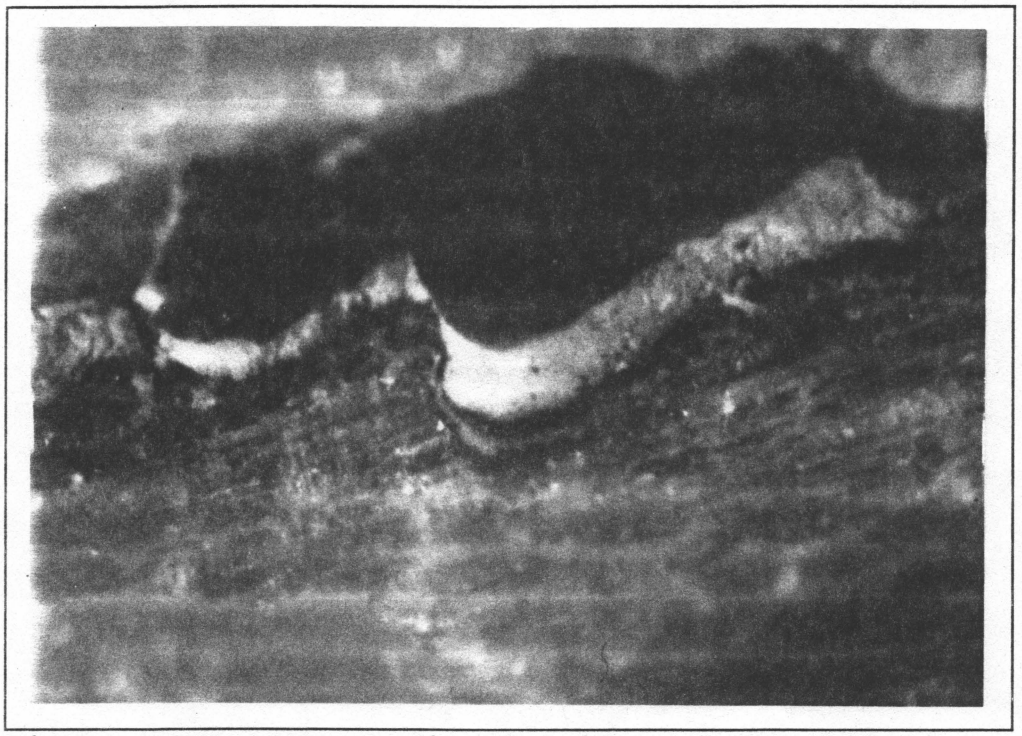


Figure 16. West wing, paint sample ALPO 331, baseboard, east wall. Substrate shown at bottom of photo.

Room 200 - Upper Hall and Landing:

The painted history of Room 200 parallels that of the lower hallway, Room 100 with only two exceptions. The baseboard in Room 200 was originally painted tan cream (not gray) and the doors at the second floor hall level were not grained as a second finish.

Seven samples were taken from Room 200 and examined. Samples were taken from baseboard, window trim, door trim, and doors. Original material in Room 200 as revealed during analysis includes:

-all baseboard (Type E);
-window trim (Type A);
-all door trim (Type C),
-all doors (Type C).

The initial finish scheme in the hallway on the second floor (and landing) included a monochromatic application of tan cream paint on doors, door trim, baseboard, window sash. The original yellow mud plaster walls were covered with a white skim coat, primed with a thin coat of greenish blue, and finished with a slightly darker greenish blue coat. Wall paint was not lime-based (no reaction to HCL). Wall paint was a water-based distemper paint with glue size as a binding agent.

For an explanation of subsequent finishes please refer to the discussion of Room 100.

ROOM 200 - SECOND FLOOR HALL AND LANDING
General Finishes Line-up

	Finish	Door Trim	Window Trim	Baseboard	Door to Room 202	Walls	Ceiling
ca. 1834-37	1)	Tan Cream	Tan Cream	Tan Cream	Tan Cream	Blu Grn	Cream
	2)	Tan Cream	Tan Cream	Charcoal Gray	Tan Cream		
ca. 1900?	3)	Lt Gra Grn	Lt Gra Grn	Gra Grn	Lt Gra Grn		
	4)	Blue Gray	Blue Gray	Blue Gra Grn	Blue Gray		
	5)	Murky Gra Brn	Murky Gra Brn	Lt Gray	Murky Gra Brn		
ca. 1943?	6)	Pink Brown	Pink Brown	X	Pink Brown		
	7)	Dk Brn, Clear	Dk Brn, Clear	Deep Red Brn	Dk Brn, Clear		
ca. 1961	8)	Tan Cream	Tan Cream	Tan Cream	Tan Cream		
	9)	X	X	X	Deep Red Brn		
	10)	White (+)	White (+)	White (+)	White (+)		
	11)	Antique Gold	Antique Gold	Antique Gold	Antique Gold		
	12)	Pale Yellow	Pale Yellow	Cream White	Pale Yellow		
	13)	White (+)	White (+)	White (+)	White (+)		

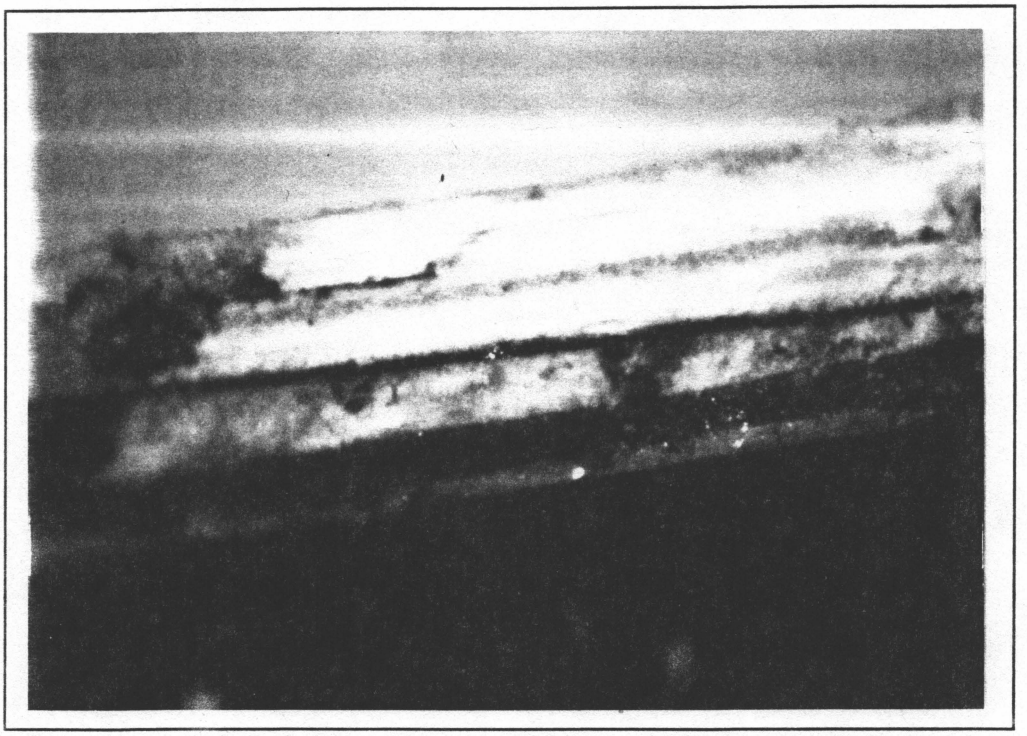


Figure 17. Paint sample ALPO P341. Room 200, upper hall, door into Room 202, hall side. Substrate shown at bottom of photo.

Room 202 - Southeast Chamber:

A total of six paint samples were taken from Room 202 and analyzed for this report. Samples were taken from baseboard, door trim, window trim, window apron, door and mantel. Generally, the finish history of Room 202 includes less variation of color than the first floor rooms and is straightforward. No mysteries are created or solved by examining the finishes of Room 202. The finishes closely resemble those found in the upper hall, Room 200. As in the other rooms, finishes used in Room 202 are often found at the same time elsewhere in the house.

Original material as revealed during paint analysis of Room 202 includes:

-all baseboard (Type F);
-window trim (Type C);
-window apron;
-all door trim (Type C);
-door to hall (Type C);
-mantel.

The initial scheme of finishes in Room 202 included a tan cream paint on all woodwork inclusive of doors, sash, and mantel. The treatment of the original yellow mud plaster walls is unknown. Treatment of the plaster ceiling is unknown.

The second finish scheme in Room 101 consisted of a second application of tan cream paint to all previously painted elements. A light gray green paint was introduced as a third finish throughout the room followed by a light gray blue. The baseboard and mantel were painted dark blue/black to complement the light blue gray. This treatment of light blue gray trim and dark blue baseboard was also found as an early finish scheme in Rooms 100, 102, and 200.

A bright red brown with bright orange pigments was applied to door trim, window trim, and baseboard just prior to the introduction of the recurring pink brown (ca. 1943-1960). This may have been a thin graining treatment, although the accompanying glaze associated with graining is not evident.

The pink brown finish is the seventh (typical) finish in the room. It is especially thick in this room and may constitute more several layers. It was followed by a dark glossy brown that may have been a varnish coat. The dark glossy brown is also found following the pink brown in Rooms 102 and 200.

The ca. 1961 tan cream is absent from this room as is the modern sequence of paints that it normally heralds. The most recent paints in this room are many coats of white paint.

ROOM 202 - SECOND FLOOR, SOUTHEAST CHAMBER
General Finishes Line-up

	Finish	Door Trim	Window Trim	Baseboard
ca. 1834-37	1)	Tan Cream	Tan Cream	Tan Cream
	2)	Tan Cream	Tan Cream	Tan Cream
	3)	Lt Gray Green	Lt Gray Green	Lt Gray Green
	4)	Lt Gray Blue	Lt Gray Blue	Black
	5)	X	X	Dk Green Gray
	6)	Bright Red Brown (orange pigs.)	Bright Red Brown (orange pigs.)	Bright Red Brown (orange pigs.)
ca. 1943?	7)	Pink Brown	Pink Brown	Pink Brown
	8)	Dark Glossy Brown	Dark Glossy Brown	Dark Glossy Brown
	9)	Yellow Brown varnish	Yellow Brown varnish	Yellow Brown varnish
	10)	Pink Cream	Pink Cream	X
ca. 1961	11)	White (+)	White (+)	White (+)
	12)	White	White	White
	13)	Off White (+)	White (+)	White (+)

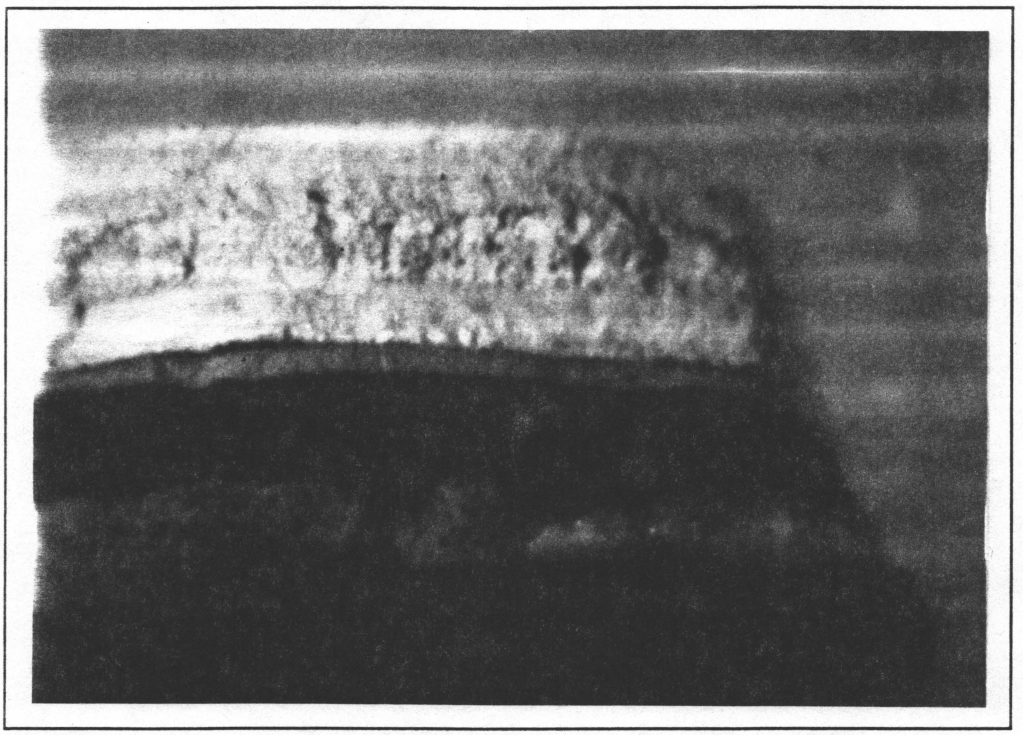


Figure 18. Paint sample ALPO P342. Room 202, second floor, baseboard, south wall. Substrate shown at bottom of photo.

C. Character Defining Evaluation

It is important to understand the existing and the historic character of a structure and its site before treatments or interventions are proposed or recommended. By understanding the characteristics of the existing structure and site, the effect of the proposed treatments can be evaluated. By knowing the historic characteristics and the existing characteristics, the changes which have taken place are more easily understood. In addition, the level of intervention needed to recapture the historic period character is more clear when the two are compared.

The character identification of a structure and its site are obviously tied to the way the structure and site are perceived. All the human senses are utilized. However, the strongest is the sense of sight with the dominant characteristic being visual; secondary are the senses of smell and hearing. Among those characteristics which affect the senses of sight, hearing and smell, some are more important than others. Consequently, when planning treatments, and how those treatments will affect the existing and the historic character, the prioritization of the character defining features is important.

Following is a brief description of the character of the summit level site and the Lemon House during the historic period of the 1840s. Some of these characteristics are more or less known while some or more conjectural, although based upon knowledge of this specific site as well as similar sites.

C.1. Character Defining features of the Site

Historically, the site would have been the scene of various levels of activity from rather intense to rather sedate, depending upon the time of the year and the time of the day. The characteristics of the activity would have been the movement of people and small scale vehicles, the noise of such activity, the noise of the steam engine at engine house 6 and farm animals and people talking. The smells associated with the burning of coal and those associated with farm animals would also have been important aspects of the character of the site. The important visual character was represented by the different color and texture or the vegetative types and the site elements of the built environment such as the engine house, the Lemon House, and other site structures. The contrast of the different vegetation patterns of meadows, cultivated fields, an orchard, and forested areas and their relationship to the gently rolling topography was also an important site characteristic.

The contrast between the colors, the textures, the spacial organization, the vertical vs horizontal nature of the natural and the built features was another important characteristic. In

addition the number and the grouping of the structures would have also been an important characteristic. The delineations between the fields, meadows and the forested areas of roads, trails and fences would have more clearly defined the differences.

Obviously, some of these characteristics are more important than others. For example the characteristics of different vegetative types and their relative sizes and associations are more important than the exact size of fields. The site character of the contrast of a natural landscape and a cultivated landscape is more important, is more character defining, than the size and color and location of a hay field. The following list of characteristics are in priority order to reflect which are more important, or which are more character defining.

Historic Site Characteristics:

1. Soft lines of topography and site vegetation and the harder edges of the structures.
2. Multiple colors and textures of different vegetative patterns.
3. Spacial relationships of human activity areas.
4. Relative size and relationship of the fields, the meadows, the forested areas.
5. Major arteries which separated the different land uses (railway and roads)
6. Major site structures of the engine house and the Lemon House.
7. Grouping of structures near the Lemon House and the engine house.
8. The smell of coal burning.
9. The noise of the engine and the steam locomotives.
10. Minor landscape edges (fence lines and trails).
11. Mine shaft superstructure.
12. Other specific structures.

The list is infinite, but those listed are the more important characteristics. The next list is that of the existing site characteristics. The importance is the relationship of the two lists and how they influence and are influenced by alterations to the site.

Existing Site Characteristics:

1. Soft lines of topography and site vegetation and the harder edges of the site structures.
2. Relatively few colors and textures of different vegetative patterns.
3. Spacial relationships of human activity areas.
4. Relative size and relationship of the forested areas and the maintained site grounds.

5. Major site structures of the engine house and the Lemon House.
6. Noise of automobile traffic on highway 22.
7. Mowed lawns.

The obvious difference, regardless of which individual characteristics are more important than other, is the less complicated nature of the present compared to the historic. There are fewer structures than historically. There are also much fewer vegetation colors and textures, and there are certainly fewer smells and noises than those which existed during the historic period.

C.2. Character Defining Features of the Lemon House

Historically, the Lemon House would have been characterized by the specifics of the architecture as well as the activity associated with a family residence and of a place of business. Architecturally, its mass, its relationship to masonry components and wood components, and its relationship of wall to wall openings were important. Its specific colors and textures could have been important characteristics as well. The combination of building materials and their use The architectural details would have become more obvious as they were viewed at a closer distance. Certainly the sounds and smells would have been much more important when experienced closer to the source of origin such as on the interior. On the interior, the human activity would have been a very important characteristic. The room volumes and the defining partitions as well as the colors of the larger surfaces would have been important characteristics as well.

Historic Characteristics of the Lemon House Exterior:

1. Building contrast to the landform
2. Building mass
3. Relationship of masonry portion to wood appendages.
4. Contract of texture of wood shingle roofs and stone masonry
5. Relationship of wall mass and void
6. Asymmetry vs symmetry nature of building
7. Porches structural system - spacing of columns, etc.
8. Multilight window sashes
9. Irregularity of finished masonry
10. Roof penetrations
11. Main north doorway
12. Specific color of painted wood and relationship to warm tones of masonry
13. Contrast of molding profiles with masonry texture

Historic Characteristics of the Lemon House Interior:

1. Human activity - movement, noise, smells

2. Room volumes
3. Relationship of open volumes to partitions
4. Amount of moveable furniture

5. Different activity levels and types in different public rooms
6. Variable lighting levels
7. Temperature contrasts
8. Contrast of the activity level of private and public areas
9. Central hall and stairway
10. The relationships of wall surface and doorways
11. The yellow walls of the barroom
12. Specific placement of furniture
13. Individual surface textures and colors
14. Contrast of wall surface colors and borders
15. Specific furniture types
16. Contrast of molding profiles with wall surfaces

As is the case of the character evaluation of the site, there are an infinite number of characteristics which could be listed. These are meant to give a sense of the important ones and the comparison of ones which are more important than others. The following list is of the lemon house as it exists presently. The greatest difference between a historic and an existing characteristic of the building itself is the lack of porches on the building presently. This difference is apparent in Figure 11 in which simple line drawings compare the two conditions.

Existing Characteristics of the Lemon House Exterior:

1. Building contrast to the landform
2. Building mass
3. Relationship of wall mass and void
4. Asymmetry vs symmetry nature of building
5. Contract of texture of wood shingle roofs and stone masonry
9. Irregularity of finished masonry
8. Multilight window sashes
10. Roof penetrations
11. Main north doorway
12. Specific color of painted wood and relationship to warm tones of masonry
13. Contrast of molding profiles with masonry texture

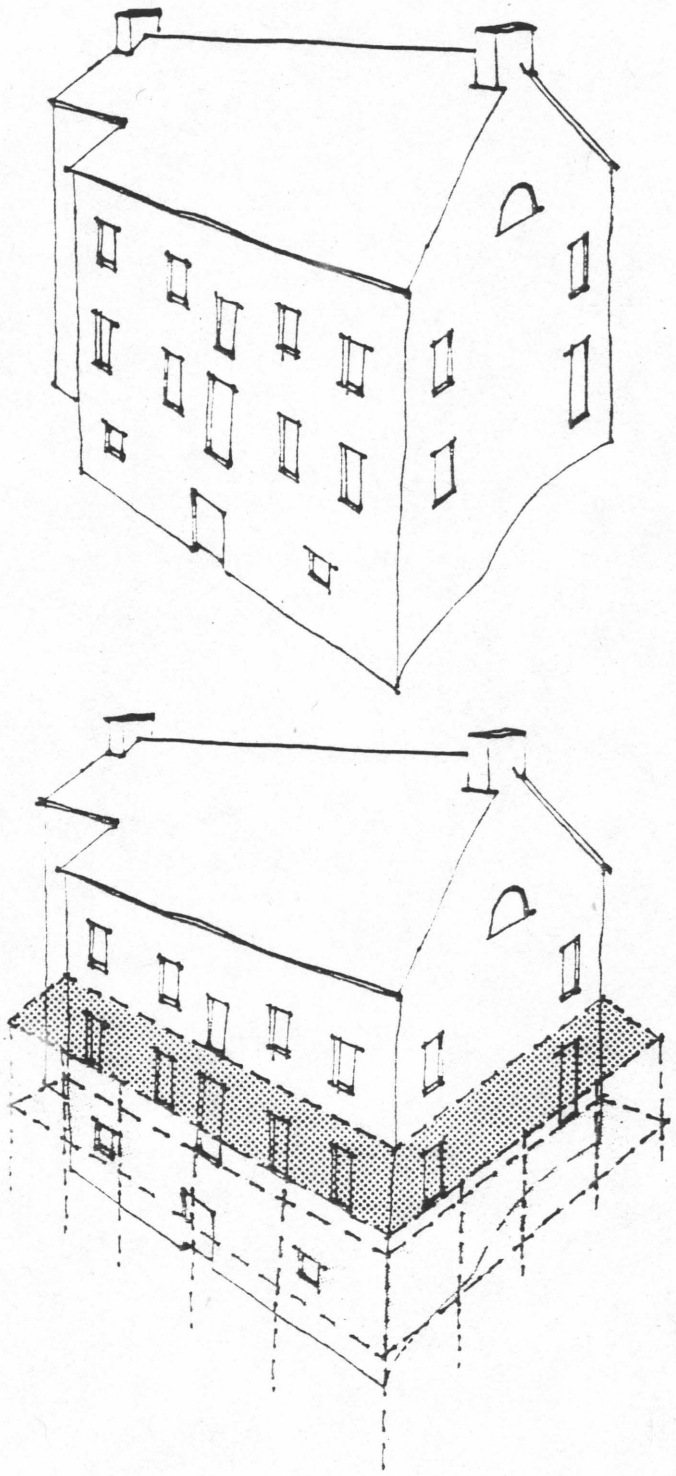


Figure 11: The effect of the presence or the absence of porches on the Lemon House on the building character. The difference of separate porches vs a contiguous porch can be seen in Figure 10.

Existing Characteristics of the Lemon House Interior:

1. Room volumes
2. Relationship of open volumes to partitions
3. Central hall and stairway
4. The relationships of wall surface and doorways
5. Variable lighting levels
6. Lack of use
7. Individual surface textures and colors
8. Different activity levels and types in different areas

C.3. Summary

The character evaluation is intended to assist in the development of recommendations for the building and the site, but it is not intended as the sole justification for any recommendation. The recommendations are based upon many factors, and all are important considerations.

III. HISTORIC ARCHEOLOGY

A. ARCHEOLOGICAL RESEARCH

Archeological research associated with the Lemon House began soon after the demolition of the ca. 1960 south and east porches which existed when the site became under the stewardship of the National Park Service. Additional archeological data resulted from attempts to locate front yard features of the Lemon House and from construction associated projects.

A program of archeological testing was conducted between June 5 and June 18, 1978, by Brian Aivazian of the DSC. These excavations were designed to provide archeological information to aid architectural planning and design of possible reconstruction work at the Lemon House. One of the specific questions addressed by this project was the identification of historic porch foundations along the south wall of the structure and the dating of three mortared stone walls adjacent to the northeast corner of the structure. The excavator hoped to determine if these footings along the east wall were footings for an original porch (Aivazian 1978:4,6). A preliminary report on this project summarized the findings of the project (Aivazian 1978).

Based on stratigraphic information obtained by these excavations Aivazian concluded that the footings along the east wall, and presumably any porch they might have supported, were not constructed at the time the house was built. While not contemporaneous with the construction of the Lemon House, the excavator suggests that they were added soon after the erection of the house (Aivazian 1978:4). In the area along the south wall, at the southwest corner of the main portion of the structure, Aivazian's excavations revealed the presence of a stone foundation running parallel to the south wall of the Lemon House. The southern, outside, face of this stone alignment was at about six feet south of the south wall of the Lemon House. Two post holes were identified in association with the stone foundation. One post hole was located 2' east of the west wall of the main structure, and the second post hole was found 11' east of the west wall. Aivazian interpreted these post holes as the remains of a support system for a porch (1978:9-10). Aivazian offered a tentative date range for the construction of the porch foundation. Based on the supposition that an 8 to 10 inch thick layer of mottled soil overlaying the stone foundation was deposited when the cellar of the west wing of the house was excavated, a construction date of sometime between 1860 and 1876 was assigned to the feature (Aivazian 1978:9).

Architectural re-analysis by Penelope Batcheler, conducted subsequent to Aivazian's work, established that the west wing of the Lemon House is an original, though altered, feature of the structure. The original configuration of the wing was modified in

1900 when this portion of the structure was enlarged by rebuilding the south wall of the wing at a point 6' 8" south of its original location (Batcheler 1982:6,134,138). If Aivazian's stratigraphic interpretation is correct and the fill layer over the south porch foundation was deposited during the excavation of a cellar in the west wing, then, based on Batcheler's architectural re-analysis, the construction of the porch foundation could date to either the construction of the original west wing, contemporaneous with the construction of the main house, or to the construction of the west wing enlargement in 1900. Since artifacts contained in the fill layer above the porch foundation are not consistent with a date of deposition in the early 19th century, when the Lemon House was build, if Aivazian's stratigraphic interpretation is correct then the porch foundations would have to date to 1900. However, later archeological interpretations of the stratigraphy, presented below, have called into question Aivazian's view that the critical fill layer represents material from a cellar excavation.

The 1978 excavations established that supports for a south porch pre-dating the one constructed by the Roberts had been preserved below grade. Budget limitations precluded Aivazian from fully exploring these remains; and only the western 14' of the feature was exposed during his excavations (1978: 10). In order to follow up on this work, excavations were conducted by the Museum Institute for Conservation Archaeology (MICA) of the University Museum, Philadelphia, under the direction of Michael Parrington. Pursuant to a contract between DSC and MICA these excavations, conducted between May 14 and May 19, 1980. The majority of the work conducted by MICA was directed toward a more complete delineation of the porch foundations uncovered by Aivazian, and to incorporating an analysis of his findings into the final report on the MICA excavations (Parrington 1980:5,20).

The MICA excavations revealed that the porch foundations encountered by Aivazian south of the south wall of the main Lemon House structure continued for the full length of the south wall of the building. In fact, it was demonstrated that these foundations continued beyond the east facade of the Lemon House, suggesting that at some point in time the south porch articulated with a deck or porch on the east side of the house (Parrington 1980:20:40-41). The 1980 excavations uncovered a second, inner or northern, alignment of dry laid stone in 2 locations abutting the south wall of the Lemon House (Parrington 1980:29).

Based on the results of the MICA excavations and his re-analysis of Aivazian's data, Parrington concluded that an east porch was constructed within 10 years of the construction of the Lemon House, and that the porch on the south side of the house was not added until the mid-nineteenth century (1980:55,57). Because the inner alignment of stone was not bonded to the Lemon House foundations Parrington assumed that both it and the outer alignment of stone,

and thus the south porch they supported, was constructed after the building itself. In addition, he concludes that the fill layer above the porch foundations, the same layer Aivazian attributed to soil removed during excavation of the west wing cellar, was fill for (and thus contemporaneous with) the porch foundation construction. Based on the latest dateable artifact found in this fill, Parrington argues that the construction of the south porch occurred after 1855, "...and if as seems possible the porch was built incorporating demolition materials from the [Portage Railroad] it may have been built around 1858" (1980:40,54-55). The early date for construction of the east porch is supported, in Parrington's view, by coins, dating between 1820 and 1837, that Aivazian recovered from his excavation unit adjacent to the porch footings along the east wall of the house (1980:56). In 1982 a second HSR was completed (Batcheler 1982). In addition to fabric analysis and historic documentary and photographic analysis, this study included a re-analysis of the conclusions of the earlier HSR, as well as the results of both the 1978 and 1980 excavations. In this report, as noted above, Batcheler establishes that the west wing of the house, though later enlarged, was constructed as part of the original structure. Her examination of the first floor rear doorway confirms previous architectural assessments that this door was "unequivocally" an original feature of the structure (1982:80,82). This finding suggests that either the conclusion reached by both Parrington and Aivazian that the south porch foundations they uncovered date to the mid to late nineteenth is incorrect, or, these foundations are not the original foundations for the south porch. Recognizing the incomplete nature of the available archeological data pertinent to east porch, Batcheler called for additional archeological investigations in this area (1982:82).

In an attempt to clarify the relationship between the east and south porches, and to determine the construction dates of the 2 porches, Kathleen Fiero conducted additional excavations at the Lemon House between April 27 and May 8, 1981. This work was reported in an Archeological Data Section which compliments the previously compiled HSR documentation (Fiero 1984). In this work the author reviews and reinterprets the previous excavations in the light of the excavations she conducted. Based on her excavations Fiero concludes that the portion of the outside south porch foundation which lies to the east of the east wall of the Lemon House represents an extension of the south porch. Employing artifactual evidence Fiero dates this extension to the late nineteenth or early twentieth century. Fiero argues, based on the dates of recovered artifacts and the presence of the original rear first floor doorway, that the south porch foundations, exclusive of the later eastward extension, were probably constructed around 1832 soon after construction of the house (1984:42-43). However, an important qualification to this conclusion is offered. Fiero also suggests that it is possible "...that the stone foundation

uncovered in 1978, 1980, and 1981 is not the remains of the original south porch", and that "[i]t is possible that an earlier porch was built and its remains and associated cultural deposits were removed through regrading before construction of the [later] stone foundation" (1984:43).

The most recent excavations conducted at the Lemon House were completed in 1984 by the American University. The goal of this project was to "...locate any evidence of an east porch foundation" (Orrence 1987:142). The structural remains found during these excavations were judged to be part of the east porch foundations. These foundations were interpreted as a continuation of the south porch foundations exposed in the earlier archeological projects based on their alignment 6' east of the east wall (a distance consistent with that observed for the south porch foundations), and the fact that they were of a similar dry-laid stone construction (Orrence 1987:159,7-8,9). The excavators were unable to date these foundations due to the disturbed conditions encountered in the excavated area.

B. CONCLUSSION

Despite the extensive excavations adjacent to the south and east facades of the Lemon House, fundamental questions still remain concerning the construction dates and configuration of the porches along the south and east wall of the structure. As is apparent from the review of these earlier projects, the results of these various efforts were equivocal and often mutually contradictory.

In view of the need for further clarification of construction dates and configuration of the porch structures, additional archeological work is scheduled.

IV. EXISTING CONDITIONS-ARCHITECTURE

A. Physical Description

The Lemon House is a two and one-half story fieldstone masonry building, rectangular in plan with a rectangular appendage on the west side, part of which was original to the building. The overall dimensions are approximately 74 feet by 43 feet. The roof is a gable covered with wood shingles. The masonry can best be described as uncoursed random ashlar sandstone with a rubble fill. The windows are all double hung, six over six light sashes. The original interior framing system was altered by supplementing the original with structural steel in 1981.

The building faces north on a site that presently slopes approximately seven feet from the front yard the area south of the south, or rear, wall. The original grade was similar to the existing grade but was probably slightly lower on the north side by one and one-half feet.

B. Inventory Condition Assessment Program (ICAP)

An Inventory Condition and Assessment Program (ICAP) was completed for the Lemon House and is included as Appendix B of this addendum. This program is designed to provide a systematic evaluation of the physical condition of the structure and should serve the function of a condition "benchmark" to be compared with condition assessment information which predates this assessment and for condition assessments which will be undertaken subsequently. Following is a summary of the detailed data in the actual ICAP.

C. Architecture

C.1. Exterior - Site

The Lemon House foundation is constructed into a hillside with the first floor at grade on the north side of the building and the basement floor at grade on the south side of the building. Apparently a perimeter foundation drain has been installed around the building. The size, type, and extent of this drain is not known. Discussions with Park staff indicate that the perimeter drain is connected to the sanitary sewer drain which flows southwest from the structure to a sewer lift station approximately 100 feet away. The lift station pumps the combined sewage and groundwater to the local municipal treatment facility.

During normal seasonal periods, groundwater flows in the porous soil around the building, into the perimeter drain and away from the building. During periods of excessive precipitation, the system is overloaded and basement flooding is experienced. Several factors contribute to the potential for basement flooding. As mentioned, the perimeter drain is connected to the sewer lift

station. If the lift station capacity is exceeded, water will back up the sanitary sewer and into the basement of the Lemon Hose. Apparently, grades around the lift station allow surface water to enter, taxing the station beyond capacity. Surface water in combination with water from the perimeter drain and the normal sewage load may all contribute to this problem. If the lift station fails to keep pace with inflows, then two things happen. The sewage will back into the Lemon Hose and the perimeter drain will stop drawing water. If groundwater is not drawn away, the hydrostatic load on the foundation wall increases. Evidence of structural failure indicates that a hydrostatic groundwater load on the north foundation wall has forced water into the building.

Adding to the problem with the lift station is the grading immediately around the Lemon House. Grades around the northwest corner of the structure do not channel water away form the foundation but instead direct water along the foundation around to the southwest corner of the building. During periods of high precipitation similar to the one experienced in the spring of 1993, water may actually flow around the building and into the basement through he door sill on the south side of the building. Even if surface water does not flow into the building, the poor grading amy increase the ground water levels thereby aggravating the problem.

C.2. Exterior - Building

The north elevation door frames show peeling paint on most vertical and horizontal surfaces. the north hallway door three-centered arch wood frame appeared to be saturated with water. The doors are reproductions. The door casings are original to the significant period. The door at the east elevation is discolored at the stile/rail joints on the exterior surface. The south elevation first floor hallway door and casing are original. The two basement doors are replacements. All south doors and casings are in good condition.

The masonry walls are generally in good condition. There are numerous bulges and cracks which are identified in the 1993 existing condition drawings, but none are considered to be serious, although some actions will be required.

C.3. Interior

Current second floor utilization consists of office space for interpretive services, visitor protection and park security, and seasonal staff. The park management foresees maintaining this arrangement until an unspecified time in the future, when offices might be moved to a new, more appropriate location. At the earliest, it this space re-assignment would occur in 1996 - 1998. The continued use of the second floor in its present configuration makes it desirable to rehabilitate the existing architectural

finishes.

The second floor appears to be structurally stable, since the framing was stabilized in the past. Most floors slope toward the center of the building. This condition is a vestige of the earlier movement which was not reversible. Although there are noticeable cracks at the interface of the south wall and perpendicular walls, it appears that they are the reopening of earlier stress cracks.

Walls and ceilings are either painted or wallpapered. Those treated with a wall covering are difficult to assess for problems. Doors and trim are painted and in good condition. The two fireplaces in the northeast and southeast rooms are closed in. The mantles are in good condition. Both of the stairways to the second floor creak to some extent.

C.4. Hazardous Materials

The identification of hazardous materials and proposals for their abatement will be a part of the design development phase. A level I survey of the Lemon House will identify potential hazardous materials at the site and a level II survey will identify the specific hazardous materials for which remedial actions should be taken. It is assumed that there will be asbestos as well as lead paint in the structure. It is anticipated that the amount of asbestos and the features which are affected will not be extensive. It is also anticipated that lead paint will be more extensive throughout the building with the exception of those features and materials which were added during the 1978-1981 rehabilitation work. The level I and level II work will be will be carried out as part of the future planning phases.

Radon gases have been identified in the basement of the Lemon House and remedial action will be necessary. This remedial action is being planned and cost estimates have been added as a separate item in section VIII. Estimation of Construction Costs, of this document.

D. Mechanical/Electrical

D.1. Fire Protection

A fire detection and alarm system and a security system were installed in the building in 1981, at the same time that several other modifications were made to the house. This system, which does not provide adequate protection for the entire structure, is currently being removed and replaced to provide complete fire and security alarm protection. The new system will be tied into the fire and security system in the Engine House exhibit shelter. The existing fire alarm annunciator panel located in the artifacts room will be removed, a new fire and security alarm control panel will

be located in the mechanical room, and a new control station touch-pad will be installed in the foyer. Proposed building treatment options must be coordinated with new system.

During the preparation of the design documents the fire protection systems in the building will be further analyzed comprehensively. It is currently NPS and Federal policy that all Federal facilities be provided with automatic sprinkler systems. Chapter 18 of NPS-50 now requires automatic sprinkler and fire detection systems be installed in all newly constructed NPS facilities, as well as in those facilities undergoing major renovation. The current water service has been upgraded, but will need to be flow-tested and studied for its adequacy for a fire protection sprinkler system. The existing fire detection and alarm system should be tested and studied for its compliance with current codes, and should be integrated with any new sprinkler systems that are to be installed on the premises. The emergency and exit signage may need to be modified to meet current requirements. The comprehensive fire protection study should include consultation with the local fire department.

D.2. Mechanical

The Lemon House would originally have been heated by eight wood- or coal-burning fireplaces, four on each of the first and second floors, when it was originally constructed. At some point, the heating source was converted to a steam boiler, located in the basement, with steam piped to cast-iron radiators located throughout the house. This boiler would have likely been coal- or wood-fired. Twenty-five to thirty years ago, the steam boiler was replaced with a natural gas-fired hot water boiler, and the cast-iron radiators were gradually replaced with baseboard fin-tube radiators. This boiler was replaced in 1984 with a pair of smaller, higher efficiency hot water boilers.

The house has never been completely air-conditioned. Historically, the only means of cooling the structure has been through natural cross-ventilation, possibly with the aid of fans. It appears that some of the windows have been sealed shut with paint at some point in the past, making the use of natural cooling impossible at present. There currently is a radon problem in the basement of the house. Radon abatement means should be studied to determine the most cost-effective methods, but any measures taken are likely to include repair of the basement floor to eliminate the radon source and adequate ventilation to alleviate possible future radon accumulations.

The water supply and sanitary drainage piping systems in the building were last modified during the period from 1978 to 1982 with the addition of public toilet facilities in the basement and changes to accommodate some structural work. The building is not

likely to have had any running water at the time of its construction, so that any piping on the restored first floor must be completely concealed.

Improvements to the water and sanitary sewer service lines to the building were made in 1981. At that time the building was connected to the Cresson sanitary system through a newly installed lift station. The house had previously been connected to septic system that was inadequate to meet the needs of the demands of the plumbing system. At the same time the badly corroded existing domestic water service was replaced with a new 2" line.

D.3. Electrical

Currently, the building electrical service is supplied from a pad-mounted three phase, 50 KVA transformer located west of the Lemon house. The service was upgraded at the time the lift station was installed in 1981, from an underground single phase service to an underground 200 amp, three phase service.

The Lemon House would obviously not have had electrical service for the first sixty to seventy years of its existence. There is no completely reliable record of when the building may have first been electrified. However, in the oral history given by Mrs. Walters, her grandfather, Mr. Weston, is described as having electrified the house shortly after he and his wife moved in. This occurred after the purchase date of 1912. Several changes and upgrades to the building's electrical system have taken place over the years, reflecting changes in technology and increasing electrical load in the building.

Nineteenth century lighting in the house would have consisted of daylight, candles and possibly whale oil lamps up until about 1850. At that time, fixtures using burning fluid, lard oil or gas could have been in use. Kerosene lamps had not come into existence until after the Civil War. It would not have been until the 1880's that electric or electric-gas combination fixtures were available (Moss 1988: 19). The lighting fixtures in the house would have been installed concurrently with the electrification described above, with modifications made periodically over time. Some of the first floor fixtures were upgraded in 1978 for exhibits that were installed at that time.

E. Structural Evaluation

The building framing system and walls has been described in the original report (Bacheler) as basically having stone bearing walls with wood framing. The framing is made up of hand-hewn girders and vertically sawn lumber. The first floor was supported by randomly spaced posts, which were placed on bare ground. Moisture and decay

eventually lead to a unsatisfactory condition which resulted in an investigation by structural engineer Nicholos Gianopulos of Keast & Hood under the auspices of the regional office in 1976.

During the course of the investigation several shortcomings were found including the lack of an adequate load path for the upper floor loads. Several of the bearing partitions were identified as having inadequate support and generally the allowable floor loads were unacceptable for current and proposed use. Immediate remedial measures recommended by Keast & Hood included adding two masonry bearing walls in the cellar, steel floor support beams and placing a basement floor slab. Other deficiencies were generally identified, but the work executed was limited by availability of funds.

Another investigation was undertaken in 1978 by structural engineer James Wolf of DSC. This work targeted additional floor supports required and an evaluation of the attic/roof. Keast & Hood continued on with this work and developed additional strengthening recommendations for the second floor. This was incorporated in the construction documents for Adoptive Reuse dated 1982 (drg. no. 423/41017B), a copy of which is in Appendix G. During the course of construction, additional information became available which lead to the need for reconstruction of the lower portion of the west wing wall.

Current concerns of the building deal with foundation drainage and radon abatement. Some question as to the integrity of the existing exterior walls was discussed with Gianopulos. This issue may require additional investigation, but current observations do not lead to any apparent failure areas.

The following structural chronology is helpful in determining how the strengthening of the building evolved.

Structural Chronology - Summary

The associated correspondence is located in Appendix F.

Memorandum dated May 10, 1976 from Nicholas Gianopulos (Keast & Hood) to Henry Magaziner (NPS-MARO) (a copy is also in Appendix 7 of Batcheler's report):

- Discusses meeting (4/18/76) with PENDER representatives on possibility of mine subsidence followed by a site visit. Then mainly goes through various inadequacies of the structure starting with the "haphazard" posts placed in the basement to inadequate surface drainage. Recommended new concrete masonry walls to support existing interior timber framing and to buttress cellar (basement) walls, new structural steel framing to support the first floor, new cellar floor slab, and removal

of blocked in basement window to provide ventilation. Two inclosed sketches show most of the recommended work.

- Recommended that a drilling program be postponed at this time since "it did not appear that the house had been affected by undermining...limited funds...can be better utilized in upgrading the existing structure this year...rather than embarking on an extensive subsurface exploratory drilling program in search of collapsed undermining".

Transmittal dated January 10, 1977 from Nicholos Gianopulos (Keast & Hood) to Henry Magaziner (NPS-MARO) concerning shop drawings and letters:

- The contractor recommended reconstruction of cellar stone piers which were being added onto with masonry walls as discussed in memo above. This was agreed to.

- Shifting the end bearing of one of the W 8 beams relative to cellar window lintel.

- Observation - the shop drawing shows the contractor substituted two W18X45's for the W16X50's as depicted in above memo.

Letter dated February 4, 1977 from Berkebile Bros. Inc. (contractor) to Clyde Bodge (NPS Contracting Officer) (a copy is also in Appendix 7 of Batcheler's report):

- Contractor performed investigation of second floor framing, such as size, end bearing and condition.

Trip Report dated May 23-25, 1978 from James Wolf, Structural Engineer, DSC (includes structural calculations):

- Purpose - to investigate second floor framing, attic floor framing, and roof framing and make recommendations to be included in the historic structure report (Batcheler).

- Verified that the work proposed by Keast & Hood in May 10, 1976 memo was done and the design live load for that upgrade was 75 psf.

- Recommended that the west wing of the first floor be strengthened by adding two W12X27 beams spanning east west at 5.5 feet from each wall. Observation: this area was apparently strengthened prior to the 81 contract, but only one beam (W12X45) was installed at midspan.

- Recommended strengthening of second floor to a live load of 50 psf with specific sizes and spacings.

- Attic capacity at 10 to 20 psf. If kept present use, no storage, would be alright, but the heavy timbers required reinforcing by adding channel sections to the sides.

- The roof rafters were adequate but the purlins required strengthening by adding channels to the sides.

- Some discussion of the masonry walls referring to soft weak mortar. "The region and park presently have a contract to repoint the exterior of the stone walls. In addition, the contract calls for low-pressure epoxy grouting of the interior of the stone walls. I have some reservations about the epoxy grouting...If it appears the grouting is causing any damage to the stone walls work then will be stopped".

- Some discussion on inadequate site drainage.

Letter dated December 15, 1980 from Nicholos Gianopulos (Keast & Hood) to Jeffery Bentz (NPS-DSC) concerning Wolf's trip report and remaining structural work prior to architectural restoration:

- Agreed with the recommended design live load in Wolf's report of 50 psf for the second floor and 30 psf for the roof. The remedial work provided by their office would generally follow his recommendations with added detail.

- Discussed coordinating proposed work with ongoing building use.

- A casual examination of the exterior masonry walls was made due to time constraints. "The history and details of the grouting of the west wing cellar wall were not reviewed but discussed only in the most general terms".

Letter of Transmittal dated January 4, 1982 from Nicholos Gianopulos (Keast & Hood) to Randell Cooley (NPS-ALPO) concerning contract modifications:

- SK-S1 Detail to suite field conditions.

- Proposed details for revised framing below second floor to permit full opening between Rooms 103 and 104. Installation of a new W14X38. Observation - the as-builts do not have the channel extension at the embedded wall end.

Letter dated March 17, 1982 from Nicholos Gianopulos (Keast & Hood) to Randell Cooley (NPS-ALPO) concerning lack of integrity of West wall:

- "The key element, or factor to the deformation is the physical character of the houses's masonry walls, which can at best be

described as partially dressed stones, loosely bedded in sand (mortar) beds, with exterior and interior pointing of little structural value - i.e., a weak wall when subjected to lateral forces."

- "The magnitude of inward wall movement at the cellar floor has approached five to six inches along the interior cellar stairway from the first floor."

- "The movements have all been responses to changes in exterior pressures on a wall which was inherently weak to begin with. The other walls of the house have also responded, to varying degrees, to past external and internal circumstances by deforming in some manner, but not to the extent of the West Wall."

- "..recent removal of some loose interior stones ..disclosed sizable voids and separations within the wall...In view of what appears to be a minimal number of header stones within the lower central wall area, the inherent lack of bed joint strength, and the internal separations within the deformed wall area, the writer is of the opinion that further attempts at grouting and deep tuck pointing will not adequately correct a condition whose stability could easily be aggravated".

- "It is advisable that the wall section in question be removed and replaced with new construction...The enclosed sketch has been developed to indicate the approximate area of wall to be replaced and the general manner of needling and shoring the wall in preparation for the removal and replacement of the portion below."

Letter of Transmittal dated January 4, 1982 from Nicholos Gianopulos (Keast & Hood) to Edward Miller (NPS-Project Supervisor) concerning wall reconstruction:

- Contains additional information on the sketch then in above letter. The sketch states that "The reconstructed wall will reuse face stones from the portion removed with 8" solid CMU backup" Observation - the as-builts show a 4" backup, but this was probably for the upper portion (first floor) and 8" was used at the cellar level.

Letter of Transmittal dated June 28,1993 from Nicholos Gianopulos (Keast & Hood) to Bonita Mueller (DSC-WPP) concerning information on file:

- Unable to locate structural calculations, but forwarded copies from the coorespondence file and two photographic contact sheets.

F. Code Evaluation

A comprehensive evaluation of the applicable codes will be a part of the design develop phase of the overall project.

G. Accessibility

The general area of the Lemon House is accessible by a ramp from the new visitor's center. The Lemon House is currently accessible to people with physical disabilities only on the first floor, with the addition of a portable ramp at the north entrances. The south-east basement entrance could be made accessible if the ground surface were changed to a more stable material. However, the specific proposals for treatment which are the subject of this report majority of the summit level site such as the area of the coal wharf and shaft are not accessible. Even in the immediate vicinity of the Lemon House, the accessibility needs are much more complicated and will have to evaluated and reasonable solutions developed in concert with the overall program requirements.

H. Existing Condition Drawings - 1961 and 1993

V. LEMON HOUSE TREATMENT RECOMMENDATIONS

A. EXTERIOR

A.1 Porch Design

The fact that the Lemon House conspicuously lacks a way of accessing the ground from the first floor hallway south door creates a tension in a normally fixed, steady picture of a historic structure. The building would have required a porch functionally. Sufficient evidence above and under ground indicate the presence of some kind of structure which was non-existent by the time the photograph of the east elevation's partial porch was taken.

The primary recommendation for the exterior of the Lemon House is to reconstruct the south and east porches. Because reconstructing a porch from an acknowledged non-plentiful amount of information requires some conjecture of the historic condition, the porch should be designed to reflect the primary characteristics of a historic porch of scale, rhythm, texture, and color, but should not replicate a specific historic porch. The treatment drawings indicate the porch scheme at a schematic design level.

A.2. Subsurface Drainage

Further investigation into the causes of the problem with basement flooding at the Lemon House should occur as the design phase of the project proceeds. Several remedial efforts should be examined. Possible remedial efforts may include disconnecting the perimeter drain outfall from the sanitary sewer and daylighting the drain south down the adjacent slope, upgrading the entire foundation drainage system, applying a water resistant coating to the exterior foundation wall and modifying grades to channel surface water away form the building.

A.3. General Exterior

Approximately 25% of the exterior surfaces of the masonry walls require repointing. Several lintels are cracked and will require extensive repair. These recommendations are shown on the elevations of the treatment drawings.

B. INTERIOR

B.1. Interior Restoration

The architectural investigation associated with this report supplemented that done by Penelope Batcheler in 1981, and much of this work, followed the suggestions by Batcheler for additional study. The results of the investigation have resulted in the conclusion that the interior rooms on the first floor, Rooms 100,

101, 102, and 103 can be architecturally restored within the standards of NPS-28, Cultural Resources Management Guidelines and the Secretary of the Interior's Standards for Historic Preservation Projects. The room specific recommendations are shown on the treatment drawings which follows this section. One important characteristic thought to be associated with the barroom, a passthrough to the hall, was not located. In fact, there is no evidence for such a feature and, consequently, there is no recommendation to reconstruct it.

One of the more important discoveries which resulted from the fabric investigation was the footprint of a bar in the barroom. It is located in the southwest corner of the room, along the west wall.

There are a few, what should be considered as minor questions which still remain, but those will be answered during the design development phase.

B.2. Recommendations for Painted Surfaces

This report generally recommends that the first finish be restored. It is likely that the initial painted finishes in the house were unchanged for several years after application. It is quite possible that the initial finishes remained unchanged throughout the house well into the 1840s. Therefore, the initial finishes identified below are believed to reflect the finishes of the restoration period. We have no dated information relating to the painted finishes themselves, or possible alterations affecting the painted finishes, until the twentieth century. Therefore the identification of the initial finishes is the most accurate manner to reflect the interior finishes in the early years of the building.

RECOMMENDATIONS

1) Room 100 - Hallway:

- Recommend colors as described and illustrated below in the Recommended Finishes Chart for Room 100.
- Recommend the use of a flat latex paint for walls and ceiling to approximate appearance of original water-based distemper. True distemper paints are impractical to replicate due to maintenance and durability problems.
- Recommend painting the Room 100 side of all doors in Room 100 tan cream to match door trim and stair elements.
- Recommend the use of a semi-gloss oil base paint for woodwork, inclusive of doors and sash, to replicate the original paint.

2) Room 101 - Northeast Room, Barroom:

- Recommend colors as described below in the Recommended Finishes Chart for Room 101.
- Recommend the use of a flat latex paint for walls and ceiling to approximate appearance of original water-based distemper. True distemper paints are impractical to replicate due to maintenance and durability problems.
- Recommend painting the Room 101 side of all doors in Room 101 gray to match trim.
- Recommend the use of a high gloss oil base paint for woodwork, inclusive of doors and sash, to replicate the original appearance of the finish which included a layer of paint followed by a distinct clear glaze coat. (This is the only room that exhibited a thick gloss coat over the original paint.)
- If a fireplace and mantle is reinstalled in Room 101 it should resemble the extant mantel in Room 102 and should be painted gray to match other trim. Investigate the location of the original fireplace for evidence of mantel placement and dimensions of fireplace.

3) Room 102 - Southeast Parlor

- Recommend colors as described below in the Recommended Finishes Chart for Room 102.
- Recommend painting the Room 102 side of all doors in Room 102 tan cream to match trim.
- Recommend the use of a semi-gloss oil base paint for woodwork, inclusive of doors and sash, to replicate the original paint.
- Recommend painting the ceiling with a flat latex paint to approximate appearance of original water-based distemper. True distemper paints are impractical to replicate due to maintenance and durability problems.
- No evidence, or inconclusive evidence, of original wall paints or wall papers. Decision to install period wallpaper rests with others. If wallpaper is installed, it should be period and can be chosen to be compatible with the furnishing plan. If no wallpaper is installed, patch existing plaster and apply plaster skim coat for uniform wall surface (leave unpainted).
- Recommend a test patch of the mantel with a mild chemical stripper to expose the first finish and determine if original finish is a marbleizing treatment. If original finish on mantel was a marbleizing treatment examine closely to determine characteristics and colors used. Recommend consultation with a professional faux finish painter. Have professional faux finish painter replicate marbleizing.
- Recommend further examination of original plaster walls in Room 102 for evidence of early wallpaper if period wallpaper is to be installed.
- An investigation for wallpaper evidence will require the careful removal of modern metal lath from original plaster as the metal lath was applied directly to original plaster.

4) Room 103/104 - Southeast and Northeast Rooms

- Recommend colors as described below in Recommended Finishes Chart for Room 103/104.
- Recommend the use of a semi-gloss oil base paint for woodwork, inclusive of doors and sash, to replicate the

original paint.

- Recommend painting the Room 103/104 side of all doors in Room 103/104 tan cream to match trim.

- If folding doors are re-installed between Rooms 103 and 104 paint should be tan cream to match other trim.

- Recommend painting the ceiling with a flat latex paint to approximate appearance of original water-based distemper. True distemper paints are impractical to replicate due to maintenance and durability problems.

- Inconclusive evidence of original wall paints or wallpapers. Decision to install period wallpaper rests with others. If wallpaper is installed, it should be period and can be chosen to be compatible with the furnishing plan. If no wallpaper is installed, patch existing walls, apply plaster skim coat for uniform wall surface and leave unpainted.

- Recommend further examination of original plaster walls in Room 103/104 for evidence of early wall paper if wallpaper to be installed.

- The investigation for wallpaper evidence will require the relatively easy removal of furred-out walls in some areas.

5) Room 200 - Upper Hall and Landing

- Recommend colors as described below in the Recommended Finishes Chart for Room 200.

- Recommend the use of a semi-gloss oil base paint for woodwork, inclusive of doors and sash, to replicate the original paint.

- Recommend painting the Room 200 side of all doors in Room 200 tan cream to match trim.

- Recommend the use of a flat latex paint for walls and ceiling to approximate appearance of original water-based distemper. True distemper paints are impractical to replicate due to maintenance and durability problems.

6) Room 202 - Southeast Chamber

- Recommend colors as described below in the Recommended

Finishes Chart for Room 202.

- Recommend the use of a semi-gloss oil base paint for woodwork, inclusive of doors and sash, to replicate the original paint.

- Recommend painting the room side of all doors in Room 202 tan cream to match trim.

- No evidence, or inconclusive evidence, of original wall and ceiling paints or wall papers. Decision to install period wallpaper rests with others. If wallpaper is installed, it should be period and can be chosen to be compatible with the furnishing plan. If no wallpaper is installed, patch existing plaster, apply plaster skim coat for uniform wall surface, and leave unpainted.

7) Further Analysis

- Additional paint sampling for the restoration of the second floor rooms may be desirable to compare stratigraphies of the first and second floor rooms.

- Additional paint sampling and analysis is necessary to fully understand finishes and alterations dating to the ca. 1900 renovations.

- Additional paint sampling of the west wing may be desirable to establish a finish history for this area. There is currently not enough information available from the samples to determine the stratigraphy of all trim elements.

RECOMMENDED COLOR MATCHES

ROOM 100 - First Floor, Hallway
Ca. 1837 Finishes

	Color	Munsell Notation	Benjamin Moore
Baseboard (north, south, east, and west walls)	Gray	5B 6/1	# 1601 →
Baseboard (along west wall up the stairs	Tan Cream	2.5Y 8.5/4	# 207 →
Door Trim	Tan Cream	2.5Y 8.5/4	# 207
Doors			
South Door	Tan Cream	2.5Y 8.5/4	# 207
Cellar Door	Tan Cream	2.5Y 8.5/4	# 207
Room 102 Door	Tan Cream	2.5Y 8.5/4	# 207
North (front) Door	Non-original, reproduction		
Room 101 Door	No original finish extant, maybe reproduction		
Stairway			
Stringer	Tan Cream	2.5Y 8.5/4	# 207
Decorative Stringer	Tan Cream	2.5Y 8.5/4	# 207
Baluster	Tan Cream	2.5Y 8.5/4	# 207
Riser	Black	5PB 2/1	# 1603 →
Walls	Green Blue	7.5G 6/2	# 705 →
Ceiling	Cream	5Y 9/2	# 930

RECOMMENDED COLOR MATCHES

ROOM 101 - First Floor,
Northeast Room, Bar Room
Ca. 1837 Finishes

	Color	Munsell Notation	Benjamin Moore
Baseboard	Gray	5Y 6/1	# HC-105 →
Door Trim	Gray	5Y 6/1	# HC-105
Window Trim	Gray	5Y 6/1	# HC-105
Pegboard	Gray	5Y 6/1	# HC-105
Plaster Walls	Bright Yellow	5Y 8.5/12	# 336 →
Ceiling	Bright Yellow	5Y 8.5/12	# 336

Doors — Inconclusive. Original finish survives only on Type D closet door and this door may have been located elsewhere originally. Recommend painting doors Gray to match trim - Benjamin Moore # HC-105.

RECOMMENDED COLOR MATCHES

ROOM 102- First Floor,
Southeast Room, Parlor
Ca. 1837 Finishes

	Color	Munsell Notation	Benjamin Moore
Baseboard	Tan Cream	2.5Y 8.5/4	# 207 →
Door Trim	Tan Cream	2.5Y 8.5/4	# 207
Window Trim	Tan Cream	2.5Y 8.5/4	# 207
Door to Hall	Tan Cream	2.5Y 8.5/4	# 207
Mantel	Deep Green High Gloss	5GY 2/2	No match
Plaster Walls	Either plain plaster (patched or skim coated), or period wallpaper.		
Ceiling	Cream	5Y 9/2	# 930 →

RECOMMENDED COLOR MATCHES

ROOM 103/104 - First Floor,
Northwest and Southwest Rooms,
Double Dining Room
Ca. 1837 Finishes

	Color	Munsell Notation	Benjamin Moore
Baseboard	Inaccessible		
Door Trim	Tan Cream	2.5Y 8.5/4	# 207 →
Window Trim	Tan Cream	2.5Y 8.5/4	# 207
Folding Doors	Tan Cream	2.5Y 8.5/4	# 207
Plaster Walls	Either plain plaster (patched or skim coated), or period wallpaper.		
Ceiling	Cream	5Y 9/2	# 930 →

RECOMMENDED COLOR MATCHES

ROOM 200 - Second Floor,
Hall and Landing
Ca. 1837 Finishes

	Color	Munsell Notation	Benjamin Moore	
Baseboard	Tan Cream	2.5Y 8.5/4	# 207	→
Door Trim	Tan Cream	2.5Y 8.5/4	# 207	
Window Trim	Tan Cream	2.5Y 8.5/4	# 207	
Doors in upper Hall	Tan Cream	2.5Y 8.5/4	# 207	
Plaster Walls	Green Blue	7.5GY 6/2	# 705	→
Ceiling	Cream	5Y 9/2	# 930	→

RECOMMENDED COLOR MATCHES

ROOM 202 - Second Floor,
Southeast Chamber
Ca. 1837 Finishes

	Color	Munsell Notation	Benjamin Moore
Baseboard	Tan Cream	2.5Y 8.5/4	# 207 →
Door Trim	Tan Cream	2.5Y 8.5/4	# 207
Window Trim	Tan Cream	2.5Y 8.5/4	# 207
Door to Hall	Tan Cream	2.5Y 8.5/4	# 207
Mantel	Tan Cream	2.5Y 8.5/4	# 207
Plaster Walls	UNDETERMINED		
Ceiling	UNDETERMINED		

B.3. HVAC Systems

The boilers have been recently installed and should be adequate to serve the needs of the structure for fifteen to twenty years. Baseboard fin-tube units located on the first floor will most likely be removed if the first floor is to be restored to a historic period. Some study will be required to determine what type of equipment could be installed with an absolute minimum visual impact on the first floor.

Discussion with Park staff and some further study will also be required to determine the need for a mechanical air-conditioning system, and the feasibility of installing such a system with minimal impact on the resource. Natural cooling principles should be utilized to the greatest extent possible. As with any new heating or cooling system, energy efficiency must be a primary concern.

The need for humidity control during dry winter months must be studied, however, the walls of the house are not insulated, nor do they have a vapor barrier, so the potential for damage to the structure is great. Indoor air quality issues (filtration, ventilation, etc.) for park staff working on the second floor and for visitors on the main level will be an additional consideration.

B.4. Plumbing Systems

As stated previously in this report, the existing domestic water heater is an electric water heater that is nearing the end of its useful life. Consideration should be given to replacement of the water heater with a high-efficiency, natural gas-fired water heater when funds are available. Replacement of the two grinder pumps in the sewage lift station should also be considered, and the controls for the lift station, which are currently located in an unsafe location for the operator, should be relocated at the earliest possible date.

A thorough assessment of the building's plumbing systems should be performed during design development. It is possible that no changes to the existing systems will be required to accommodate the planned improvements.

B.5. Fire Protection System

The fire protection and detection systems for the Lemon house should be examined from a comprehensive standpoint, including consultation with the local fire department and a thorough analysis of the water supply to the structure. Recommendations should be made based on the findings of this study.

B.6. Electrical Systems

A load analysis should be completed for the building to determine the adequacy of the electrical systems for current and future needs. The condition of all existing system components should be carefully analyzed, and recommendations made based on the information gathered. The adequacy of the existing equipment grounding system should be part of this assessment.

Lighting fixtures should be examined to determine how well they meet the requirements of the proposed improvements to the house. Those on the first floor may need to be removed or replaced in order to minimize visual impact, in keeping with the restoration effort and any potential new exhibits on that floor. Consideration for inobtrusive lighting to render the building useale at night needs to be addressed in the Design Development phase of the project. The existing fixtures on the second floor may need to be replaced to enhance the comfort level and working environment of the people on that floor, although it is planned that they will eventually be moved to other space. Lighting control should also be studied as a means of reducing energy consumption in the building.

The existing telecommunications system in the building should be adequate to meet foreseeable current and future needs, however the equipment and wiring that has been abandoned-in-place during previous improvements should be removed.

B.7. Life Safety Systems

These systems should be thoroughly analyzed as part of a comprehensive fire safety study mentioned previously. If they are not code compliant or do not provide adequate protection, then recommendations for upgrading or replacement should be made as the design is further developed.

B.8. Additional Interior Recommendations

All of the architectural finishes on the second floor need to be cleaned. In addition, all painted surfaces should be repainted if washing them does not return them to an aceptable level of cleanliness. The carpet throughout the floor is soiled and worn. Wallcovering may be replaced, depending on the condition of the material, the cost, and the length of time the second floor will ultimately be occupied. Surface and floor materials should be chosen so they do not destroy significant historic, arhtiectureal or cultural material. The solution should be compatible with the size, scale, color, material, and character of the structure. If these changes are removed in the future, the esential form and integrity of the structure would not be impaired.

Presently, the second floor is not accessible to those restricted to wheelchairs. In association with the development of design documents for the restoration of the interior, and the continual

adaptive use of the second floor, the feasibility of installing an elevator will be assessed. The only probable location for an elevator is in the south side of the west wing, or that area, constructed in ca. 1900.

VI. HISTORIC LANDSCAPE EVALUATION

A. INTRODUCTION

A.1. Purpose

The management objective for the historic zone of Allegheny Portage Railroad N.H.S. states that the area is to be treated " to create a representation of the character of the landscape during the 1840's, such that visitors understand the spacial relationships between the major historic resources, the nature of historic resource utilization (tree cutting, coal mine, quarry), and experience some sense of the conditions encountered by travelers at the time."

This Historic Landscape Report will describe the Lemon House site as it appeared during the Portage Railroad era, document the site changes, and make recommendations for landscape treatment that coincide with its period of significance (1834 - 1854) and the documentation available.

A.2. Historic Landscape Treatment Goals and Objectives

The goal of restoring a historic landscape is to depict the landscape as it appeared at an earlier time (its period of greatest significance) for contemporary appreciation. This is usually accomplished through the removal of any features constructed after the historic period, and the addition of missing historic features in order to recreate the appearance of the landscape at a particular period of time. The focus of landscape interpretation would depend upon the level of landscape treatment recommended. The following goals and objectives have been developed to focus the efforts of the research and landscape treatment recommendations.

These goals and objectives have been developed with the aid of the Guidelines for the Treatment of Historic Landscapes by the National Park Service (Draft, May 1992), Cultural Resource Management, NPS-28 (NPS, December, 1991-Release No. 4), and the Landscape Management Plan for Bathhouse Row in Hot Springs National Park (NPS, September, 1989), which had developed a good set of goals relative to a complex cultural landscape. The goals for treatment of the historic landscape at Allegheny Portage Railroad N.H.S. are intended to guide the treatment planning. The physical management of the selected landscape treatment is regarded as crucial to maintaining historic landscape integrity once the treatment is in place.

Goal 1 : To ensure that the spirit and integrity of the historic landscape continue into the future.

The 1980 General Management Plan and the 1987 Site Concept Plan recommend that the summit unit be restored to its historic appearance. The new management objective for the summit historical core states that the area is to be treated, "To create a representation of the character of the landscape during the 1840's" (mid-Portage Railroad era). Once reestablished, the historic landscape is intended to renew the spirit of place at Allegheny Portage Railroad N.H.S. The "spirit of place" refers to the historical feel and meaning of the landscape, which is experienced by contemporary visitors, that is a result of the combined evolution of the use, function, meaning, symbolism, identity, and emotional context of the landscape. The spirit of the Allegheny Portage era can be preserved and maintained through the site's landscape treatment; its interpretation for the visitors; and the park's management of these resources.

Objective 1.1 - Preserve existing landscape elements critical to the historic landscape.

The objective is to preserve elements within the existing site that are representative of the Portage Railroad era landscape (1840). The integrity of the major landscape elements are to be evaluated against historical documentation of the landscape to determine the level of treatment.

Objective 1.2 - Ensure that all additions and/or alterations to the landscape are historically compatible.

In areas where historic integrity and the spirit of place have been diminished, elements added to enhance integrity and spirit should be compatible with historic elements. "Historically compatible" elements will be either similar in scale, materials, form, line, color, and texture to existing historical elements or will be elements that have historic precedent.

Objective 1.3 - Remove or screen existing incompatible elements and mitigate adverse impacts to the historic landscape caused by incompatible additions and alterations that cannot be avoided.

Examples would be the screening of highways, parking areas, and utility structures; and the limitation of modern vehicles, technologies, and aspects not consistent with the period of historic significance into the Historic Zone of Allegheny Portage Railroad National Historic Site.

Objective 1.4 - Maintain a cooperative relationship with adjacent landowners, townships, and county agencies to encourage compatible

adjacent land uses and future developments.

Example: A community liaison on the park staff with responsibility to monitor local planning/zoning meetings or any development related to the local area that may affect the park and its historical context.

Goal 2 : Enhance visitor experiences; enhance their enjoyment and understanding of the resources.

The establishment of Allegheny Portage Railroad National Historic Site (1965) was intended to preserve the remaining vestiges necessary to commemorate the railroad's contributions to nineteenth century advances in transportation and engineering (NPS-National Register, 1991). These technologies, their historic structures and site are undergoing preservation treatments intended to protect the resources while providing for public enjoyment. The historic landscape treatment will enhance the visitor's visual and educational experience at Allegheny Portage Railroad N.H.S.

Objective 2.1 - Implement and expand upon the Interpretive Plan for the summit area at Allegheny Portage Railroad N.H.S.

The character-defining elements of the historic landscape have important interpretive value. The inter-relationship of industrial, commercial, and agricultural enterprises during the Allegheny Portage Railroad era tell the story of the industry and lifestyle of the times. The historic landscape preservation treatment will allow opportunities to expand the park's interpretive program.

Objective 2.2 - Phase effective changes to the interpretive elements and program related to the site features (i.e. wayside exhibits, experiment stations, etc.) to provide a variety of interpretive and educational opportunities.

Objective 2.3 - Develop seasonal events (i.e. festivals, fairs, etc.) that highlight or enhance the historic aspects of Allegheny Portage Railroad N.H.S.. These events should provide participatory elements that relate to the historic period of significance in regards to industry, trade, agriculture, and lifestyle.

OObjective 2.4 - Provide site amenities (trails, site furniture, signage, wayside exhibits) that relate to the landscape character of the historic period, and perform contemporary functions necessary for the park visitors.

Goal 3 : Through appropriate planning and design, satisfy other important park needs relative to site and visitor management.

While this HSR is concerned primarily with the Historic Zone near inclined plane no. 6, decisions regarding the overall park planning and design should continue to be addressed that affect issues like circulation, landscape maintenance, signage and exhibits, visitor services, security, etc.

Objective 3.1 - Initiate a sustainable site design and management program within the park.

Develop appropriate landscape management practices that adopt historic means and methods where practical and effective. These management guidelines should be addressed within adopted park management documents (i.e. park pest control; park visitor safety; etc.) The site management practices should reduce fuel consumptions, eliminate the use of chemical fertilizers, reduce site maintenance time requirements, and perhaps become potential exhibit components within the historic landscape.

Develop a cooperative arrangement with local experts (i.e. Penn State University, local garden clubs and historical societies, etc.) that can advise on site management practices and become participates in monitoring of the landscape treatment.

Objective 3.2 - Provide for visitor safety and resource security.

Examples:

1) Trail grades and surfaces should reflect the character of the historic period; however, they must also be negotiable for the mobility impaired, children, and elderly visitors.

2) Institute a park volunteer group that regularly patrols the park to assist park management in providing security, resource protection, and identification of management problems.

3) Provide fencing, bollards, or other means, where practical and necessary, to provide security and resource protection by controlling vehicle access.

4) Continue close relationships with local law enforcement authorities, and familiarize them with the park's new developments and security needs.

A.3. Scope and Methodology

The process for making treatment recommendations is the same for landscapes as it is for other historic resources. An understanding of the property's history, significance, and existing condition are required before a level of treatment can be determined. Though the exact process of protecting and interpreting a historic landscape

may vary from individual site to site, the major steps are:

1. Undertaking historical research.
2. Inventorying the landscape features and recording their existing condition.
3. Conducting a site analysis to ascertain the landscape's evolution.
4. Assessing the impacts of proposed treatments.
5. Selecting the appropriate treatment.
6. Planning and design of the historic landscape treatment.
7. Refining design development of the historic landscape treatment.
8. Developing construction documents for the treatment.
9. Implementing the landscape treatment.

The historic documentation of land use; the research of period technologies, methods, and materials; and the site analysis of the landscape surrounding the Lemon House become the basis for the landscape treatment recommendations. This Historic Landscape Report has drawn extensively from available written and photographic evidence regarding the Lemon House site. The project task directive has stipulated that the landscape investigation be thorough, as defined in the Cultural Resources Management Guideline, NPS-28. (Thorough: non-destructive investigation of a structure or landscape shall use all available technical and scientific means for the purpose of preservation. Such investigations do not involve retrieval of non-extant details). The research included within this report supports a thorough investigation of the historic landscape components. The recommended landscape treatment for the historic zone of Allegheny Portage Railroad N.H.S. needs to allow for contemporary use by visitors, and provide interpretation of its features and functions. It is presented as a phased approach to reflect budget realities.

A.4. Site Boundaries

The Lemon House Historic Landscape Report focuses on the area within a 500 foot radius of the Lemon House structure (approx. 18 acres). However, the entire Summit Level park (620 acres) has been examined for the landscape and its context. Phase 1 project boundaries (500' radius) have some natural and cultural barriers which supersede the 500' radius. These are shown on Figure L-4, and

are described as:

1. The right-of-way of old U.S. Route 22 south of the Lemon House.

2. The existing woodland north of U.S. Route 22 and east of the Old Gallitzin Road to the old Lemon Coal Mine (Drift) entrance.

3. The area 150-feet east of the new Engine House Exhibit Shelter (500-ft. radius from Lemon House).

4. The north edge of the limestone quarry site, following the 500-ft. radius line from Lemon House.

5. The bend of the old Gallitzin Road, as it leaves the railroad trace to tie into new park access road.

6. The area 250 ft. north of the railroad trace into the open field, following the 500-ft. radius from Lemon House.

7. The open field west of the Lemon House encompassing the existing maintenance compound and picnic area access road, and tying into the U.S. 22 R.O.W. line.

* Note: These boundary descriptions are approximate for guideline purposes.

B. EXISTING CONDITIONS

The primary sources used in developing this section include: Historic Structure Report, The Lemon House, Allegheny Portage Railroad National Historic by Anna Coxe Toogood, NPS and Norm M. Souder, NPS (July 1972); Historic Resource Study Allegheny Portage Railroad National Historic Site by Anna Coxe Toogood, NPS-DSC (May, 1973); Historic Structure Report Archeological Date Section, The Lemon House, Allegheny Portage Railroad N.H.S. Pennsylvania by Kathleen W. Fiero, NPS (August, 1984); and The Atlas of Pennsylvania published by Temple University Press (1989), unless otherwise noted.

Archeological investigations have found no evidence to indicate any prehistoric habitation of the site. The available historic documentation of the Lemon House/Summit area establishes it as a inhabited site by approximately 1826; however, Samuel Lemon purchased the 286 acres to include 20 acres of previously cleared land. This fact establishes earlier human changes to the property. Pre-Portage Railroad utilization of the site by Samuel Lemon included his original tavern on the turnpike route linking Philadelphia and Pittsburgh. Mr. Lemon's subsequent establishment of the historic Lemon House (1834-37) was positioned to interact with the trade and travel on the newly established Portage Railroad. Development of tavern/inn commercial establishments of that time period are documented to have needed facilities to accommodate many freight wagons, their teamsters, the horses and mules, and other domestic animals (i.e. cattle, hogs, sheep) enroute and for overnight stopover. An 1880's photograph documents the fields, fencing, and outbuildings that surrounded the Lemon House (Figure L-16) and represents a working landscape that is likely to have carried over from the short-lived Portage Railroad era (1834-1854), because the property remained in the Lemon Family until 1907.

The site conditions have changed from the intense mixed agricultural/industrial/commercial use during the Portage Railroad era. The present park landscape has evolved to accommodate many visitors, rather than provide for industry and trade (Figure L-12). The new Allegheny Portage Railroad N.H.S. Visitor Center complex (1991) interprets the workings and lifestyle of the Portage Railroad. Park visitors are allowed to visit the historic remains of that era, which include the Lemon House, the railroad trace, and the ruins of the Engine House 6. For over 20 years, the Lemon House structure contained all park services related to historic interpretation and park management. During that first 20 years of park use, the site development focused on visitor access to the Lemon House. Now, with the completion of the new interpretive and visitor services facilities, the NPS is able to focus attention on protection of the park's historic resources. The Existing

Conditions section of this report will provide the site information needed for base data determination of the landscape treatment recommended for the Allegheny Portage Railroad N.H.S. historic zone.

B.1. Geographic and Physiographic Setting

The Allegheny Portage Railroad National Historic Site is located in the Appalachian Plateaus known as the Allegheny Mountains, which cover the northern and western portions of Pennsylvania. These mountains are characterized by high rounded ridges and stream dissected valleys (Atlas, 1989).

The site is located near the crest of the Allegheny Front which forms the eastern edge of the plateaus region. Here the topography changes from the tilted, linear land formations of the Ridge and Valley province to the gently westward-dipping horizontal rock of the plateaus. The elevation of the site is approximately 2,400 feet above mean sea level (Atlas, 1989).

The Lemon House is a two story historic structure located within the site between Johnstown and Hollidaysburg, PA approximately 400 feet north of the intersection of U.S. Route 22 and the old Gallitzin Road (Figure L-2). The Lemon House was an important element in the historic landscape and is situated along the trace of the Allegheny Portage Railroad, near the summit of the historic inclined plane no. 6.

B.2. Land Use

The Lemon House and the summit of inclined plane no. 6 are located in an area between Altoona and Cresson, PA, which remains relatively rural. Visitation to the Allegheny Portage Railroad National Historic Site has steadily increased from 1968 when there were 5,512 visitors to 156,316 visitors in 1991. This trend in park visitation and use is expected to continue with the recent completion of the Visitor Center complex (1991) (NPS-Statement for Management, 1993).

The park is located in two congressional districts, two counties (Blair & Cambria), and five townships. This political dispersal of the park site has resulted in increased protection and law enforcement problems caused by overlapping and, at times, lack of local law enforcement support. The number of small informal roads that bisect the property have caused increased security, protection, and safety problems (NPS-Statement for Management, 1993). The closing of old Gallitzin Road to the public is expected to improve some of these management issues. Small back roads are difficult to patrol and have problems of vandalism and trash dumping on and near the property. Old U.S. Route 22 passes through

the NPS property in an east-west alignment, south of the park historic and development zones. Recent completion of the new U.S. Route 22 bypass has improved visitor access to the visitor center complex. However, truck and traffic noise continue to invade the park from old Route 22, due to continued heavy truck traffic and the trucks' need to brake, downshift, or accelerate for traveling the steep east hill.

The lands adjacent to Allegheny Portage Railroad National Historic Site are owned by a variety of individuals, corporations, and governmental agencies. Land uses include railroad, highway, and utility rights-of-way; bituminous coal strip mining; public water supply watersheds; farming, forests, state game lands, public recreation, a state prison facility, commercial interests, and private residences. In the townships surrounding the site, zoning ordinances are limited and few.

The region has been extensively mined for coal (strip, drift, & shaft) and logged, resulting in evidence of environmental damage that has not been corrected. This evidence of past mining is still visible within the park, and maps indicate an extensive maze of shafts and tunnels below the park. Cooperation with the state has eliminated many of the scars at the summit level. However, on-site mine subsidence has caused displacement of the foundation stones of Engine House 6, and the old Lemon coal mine shaft may pose future subsidence and safety problems. Additionally, the federal government does not own all the mineral rights within the park. This could place the integrity of historic and natural resources in jeopardy at some future date, if the holders of these mineral rights chose to exercise their options.

Commercial activities near the summit level (truck repair, restaurant, motel) cause aesthetic intrusion into the historic scene, because of their visually prominent location near the old U.S. 22 summit on the ridge. The federal government purchase of a trucking company's work and storage complex eliminated an intrusive land use, and provided a place for the necessary park maintenance yard.

Within the property, the park is managed by zone designation based upon the resources and purposes of the park. There are 5 land use management zones at the summit level and inclined plane no. 6 area (NPS-Statement for Management, 1993). These include:

1) a 76 acre historic zone encompassing the railroad trace, the engine house site, the Lemon House, and other structural ruins and site features related to the portage railroad.

2) a 310 acre natural zone comprised of second growth forest lands and open fields that provide recreation lands and protect the historic zone and the development zone from outside land

uses.

3) a 54 acre development zone which includes the new visitor center complex, a park picnic area, and the park maintenance facility.

4) 50 acres of special use zone which is comprised of pipeline and utility corridors traversing the property.

5) 130 acres that compose another special use zone of non-federal land ownership (Figure L-5).

B.3. Vegetation and Soils

The native vegetation at the Allegheny Portage Railroad National Historic Site is typical of the Allegheny Mountains region. The park is forested with second growth mixed hardwood tree species interspersed with pine and hemlock. The majority of the park acreage is forested; oak, hickory, maple, beech, and birch predominate. Other tree species present on site in various concentrations include walnut, pine, spruce, hemlock, basswood, pincherry, aspen, and ash (Figure L-10) (Atlas, 1989). Some small parcels of the summit level were utilized for agricultural purposes and home sites prior to the establishment of the national historic site. These former crop and pasture fields are presently managed as mown turf to accommodate park visitors.

The geologic history of Pennsylvania involves cycles of uplift and erosion. The soils found on the site are weathered from variable sequences of sedimentary rock including sandstone, shale, limestone, clay, and coal. The national historic site is occupied by several soil series occurring within Blair and Cambria counties. These soils include Gilpin, Wharton, Armagh, Cavode, and Ernest silt loams, in addition to Hazleton channery loam and very stony loam. The property is underlain by the Hazleton channery loam, the Gilpin silt loam and the Hazleton very stony loam soil series. These soils generally consist of gently sloping, deep, well drained characteristics found on the uplands. Permeability ranges from moderate to rapid, water capacity is moderate to low, and erosion is moderate. Limitations are rock fragments in the soil and the rate of permeability in the Hazleton series. The Gilpin loam is limited by shallow depth to bedrock (Toogood,1973).

B.4. Climate

The climate in Blair County is humid-temperature continental characterized by warm summers and cold winters. Total annual precipitation is 36 inches with approximately 60 percent falling in April through September. This time period includes the growing

season for most crops. Thunderstorms occur on about 20 days each year, primarily in summer. Average seasonal snowfall is 36 inches with at least one inch of snow on the ground for 21 days a year.

Rainfall in Cambria county is evenly distributed throughout the year. Total annual precipitation is 40 inches; approximately 55 percent of the rain falls between April and September. Rainfall is heavier on the windward west-facing slopes than in the valleys. Thunderstorms occur on approximately 40 days per year, and primarily in the summer. Average seasonal snowfall is 120 inches with at least one inch of snow on the ground an average of 96 days per year (Toogood, 1973).

B.5. Water Resources and Utilities

Portions of the site are located on both sides of the crest of the Allegheny Front. Drainage east of the summit flows to the Atlantic, while drainage west of the summit flows into the Gulf of Mexico. At the summit level there are no perennial surface waters.

The site receives municipal water from Cresson Township and sewer service through the Cresson Borough Sewer Authority (NPS-Statement for Management, 1993). A water well was the original source of water to the Lemon House.

Three gas/petroleum pipelines pass through the park property, two of which are in the historic zone near the Lemon House. Two major overhead electrical power line rights-of-way also pass through the Summit Level Unit. As well, buried electric, telephone, water lines, and sewer lines pass through the site serving the park facilities. One major utility corridor runs approximately 75 feet west of the Lemon House in a north-south alignment (Figure L-11).

B.6. Site Circulation

Principal east-west access to the Allegheny Portage Railroad National Historic Site is U.S. 22. This route is a divided four-lane, limited access highway, interspersed with numerous two-lane stretches traveling from points east of Altoona westward to Pittsburgh. This highway serves as a connecting artery between the primary north-south routes of U.S. 220 on the east side of the Allegheny Front, and U.S. 219 on the west side of the Front (Figure L-1). The Pennsylvania Department of Transportation (PENNDOT) 1992 average daily traffic volume in the vicinity of the site is approximately 7900. Rail, bus, and air service is available but not significant nor convenient. Amtrak, U.S. Air, and Greyhound serve Altoona and Johnstown nearby (NPS-Statement for Management,1993).

The vehicular access into the site is via a well signed NPS exit off U.S. 22 near Cresson, PA. A new park entry road (1991) follows the old Gallitzin Road route through the woods and into a parking area at the visitor center complex (Figure L-2). There is a secondary access into the park via a service road that serves the park picnic area and the park maintenance facility from old U.S. 22. This road had been the main entrance to the park, until the visitor center complex was completed (1991). The new park entry road has reoriented and improved park visitor access, and has improved the protection of historic resources in the park.

Pedestrians now access the historic zone of the park by following a boardwalk trail that originates at the Visitor Center and traverses a wooded slope to the new Engine House 6 Exhibit Shelter and the railroad trace. Along the railroad trace, trails link the Lemon House area and a network of nature interpretive trails within the park site. A renovation of the old Gallitzin Road is planned to serve as an internal park pedestrian return route to the Visitor Center, as well as a service/emergency road accessing the core park facilities. The old Gallitzin Road will not be open to public vehicles, which will also improve protection of the park's historic resources.

B.7. Buildings, Structures, and Site Features

The Allegheny Portage Railroad National Historic Site has several primary structures for visitor services, interpretation of historic events, park administration, and park maintenance. The new Visitor Center complex houses visitor services, park administration, and has extensive exhibit displays of the workings and lifestyle associated with the Portage Railroad era. The only historic structure remaining intact on site is the Lemon House. This two-story stone structure functioned as a tavern and inn during the Portage Railroad era. For 20 years, the Lemon House contained all NPS visitor service, exhibit, and administration functions prior to the Visitor Center completion. Planning for interior restoration and external site work restoration at the Lemon House is presently underway. The goal is to restore the structure and landscape character to the Portage Railroad era (1834-54).

An exhibit shelter has been completed (October, 1993) over the historic ruins of Engine House 6. This shelter houses exhibits related to the stationary steam engines and mechanical workings of the Portage Railroad. Related to the Portage Railroad system, there are also historic vestiges of a coal mine, a coal wharf, several small historic structure foundations, as well as the railroad trace itself, with many stone sleepers still in place.

The Allegheny Portage Railroad N.H.S. has a maintenance complex located in the southwest portion of the park property. This area,

as stated before, was formerly a trucking company site. Improvements are planned for this site, which now contains a maintenance office/shop building, a pole barn, a block storage building, and two house trailers.

The historic trace of old Gallitzin Road has been studied by NPS archaeologists, without conclusive evidence of its exact historic alignment with the turnpike in 1840. The historic turnpike is believed to have been located within the present road alignment of old U.S. Route 22 (Figure L-15) (Hoepfner, 1993). The NPS has restored the existing old Gallitzin Road alignment to its historic dimensions and applied a grey granular chip and seal surfacing. The old Gallitzin Road will serve as an internal park road and trail link in the park core area.

B.8. Archeological Findings

Since the establishment of the Allegheny Portage Railroad National Historic Site in 1964, a program of research and restoration has been underway by the National Park Service. Archeological excavations associated with the various needs of the project were carried out around the approximately 160 year old Lemon House in 1978, 1980, 1981, and 1982.

The archeological investigations around the Lemon House disclose a history of construction, destruction, and reconstruction to the house, and repeated and extensive terrain modifications. The house was built on a sterile deposit of yellow/silt clay. The lack of an "A" soil horizon (topsoil) suggests that terrain modification began before the house was built. The area was apparently cleared of topsoil as well as vegetation in preparation for the construction of the Lemon House (Fiero, 1984).

The history of subsequent exterior modifications to the house and terrain is speculative since recent modifications have eliminated subsurface evidence of earlier changes. Some photographic evidence does remain, however.

The archeological investigations have been carried out around the Lemon House in an effort to solve the various problems raised by earlier surveys and to determine the effect of restoration on subsurface resources. Some of the findings include the discovery of a stone foundation on the south side of the house, believed to date to the first half of the 19th century; excavation of the east porch foundation that suggests its construction soon after the house construction in 1832; and subsurface evidence which definitely establishes that a portion of the west wing to the house is original. The modifications done to the exterior of the Lemon House, by various owners, has also affected the evolution of the landscape.

Archeological evidence indicates that the field to the south and west of the Lemon House has experienced various modifications from the 19th century to the present. Fields near the house have been re-landscaped in the 20th century, with the 19th century grade below a recent clay deposit. During field excavations, prior to utilities construction, three concentrations of trash and an area with manure/straw deposit were discovered southwest of the Lemon House. The manure/straw (barnyard) deposits are consistent with the agricultural/industrial/ commercial landscape that composed the summit area of the Portage Railroad. The deposit was at varying depths throughout the explored limits, and indicated an extreme bowl shape in cross-section. This deposit covers an area of approximately 210 ft. (east-west) by 105 ft. (north-south). It is speculated that perhaps this area contained more than one feature, or the interior and exterior of a barn or shed (Fiero, 1984). Samuel Lemon is said to have supplied the Portage Railroad with horses, (Toogood, 1973), and the keeping of cows and other farm animals was typical for its rural location and time period. A barn and fenced area are evidenced in the 1880's photograph (Figure L-16) south of the Lemon House.

A large stone slab was discovered just north of the Lemon House, which may be the foundation of a historic era outbuilding. There is evidence of fire on the stone slab. A 1902 photograph of the front yard shows a structure in the northwest corner of the yard (Figure L-18). Possibly this stone slab is related to that structure. There are reported to have been a number of utilitarian outbuildings surrounding the Lemon House, as was typical of that time period (smoke house, well/spring house, privy, wood shed, etc.) (Walters, 1980). These small buildings were important components of the historic landscape, and established some circulation patterns.

One archeological investigation focused on the walkway leading from the Lemon House to the railroad trace, looking for evidence of earlier paths. Two walkways were investigated north of the house. One walk runs north from the main entrance, through the front yard, to the railroad trace. A 6 ft. long trench was opened across the present brick-paved walk in order to determine the width, the grade, and the material of the original walk. Horizontal layers of sand, loam, and clay were excavated below the path to a depth of 2.25 ft. Archeological conclusions were that a black soil and shale strata approximately 14 in. below the path surface represented the grade of the historic walk (Fiero, 1984). Investigation of the second walkway that parallels the north wall of the structure was not informative regarding historic materials or grades.

One original archeological objective was to locate evidence of any original fence lines near the Lemon House. Because it seemed probable that the presence of tree roots would have disturbed or destroyed evidence of fence lines, no excavations have ever been carried out relative to fence locations. The likelihood of

conclusive evidence regarding old fence locations is remote, this is compounded by the multiplicity of later fence locations evidenced in photographs on file at the park.

Architectural evidence suggests that the first floor back (south) doorway is original to the house and probably associated with a porch. (See architectural section of this HSR). Evidence that there was a back porch to the house affects the landscape adjacent and circulation patterns of the historic period. The back porch provides a structural extension of the house for ornamental foundation plantings, and is likely to have been a place for the Lemons and their guests to relax and oversee the fields and barnyard during good weather. The south porch would have likely been a 'staging area' prior to heading to the fields or barn, and was a likely place to hitch a horse during a short visit inside the house.

Following are some archeological conclusions that relate to the exterior /landscape area of the Lemon House that are described in the archeological section of this document:

1) The first modifications to the house were the addition of porches. Both a south porch and an east porch were added to the structure early in its history. By the late 19th century the south porch no longer existed, but its foundation remained.

2) An exterior door off the east porch leads into the tavern. In 1903 photographs of the house, an east porch is a prominent feature. Archeological investigations of the foundations found along the east side are inconclusive regarding the period of significance. The report suggests the possibility of a deck.

3) There is evidence that there was a great deal of fill added to the north side of the house after construction. Much of this was brought in specifically to raise the ground surface.

4) The last private owners of the house made numerous changes to the exterior of the house which included a concrete block garage along the south wall of the house; a concrete block stairwell on the west wall; and a block retaining wall to the east of the southeast corner of the house. These have all been removed by the NPS.

5) Testing in the field to the south and west of the house indicate that there has been a great deal of recent fill added to this area. Evidence of cultural features to the southeast and north of the house have been uncovered which may date to the historic period. A concentration of trash was south of the house was noted and a strata of straw-manure was located in the open field.

C. ANALYSIS OF HISTORIC LANDSCAPE DATA

The National Park Service has the opportunity to examine the entire 620 acre ALPO summit area as a unique rural landscape with the preservation of its historic core. The task directive for the project has focused on the immediate surroundings of the Lemon House (500 ft. radius); however, the broader perspective of the historic zone's setting warrants investigation and landscape treatment recommendations. The approximate 500 ft. boundary is considered Phase 1 of an overall park landscape and site management program (Figure L-4). The analysis in this section will utilize the pertinent data in the previous site documentation sections A & B and the historical data to build the basis for the landscape treatment of the historic zone at Allegheny Portage Railroad N.H.S.

C.1. Chronology of Site Development

> "This tract of country is covered with a thick heavy growth of excellent timber and from its elevated situation (being about as high as the summit of the Allegheny) partakes of the nature and appearance of mountain land, but there are many fine tracts entirely clear of stone...This country is all considered excellent for grazing. The principal timber is wild cherry, poplar, chestnut, ash, oak, sugar maple, cucumber tree, pine and hickory but birch, hemlock bush and laurel abound in the marshy lands."(Toogood, 1973 p.115)

What Walter Hudson and John Morrison wrote in the above description for a map of Cambria County in 1816 is useful for envisioning the evolution of the historic landscape surrounding the Lemon House at Allegheny Portage Railroad National Historic Site. Looking out from the Lemon House today, changed though the landscape is from the height of its historical period, it is still possible to imagine the "thick heavy growth of excellent timber" that was probably present when the state's engineers first surveyed the area for the railroad. One can also imagine the "many fine tracts entirely clear of stone." Certainly the area below the Lemon House, meticulously maintained by the Park today with its open space and tree plantings, is somewhat reminiscent of those early open spaces.

Samuel Lemon's tavern trade along the Gallitzin road, whether through chance or informed speculation, afforded him the opportunity to exploit the short lived lucrative trade on the Portage Railroad and, in turn, to transform the adjacent surroundings from a backwoods wagon route to a busy commercial, industrial, and agricultural workplace. Lemon and his family offered rest and relaxation for weary travelers and animals making the long trek over the Allegheny Ridge. The Lemon House, erected

adjacent to the railroad, with its surrounding outbuildings, coal mine and wharf, became the center of activity for the Portage Railroad at incline no. 6. The landscape, in turn, reflected the changes and development of the area.

No written record has been uncovered that specifically describes the original landscape Samuel Lemon and his family encountered when they built their first log tavern near the Gallitzin road. By 1840, however, the area surrounding the Lemon House had become a vibrant, working landscape. Where wild cherry, poplar, ash, or chestnut may have stood, a stone tavern, barn, engine house, and coal wharf existed. Where open spaces may have dotted the area, fields ripe with hay grasses evolved. Most assuredly the Lemons cultivated a vegetable garden to feed themselves and their guests. Evidence also suggests that at some point the landscape supported an orchard.

The two important elements that probably had the most impact on the original landscape surrounding the Lemon House were 1) the Portage Railroad itself, with the construction of the railbed, engine house, culverts, and ditches, and 2) the coal mine with associated coal wharf. By 1839 Lemon was selling coal on the open market at Hollidaysburg and contracted with the state to supply coal for the stationary engines at inclines #6, 7, 8, and 9 (Toogood, 1973). These two elements probably accounted for the greatest change to the landscape as clearing and grubbing the land and preparing the roadbed for proper drainage required extensive logging, clearing, and road construction. The thick mountainous terrain caused more than one surveyor to report in frustration "the mountains much more rugged and bushy than I had anticipated"(Toogood, 1973). However, the trees and thick bushes of the mountains gave way to the industrial designs of the human mind and workmen replaced the natural landscape with the objects of industry - engines, rails, machinery, and related structures. The landscape described by Hudson and Morrison in 1816 had diminished in the area of the Lemon House by 1840, having been transformed from an area of woods and fields to a mixed landscape supporting industrial, agricultural, and commercial activities.

Along with Samuel Lemon, settlement of the area began in the early part of the 19th century. A turnpike road was constructed through the area to connect trade and travel between Philadelphia and Pittsburgh during the 1820's. Soon after, homesteads and commercial enterprises began to spring up to support the travelers. Samuel Lemon initially built a two story cabin to serve as a residence for his family and as a tavern for turnpike trade. Changes in the landscape were immediate with settlement of the site. Tax records in 1826 state that Samuel Lemon purchased 286 acres, of which 20 acres was cleared, and that Mr. Lemon owned a horse and one head of cattle (Toogood, 1973). The 20 acres of cleared land is thought to have been utilized to accommodate agricultural fields, livestock enclosures, and the large numbers of wagons and stock that traveled

the turnpike. Historical accounts of the tavern trade along the turnpike indicate that large numbers of conestoga wagons, horses, mules, cattle, hogs, and freight in transport would overnight at Lemon's and other taverns along the route (Toogood, 1973). These accounts evoke a landscape reminiscent of a stockyard surrounding the tavern structure at night.

News of the pending Portage Railroad to connect the Pennsylvania Main Line canal system prompted Samuel Lemon to build a large two story stone residence, with tavern, at the head of inclined plane no. 6. Lemon's original tavern location is still not certain; however, it is thought to be relatively close to the old turnpike. The turnpike remained in operation during the Portage Railroad era, so the Lemon House location was able to serve both trade routes. The open fields are believed to have remained in operation for agricultural fields and pastures related to the Lemon settlement. A photograph of the Lemon House area in the 1880's shows hay fields being cut, an orchard near the house, a wild flower meadow, fenced enclosures with a barn/shed structure, and a coal mine shaft structure (Figure L-16). This photograph was taken thirty years after the Portage Railroad era; however, it is probable that it represents the historic land use near the Lemon House during its period of significance. The property ownership did not change during this post-railroad era, which supports a continuum of land use practices (Pasto, 1993). A new owner would have likely brought in new ideas and practices to the homestead. Many of the primary landscape elements needed to support a homestead, tavern/inn, and the other known enterprises of Samuel Lemon are still evident in this historic photograph.

In addition to his coal mine enterprise Samuel Lemon was also involved in renting lots and houses to various tenants, and contracting with the railroad to supply coal, horses, water, and wood (Fiero, 1984). These activities shaped the landscape. The remains of the coal mine shaft can be identified in the photo, and timbered fields lay north of the coal mine and railroad trace. The railroad was the hub of activity during that time period (1834-54) and dominated the landscape with sight, smell, and sound. A nearby limestone quarry /outcropping probably was the source of building stone for the Lemon House and other structure foundations, and was a source for stone rail supports (sleepers) on the Portage Railroad line. The spacial relationship of all these various elements and activity centers composed the landscape of the 1840's near and around the Lemon House. There is no evidence that the landscape was planned by design, and is considered a historic vernacular landscape that evolved over time to be functional in a wilderness setting.

Since the end of the Portage Railroad era (1854), the landscape near the Lemon House has evolved with the changing use of the structure. The Lemon Family utilized the house as a summer

residence through the early 1900's. Samuel H. Lemon (son) attempted to revitalize the property as a hotel resort, that was never realized. The property was finally sold by the Lemon Family in 1907, and it changed hands several times until Byron Roberts purchased the house and grounds in 1954. The Roberts and the preceding owners utilized the Lemon House as a private residence and rental property from 1907 - 1966. This residential use of the property caused changes to both the interior and exterior elements of the house and property. On the structure, porches were removed and added, and a garage was attached along the south wall. As discussed in the Archeological Findings, Section 8.8, site grading was done around the structure to accommodate new structural additions, make yard changes, and to fill in the old abandoned coal mine entrance.

In 1966 the site was designated as the Allegheny Portage Railroad National Historic Site. The site development that has ensued through the past 25+ years of NPS stewardship relates primarily to providing visitor accommodations and service facilities (i.e. parking areas, picnic area, maintenance complex, roads, trails, Visitor Center, etc.). The historic resources pertaining to the Portage Railroad era have been protected, and now the preservation treatments are to focus on the Lemon House and the historic landscape that surrounds the head of inclined plane no. 6.

C.2. Topography

The route of the Portage Railroad generally paralleled the old turnpike alignment over the Allegheny Mountain summit. The route follows the most gentle natural gradient that allowed for railroad construction. The general topography at the head of inclined plane 6, near the Lemon House, is relatively flat compared to the ascending and descending gradients of the mountain. These natural grades range from 3.5% to 8% slopes in the open fields, with 12%+ grades in the wooded areas, cut banks, and outcroppings.

Archeological investigations have confirmed that extensive changes to the natural grades have occurred adjacent to the Lemon House during various construction periods. The topography of the site (Figure L-23) also illustrates numerous alterations to the natural grades for construction of the Portage Railroad and its various facilities; old U.S. Route 22; the old Gallitzin Road; the original main park access road and parking area; and utilities corridors through the site.

The topography has not been so adversely modified to affect the treatment efforts related to the historic landscape. The treatment necessary to restore the site to its historic character will not require major changes in the site's topography.

C.3. Natural Systems

The vernacular landscape at the summit of inclined plane 6 includes the Lemon House, the Engine House and related structures, the railroad corridor, the coal mine facilities, the roads, the forest lands, and open fields which all remain in various states today. The site derived its historic character from a human response to natural systems (i.e. available water, topography, coal seam, limestone outcropping, etc.), as well as to cultural influences like the railroad and turnpike. As a result, the historic landscape contains associations of both cultural and natural features.

The significance of the natural resources may be derived from their cultural associations or they may have importance for their own inherent ecological values. Natural resources often form systems, which are interdependent on one another and may extend well beyond the boundary of the historic property, as is the case here. These systems include geology, hydrology, plant and animal habitats, and climate. The natural systems are an integral part of the historic landscape and have been considered throughout the site analysis for their protection and related treatments.

Given the chronology of the site development near the Lemon House, all the natural systems have been affected at various times. Impact on the natural systems was immediate upon settlement with the cutting of the native forests to create open fields. Tilling and mining practices changed soil profiles and subsurface geology. The grading associated with the construction of the railroad and other facilities has impacted soils and surface hydrology. The timber harvesting changed plant and animal habitats, and changed micro-climates on the site.

The natural systems extend well beyond the bounds of the property and the interrelationships of plant and animal communities can never be fully restored to their native states, and they were already disturbed at the historic period of significance. Much of the woodland on the site is in second or third growth cycles, and will continue to mature with sound management practices. Returning the landscape to the character of the historic time period will enhance the natural systems in place (i.e. improved habitats, reduced use of fertilizers and mowing). Protection and enhancement of the natural systems is an important component of the landscape planning for the historic zone.

C.4. Vegetation

As discussed in the Existing Conditions section B.3, the summit area of the park is forested with second growth mixed hardwood tree species interspersed with pine and hemlock (Figure L-10). Known as the oak-hickory forest association, this forest was in its virgin

state in the 1820's when Samuel Lemon settled the area. As the woodlands were cleared for fields native meadow grasses including little blue stem and broomsedge along with wide spread naturalized European grasses like timothy, broome, and orchard grass are likely to have spread to form meadows (Pasto, 1993). These meadow grasses were typically managed as pasture and hay fields for settler's livestock.

Succession plants (wild flower species, forbes, small woody stem species) typically begin to establish in unmaintained cleared areas, and ultimately refert back to forest species. A succession meadow dominate with black-eyed susans is well represented in the foreground of the 1880's photograph, along with a cut hay field (Figure L-16). The wild flower meadow is in a succession state meaning that the area had not been grazed or cut over for a year or more. No documentation has been found that describes the Lemon's farm management practices, so its not known why this field is not in cultivated use at the time of the photo. However, the field would be farther along in forest succession if it had not be managed as field since the Portage Railroad Era.

No written documented use of exotic or ornamental plantings by the Lemons has been discovered; however, early 1900's photos of the house show mature lilac trees and smaller shrub plantings around the foundation, with vines (Virginia Creeper) growing on the stone structure (Figure L-18). By the early 1800's lilac varieties were a commonly used ornamental planting in the eastern U.S.A., and were widely available (Cole, 1993). Virginia Creeper is a native vine that is hardy and easily cultivated for ornamental use. Native meadow and naturalized European grasses were normally used in the lawn areas, and maintained in close cropped condition by allowing sheep to graze within a contained area (Cole, 1993). Ornamental shrubbery could have been planted along the fencing, but would have been placed outside the lawn area maintained by sheep grazing.

Figure L-16 also shows an orchard of mature fruit trees west of the Lemon House. The orchard is a major landscape feature that has not been documented to the 1840's period; however, it is consistent with the expected land use. The mature stage of the fruit trees could place their planting into the historic period. The exact variety of fruit trees is unknown in the Lemon orchard; however, given the availability of fruit tree stock and the climate at the summit area, a mix of apple and pear trees is the most likely composition of the orchard. This orchard mix is consistent with other farmsteads of the region (Pasto, 1993).

It is likely that a homestead like the Lemon House would include a summer vegetable garden near the house. Canning of fruits and vegetables was a common practice during that time period, and vegetable seeds including tomatoes, squash, pumpkin, corn, and beans were available through plant nurseries in Philadelphia. The

U.S. Department of Agriculture also provided free seed to settlers up until the 1890's (Cole, 1993).

The organization of the plant materials was probably only planned near the Lemon House structure itself, with foundation plantings, the front lawn area, a possible summer garden, and the orchard. The outlying woodlands were seen as a natural resource to be used by the early settlers. Typically, these forests were first cut on the most accessible flat terrain to develop fields, then forest cutting progressed to the steeper slopes as the woodlands were depleted. The eastern forests have self regeneration capabilities, and the existing woodlands have undergone several regrowth stages since the native forests were first cut-over. The practice of grazing and cutting hay kept the fields from being reclaimed by the forest succession process. Remnants of Lemon's fields remain as open space areas within the park. The reintroduction of hay meadow and succession plant fields into the historic landscape treatment will help reclaim the historic landscape character of the site.

C.5. Drainage and Water Features

The natural site drainage, as mentioned in the topography and natural systems analysis, has been modified by various developments throughout the site's history. Storm water runoff at the Lemon House and the area surrounding inclined plane 6 drains generally eastward converging with larger streams and rivers headed for the Atlantic Ocean (Atlas of Penn., 1989). There are no standing water features on the property (ponds, lakes, marsh) a fact which is attributable to the sloping land formations and the soil characteristics. However, the deep snows of the '92-93 winter created some ground water seepage from the north wall into the basement of the Lemon House.

The early site developments did modify the natural drainage patterns with grade changes and the directing of runoff through ditches and culverts. Archeological investigations discovered the remnants of a drainage ditch along the south side of the railroad trace and several other drainage structures related to the railroad remain in place (Fiero, 1984). The management of storm water drainage is not expected to change in the historic landscape treatment, and no new water features are planned.

C.6. Structures and Site Furnishings

The only remaining intact historic structure on site is the Lemon House. The other remaining historic features are in various states of ruin and include the Engine House 6 foundation, a tender's cabin foundation near the Engine House, some vestiges of the timber coal wharf, a small stone slab foundation northwest of the Lemon House,

and the railroad trace with incline no. 6. The Lemon House is thoroughly discussed in the architectural sections of this HSR.

The Engine House 6 was a dominant structure at the summit during the Portage Railroad era; however, its role was diminished to that of a storage barn from 1854 to 1900. The above ground structure was demolished in 1900 leaving only the stone foundation, which remains today (Toogood, 1973). An exhibit shelter building has been constructed over the ruins (completion in October 1993) to provide protection of the ruins and visitor interpretation of the mechanical workings of the Portage Railroad. The exhibit shelter simulates the form and character of the historic Engine House 6 building, so it meshes well with the goals of historic landscape preservation.

Foundation ruins, along the south side of the railroad trace, are believed to be from a support building to the Engine House (tender's house, office). A barn had been constructed over the foundation for a number of years, but has been demolished leaving only the historic foundation remains (Toogood, 1973). Protection and interpretation of these foundation ruins will be incorporated into the landscape planning.

A number of small outbuildings served specialized functions relative to the historic operation as an inn, tavern, and residence. These out-buildings of the Lemon House may have included an ice house, wood storage, smoke house, bake house, privy, barn, etc. A stone foundation northwest of the Lemon House and near the railroad trace, probably is a ruin of an associated out-building (Fiero, 1984). This ruin is an important remnant of the lifestyle and workings of the Lemon House and the historic time period that were components of the landscape.

There is also archeological evidence of a structure ruin north of the railroad trace and just west of the Engine House (Levin, 1993). Protection of this ruin site and/or further archeological investigation is needed to define this ruin's significance.

The timber vestiges of the historic coal wharf were discovered during utilities construction along the north cut-bank of the railroad trace. This structure representing one of the various industries on site during the historic period, was an important feature of the historic landscape. No further archeological work has been done to define the historic coal wharf.

There is photographic evidence of a barn and livestock fencing south of the Lemon House in 1880 (Figure L-16). There is also archeological evidence of a barnyard profile in this location (Fiero, 1984). These features have not been dated to the historic period of significance, or conclusively to any other period; however, these elements were usually primary components in the

rural landscape. The Portage Railroad remote location, especially at the summit, and the sparse settlement required homesteaders to be self sufficient. Commonly, several cows, horses, pigs, sheep, and chickens were kept, and required some kind of structure for housing. The practice of managing livestock was an important feature in the historic landscape. There have been numerous bone fragments discovered during various archeological investigations that include pig, turkey, sheep, and cow bones (Fiero, 1984). This evidence is not conclusive that these animals were raised on site, just that they were eaten there. In 1840 it is estimated that 69% of the U.S. population lived on farms (Rasmussen, 1960), where a self sufficient lifestyle was the norm.

Other documented structures thought to be on the site include the original Lemon tavern, the Ross cabin, and the Flick house (Toogood, 1973). No remains of these structures have been identified, outside of a possible ruin site north of the trace, nor have their possible locations been thoroughly investigated. The cost to undertake extensive investigations to locate these structures does not seem productive relative to the historic landscape treatment recommendations. Interpretive means will be suitable in telling the story of other early settlement, the turnpike, and other possible dwelling structures.

The new Visitor Center/Headquarters building is outside the historic zone; however, it orients the visitors to the historic resources and sets the stage for the visitor's experience, so is important to the interpretation of the historic landscape. The building's location and new access road allow for good pedestrian circulation and protection of the historic resources, which is important to the park's landscape and management.

There is very little evidence of historic site furnishings (i.e. benches, lighting fixtures, fencing, etc.) at the Lemon House and summit area. The rural setting of the Portage Railroad facilities would probably have included some rustic furnishings; however, there is no record. Contemporary use of the site may require some site furnishings like benches, security lighting, etc. that are located for park visitors and security purposes. New site furnishings that may be required for park visitors would need to meet standards relative to the historic period (material, form, function, etc.).

Timber fencing was utilized during the historic time period to separate fields, mark property lines, and control livestock. Figure L-16 shows the extensive use of wood cross-buck fencing in the 1880's, which is consistent with the use of this fencing type 30 years earlier, during the Portage Railroad era (Lillard, 1947). This fencing is shown paralleling the Gallitzin Road, enclosing the barnyard area south of the Lemon House, and separating the hayfield from the foreground wild flower meadow in Figure L-16.

A picket fence enclosing the front lawn of the Lemon House is illustrated in the George Storm painting (Figure L-13). A modern white picket fence now replicates the form of the fence in the Storm painting and that of later fences in (1900 +) photographs of the house (Figure L-18 & L-22). The Storm painting is not considered accurate, (completed nearly 30 years after the Portage Railroad era), so is not conclusive proof of the fence's historic qualities. However, the fence in the painting is probably more representative of a rural mountain setting than the white picket fence. The picket fence defines the entry to the Lemon House from the railroad, and probably was functional in controlling the sheep used to graze the grass of the front lawn (Pasto, 1993).

C.7. Site Circulation

The historic traffic circulation in the area of the Lemon House was initially focused on the turnpike road, from its construction in the 1820's until the Portage Railroad era (1834 - 54). For this twenty year period the Portage Railroad dominated trade and travel access over the Allegheny Mountains. The advancement of railroad technology rendered the portage system an antique by 1855, and the evolution of travel modes gradually changed the character of the turnpike road into a modern highway serving the local area. For the first 25 years of National Historic Site, the access to Allegheny Portage Railroad N.H.S. was via old U.S. 22, linking Holidaysburg with Johnstown. Old U.S. 22 is believed to be constructed over the historic turnpike route, which linked Pittsburgh with Philadelphia (Hoepfner, 1993). A new, limited access U.S.22 now bypasses the site immediately to the west, and provides improved access and traffic circulation (Figure L-2).

A number of woodland roads and pathways once crossed through the property. Except for the old Gallitzin Road, these small roads and paths now terminate at the park boundary to protect the historic resources. The old Gallitzin Road will serve internal park needs. A new boardwalk trail accesses the historic zone from the visitor center complex. NPS trail plans include a trail traversing the park site paralleling the historic railroad trace with internal interpretive trails linking the features of the historic zone.

The only documented pedestrian path at the Lemon House is the walkway linking the house with the railroad boarding area through the front lawn (Figure L-13), and Storm's painting is suspect to authenticity due to its time of completion (1880's). The red paver walkway that is currently constructed in the front lawn of the Lemon House was completed to accommodate visitor traffic; however, does not fit the historic context of the site. A profile of course rock near the railroad trace discovered during utility construction is believed to have been an historic pathway means for staying out of the mud (Levin, 1993). It is probable that frequent use trails

developed to link the major site components during the historic period (i.e. coal mine, barn, orchard), but these have been erased over time without continued use.

The circulation plan associated with the treatment recommendations will make pedestrian travel the primary means for visitor use of the park. Good vehicular access to the site is now in place, and is physically separate from the historic zone, which has improved the perception of the site's historic integrity. The use of machinery and park vehicles, within the historic zone, should be very limited during normal visitation times to coincide with the goals of historic landscape treatment.

C.8. Spacial Organization

The spacial character of the historic landscape was created by early settlement patterns, timbering operations, travel corridors, mining, and agricultural use of the land. Historically, the open fields housed the wagons and livestock traveling the turnpike at the original tavern (1826). Early timber harvesting clear cut the flat lands for use as agricultural fields. Where stumps and rock were removed, fields were placed into agricultural production as hay or pasture for livestock. These spacial elements are evident in Figure L-16. Fencing further defined the spacial organization of agricultural and residential use. The building structures, the railroad corridor, roadways, coal mine, fields and forest all contributed to site spacial organization of the summit area landscape.

The Portage Railroad ascended the Allegheny Mountain via the most gentle grades possible on a direct route. Near the Lemon House the railroad corridor parallels the old turnpike routing. The railroad, turnpike, and Gallitzin Road formed the basis for structure locations at the summit level, and the land use responded to the natural resources available (coal, timber, stone, water), along with necessary agriculture production. The Engine House, Lemon House, coal wharf, and other smaller support structures were built to service the railroad trade. Access routes through the site subdivided the landscape further and spacial relationships formed by function; therefore, the overall character of the landscape was a composite of early industrial, commercial, and agricultural land uses.

The open fields that are in proximity to the Lemon House have been used for crop, pasture, and barnyard purposes at various times since 1826. These land use patterns were still evident into the 1880's (Figure L-16). The cleared meadows are presently managed as park open space, and still convey some of the spacial relationships of the historic landscape.

The forest edges were likely the terminus of views and vistas in the historic landscape, much as they are today. The reforestation of several areas, especially near the old U.S. Route 22 corridor, would improve historic landscape integrity, by limiting internal views to intrusive commercial developments and the highway traffic. This reforestation along the highway would help to spatially contain the historic scene around the Lemon House and also provide a buffer for the constant traffic noise.

Adjacent land uses to the site include second growth forest, state game lands, farming, old strip mine scarred lands, a prison facility, and a small area of commercial development. Protection and maintenance of viewsheds and adjacent land use is important to the historic integrity of the site, especially here where no local zoning is in effect.

C.9. Landscape Integrity

Historic landscape integrity is the composite in effect of seven qualities: location, design, setting, materials, workmanship, feeling, and association. A property's **period of significance**, becomes the benchmark for measuring whether subsequent changes contributed to its historic evolution or altered its historic integrity. The Portage Railroad era (1834 - 54) has been established as the period of significance for Lemon House and the landscape. The year 1840 (middle of the era) has been chosen as the year for interpretation of the Lemon House and historic landscape.

Historic integrity exists when the various characteristics that shaped the land during the historic period be present today in much the same way they were historically. Depending on significance, the presence of some characteristics is more critical to integrity than others. In the case of the summit level site the spacial organization and vegetation within the historic working landscape are integral components. The Lemon House site is a complex arrangement of many landscape elements that compose the historic fabric and story of settlement, industry, and life during the Portage Railroad era.

All historic landscapes tend to change over time with differing use. During the past 160 years a number of significant changes have occurred at the Lemon House site to diminish the landscape's historic integrity from it's period of significance. The most significant and influential change, was the abandonment of the Portage Railroad in 1854. Many of the primary landscape and structure components on the property were oriented to the working railroad, it's trade and travelers. The intense land uses employed on the site (i.e. coal mine, logging, farming, and railroad) subsided with new railroad technologies replacing the need to portage over the mountains. Samuel Lemon moved his family to

Holidaysburg, and the Portage Railroad was abandoned. The historic integrity of the landscape at the summit and level of inclined plane 6 began it's decline with the loss of the railroad.

The lands around the historic core at the summit level site have changed with periods of more and less intense extraction of the local natural resources, primarily coal and timber. The wagon road turnpike gradually evolved into the modern highway traversing the property (U.S. Route 22). The site remains in a relatively rural district, and the basic spacial organization of woodland and open field have remained relatively intact. The fields and forest that are evident around the Lemon House in 1880 (Figure L-16) are in much the same spatial relationship as today (compare with Figure L-8). There are a number of historically important landscape components which no longer exist, such as the coal mine entrance, coal wharf, barnyard, orchard, pastures and farm fields, along with other undocumented features and structures such as the outbuildings and fences.

While the site's historic integrity has been diminished over time, many of its important components are intact spacially, and have not been covered over by subsequent developments. Treatment of the Lemon House historic landscape is possible without the need to remove major site features and make large scale site changes.

D. LANDSCAPE TREATMENT RECOMMENDATIONS

D.1. Introduction

The vernacular landscape at the summit level evolved to function productively in a remote location. There are a number of landscape components which were historically important character defining features. Only the Lemon House remains relatively intact visually and spacially, while other components remain as ruin vestiges or as spacial features. These include the coal mine entrance; the coal wharf; the railroad facilities within the corridor; the Engine House; the orchard; the hay meadows; succession wild flower meadows; the front lawn at the Lemon House; the barn/barnyard area; specialized outbuildings; the old Gallitzin Road; the stone quarry; and the woodland edges. In combination these landscape components exhibit the texture and feel of the historic agricultural, industrial, and commercial landscapes of the mid-nineteenth century of rural Pennsylvania; unique to the Allegheny Portage Railroad summit area.

The major 'natural' landscape features contributing to landscape integrity (open space fields and forest edges) remain intact spatially; however, to meet the goal of restoring the historic character of the landscape, while being responsive to operational and interpretive requirements, treatment is necessary. Park visitors will need to be educated about the changes and the benefits of treatments that restore the historic landscape character. After the treatment intervention, the maintenance and management program developed for the landscape will become as important as the landscape components themselves in exhibiting the historic character.

A thorough research into the workings, lifestyle, and character of the Lemon House and summit level environment, during the Portage Railroad era, has produced data on which to base landscape treatment recommendations. Written documentation regarding the actual landscape is sparse; however, there are many knowledgeable experts who have provided insight into the probable conditions surrounding the Lemon House and the summit level operation. The lack of definitive written data regarding the historic landscape at the summit level has determined the overall treatment level to be rehabilitation. This level of landscape preservation treatment is consistent with the goals of the HSR task directive.

The primary objective for treatment of the historic landscape is to depict the character of the landscape that was so meshed with the workings and lifestyle during its historic period. Landscape

rehablitation improves the utility or function of a historic landscape, through repair or alteration, to make possible an efficient compatible use while preserving those portions or features that are important in defining its significance, and is consistant with the goals of the Long Range Interpretive Plan. Many existing contemporary features (i.e. the boardwalk trail, the overlook deck, exterior lighting, etc.) would need to be removed in a comprehensive restoration treatment.

The rehabilitation treatment actions recommended (schematic plan) are described below for each landscape feature to coincide with the graphic plan (Figure L-24).

D.2. Landscape Schematic Plan

Railroad Corridor:

The inclined and flat areas of the Summit Level Unit have been maintained as open corridors through the forest, and some historic vestiges such as stone sleepers and culverts remain. With the construction of the Engine House 6 Exhibit Shelter, a portion of the railroad track has been reconstructed as a historical exhibit. These track improvements extend past the Lemon House, and include the Gallitzin Road crossing and the passenger boarding area. The remaining railroad corridor will incorporate trails and historic elements into a system for visitor interpretation and recreation. These railroad corridor improvements are consistent with the goals of the landscape rehabilitation, and are an important component reflecting the historic character of the Portage Railroad era.

Lemon House Lawn:

There has been no written documentation of the historic character of the front lawn (north) side of the Lemon House. This lawn area defined the entry to the Lemon House from the Portage Railroad boarding area, so was an important feature. George Storm's 1880's painting of the Lemon House ca. 1850 has been the model for current interpretation of the front lawn (Figure L-13). In his painting, a picket fence encloses the yard, and a earthen/gravel pathway leads from the train boarding area to the Lemon House. Shrubbery plantings border the fence line.

The Storm painting is suspect for historic accuracy, because of its production nearly 30 years after the historic period; however, George Storm was there as a child and may later have used photographs to paint from. (Research has not been able to document Storm's methods for painting). His painting does represent a probable front lawn development for the times, and is the only

documentation of its historic appearance. The lawn area is functional in nature, with a bit of ornamentation (fence and plantings) to greet visitors to the Lemon House. The grass is shown as trimmed, and research has determined that the common practice was to allow sheep to maintain the grass height by periodic grazing. This could be another reason for the fenced enclosure.

The existing white picket fence is recommended to remain as the historic interpretation; however, the shrubbery inside the fence is to be moved outside the fence limits. Maintenance of the grass height is recommended to return to the historic means of periodic grazing by sheep. This grazing practice will need to be worked into the landscape management practices for the historic zone, and is an important feature in representation of the historic character. The grazing sheep (2-3) would become an exhibit in themselves regarding the landscape and the lifestyle of the historic period, and could be contracted to a local farmer rather than NPS staff management and park housing.

Ornamental shrubbery plantings are shown in the Storm painting (Figure L-13). Research indicates that lilacs were a prominent shrub available during the historic period, and were widely used in the region because of their hardiness and showy spring color. Lilacs are recommended as fence border plantings to accent the lawn, but as stated before, remain on the outside of the fence, due to the sheep grazing.

Archeological investigations regarding the pathway that leads to the train boarding area indicated an original pathway strata 14" below the present grade. The existing brick paver constructed walkway is recommended for removal and replacement with a granular surface that is more indicative of the historic period. The walkway paralleling the front (north wall) of the Lemon House is evident in the Storm painting (Figure L-13). This walkway is recommended to remain as it is paved with brick style pavers.

The areas immediately south, east, and west of the Lemon House are not well documented. The architectural and archeological portions of this document have concluded that a porch existed on the south and east sides of the structure, and that the west wall has had some structural modifications from the original construction. The rebuilding of the south and east porches will extend the structure into the landscape. The historic site treatment for these less public sides of the house was probably fairly simple and functional. Foundation plantings of mature lilacs are evident in later photographs of the Lemon House (Figure L-17 & L-18), and these are consistent with the available data relative to plant use. A summer vegetable garden was likely near the house with a southern exposure; however, there is no documentation of a garden, so is not recommended within landscape rehabilitation. A fruit tree orchard is known to have extended to the west side of the house. This

feature is important to the historic landscape visually and spacially, and is recommended to be restored in character.

Gallitzin Road:

The Gallitzin Road is an important component of the historic landscape and has been redeveloped to represent its original dimensions and surfacing. This work has been done in conjunction with the Engine House Exhibit Shelter construction, and is consistent with the treatment goals for the landscape. The road will be used as service/emergency access, and as a pedestrian trail within the historic core of the park. The road's surfacing is a granular chip and seal pavement, and the road's crossing of the railroad tracks has been completed with timber planking.

Meadow Reestablishment:

Fields surrounding the Lemon House have been documented to have had agricultural uses as pasture and hay fields in the 1880's (Figure L-16). The property remained in the Lemon Family long after the Portage Railroad era (1907), which adds credence to the land use remaining largely unchanged from the historic period. The rural location and times required self-sufficiency of the inhabitants of the region. Keeping of livestock was common practice, and hay was needed for feed during the hard winter months at the summit.

It is proposed to reestablish the hay meadows with a seeding and management program that returns the meadow character to the open fields on the property. Figure L-16 indicates that the fields were divided with cross-buck fencing to define hay meadow from a succession meadow of wild flowers. This division of the meadow elements is also proposed.

Research indicates that the vegetative composition of the meadows was likely a combination of native grasses and legumes (fescue, poa species, filum species, red & white clover etc.) with naturalized European grasses (orchard grass, timothy, broome) that had spread across the East by 1840 (Cole, 1993). The method of management was the most important factor in the vegetative mix of each meadow. Grazing vs. cutting these grasses, and even the type of animals that are grazing determines the makeup of the meadow grasses (sheep, cows, or horses) (Cole, 1993). A seed mix that represents the likely composition of historic grasses, forbes, and legumes is recommended to be planted in the open meadow areas. Since the method of meadow management is a primary factor in creating the historic meadow composition, cutting the hay meadow three times per summer (historic methods, if possible) and the succession meadow areas once in the fall is recommended.

Reintroduction of the meadow/field areas will need to allow native and naturalized European grasses, forbes, and wild flowers to eliminate the existing turf grass species by dominance and management practices. (See Appendix E: Restoring the Northeast Meadow). A customized meadow seed mix will need to be established for the Allegheny Portage Railroad summit area that is historically correct for the region and the historic time period.

As stated above, maintenance of the hay meadow will require it to be cut (2 - 3) times during the summer months, and the hay bundled and stored or used as feed. This practice could be leased to a local farmer. The historic method for cutting hay in 1840 was by hand scythes. The hay was cut into rows, laid in the field to dry, then stacked in piles for later use (Cole, 1993). The pastured meadows are not documented at the Lemon House site; however, the normal practice of period settlers in the Allegheny highlands was to separate horses and cows from the sheep. The typical homestead had several cows and horses, and usually 6-10 sheep (Pasto, 1993).

The succession wild flower meadow west of the hay meadow is shown to be dominant with black-eyed susans during the 1880's (Figure L-16). Black-eyed susans are a hardy succession species that are planned to be seeded with a native wild flower mix and other succession plants to reestablish the historic character of this meadow feature. To maintain the succession meadow character the field will require a yearly mowing, in the fall, or burn off to control hardwood species invasion, dominated by red maples in this region (Cole, 1993).

Orchard:

A mature fruit tree orchard is evident during the 1880's (Figure L-16). The fact that these trees are at a mature size would put their planting into, if not close to, the historic period. This is a very important spacial and functional landscape component documented to the Portage Railroad era. The orchard was located just west of the Lemon House, and covered a sizable area (est. to be roughly 0.5 acre). There appear to be 40+ fruit trees in the historic orchard. Recent utilities construction through the historic orchard zone has included the placement of underground utilities (electric, gas, water, sewer). This utilities corridor will require field location for the coordination of a new orchard plantings with the utilities placement.

Research indicates that the probable makeup of the orchard was a mix of apple and pear trees, given the varieties available, the summit's weather conditions, and the comparable old orchards of the region (Pasto, 1993). Rehabilatative treatment of the landscape to represent the character of the historic period does not require exact duplication of the orchard; rather, an orchard planting that

conveys the scale and feel of the historic site would meet the goal. This allows some flexibility in plant material selection for the new representative orchard. The maintenance and landscape management of the site may enable the planting of true representative apple and pear tree species, or a non-bearing fruit tree (i.e. flowering crabapple) to recreate the character (form and spacial quality) within the landscape, that requires far less maintenance.

Reforestation Planting:

The management of the site's woodlands will eliminate exotic tree and undergrowth species. A reforestation plan would help to screen intrusive views that conflict with the historic theme. The use of ornamental and/or exotic (non-native) plant materials will be used only as are historically documented to have been available, and were probable in the context of the Lemon House (including yard ornamental plantings, hay meadows, shrubbery ,and orchard trees). The management of the historic landscape plant materials is recommended to use some of the same technologies employed in 1840, because management practices play a large role in actual vegetative makeup.

The impact of old U.S. Route 22 traffic intrudes on the historic scene in and around the Lemon House site. Forest edges are and were the natural terminus to localized views. It is recommended that the highway be screened from internal views and traffic noise with a band of tree and understory plantings along the road corridor. This reforestation would replicate the native woodlands, with emphasis toward native spruce and hemlock trees for year round visual screening and audible buffering (Figure L-10). The goal of reforestation planting is not intended to eliminate all sight and sound elements intruding into the landscape, because the historic landscape was full of various mixed sounds (trains, the engine house, wagons, cattle, etc.). The scale and feel of the historic landscape are important aspects that can be improved with reforestation screening.

The small trees planned for removal from the meadow areas are to be relocated in the reforestation plantings. The views from the historic zone would naturally terminate at the newly created forest edges, when the plantings begin to mature. Beyond the park boundary/ roadway right-of-way line along old U.S. 22 there are buried utilities that need to be avoided with any new plantings. Ultimately, these plantings will create a thick forest band that could be a source of environmental record and study within the park regarding plant success rates, densities, impact on sound and view, and succession rates, etc.

Fencing:

The use of the native forests by the early settlers, like Samuel Lemon, included the construction of timber fencing to divide fields, control livestock, and mark property boundaries. Fence delineations are quite evident in Figure L-16 during the 1880's. If one can assume that the land use practices remained fairly constant while under Lemon Family ownership, then the 1880's photograph should be representative of the historic period. A timber cross-buck fence divides the foreground open space into hay field and wild flower meadow. It is recommended that a timber constructed fence be built in the landscape rehabilitation. The fence construction would be in conjunction with the meadow reestablishment program, and not intended to replicate a historic fence style. Hemlock and cedar are the preferable timber for fence posts in the region, because of their natural resistance to weathering, decay, and insects (Lillard, 1947).

A line of fencing is also shown to parallel the old Gallitzin Road across the length of the photograph (Figure L-16). This fencing is on both sides of the road, and was probably needed to control grazing animals in pastures. The only readily identifiable animals in the photograph are two draft-horses cutting hay; however, close examination indicates the possibility of sheep or cows in the distant fields. Extensive fencing would serve no other purpose than pasture control. This fencing along the old Gallitzin Road changes character from a post and four-rail design near the Lemon House to the traditional cross-buck fence about 100 yards north. The post and rail design is more modern and could be a replacement of the historic cross-buck fence during the later 1800's. It is recommended that these historic fence lines not be reestablished, because there is no documentation to the historic period, and would serve no function in the rehabilitation.

There is also fencing evident south of the Lemon House in Figure L-16 that delineates a barnyard area with a small barn. This area is described in the following section.

Barn and Barnyard:

The historic landscape at the summit of the Allegheny Portage Railroad was a varied mix of industrial, agricultural, and commercial uses. As mentioned before, one of the traditional practices was the keeping of livestock. This livestock management required facilities that likely included a barn. The barn was needed for feed and hay storage, along with housing of animals during bad weather. The barn and barnyard components are important features in the historic landscape of the 1840's that additionally represent the lifestyle and workings of the Lemon Family.

There is archeological evidence that a barnyard existed (Fiero, 1984) ; however, evidence of a barn structure is only evident in the photograph Figure L-16, from the 1880's. To replace the barn with a representative structure, would require more thorough research relative to historic barns of the region, and possibly more archeological investigations. It is recommended that the barnyard area be interpreteded as an important feature of the historic period; however, that no reconstruction be performed, unless there is definative documentation in the future.

Summer Garden:

There is no record of a summer vegetable garden at the Lemon House; however, the probability is very high given the remote location and the lack of available fresh vegetables locally. Research indicates that the vast majority of settlers raised a substantial portion of their own food, and stored food by canning fruits and vegetables and smoking meats for the winter months. Seeds were available from plant nurseries in Philadelphia for the most common types of vegetables (i.e. beans, squash, pumpkins, corn, etc.), and most people kept seeds from their garden stock for the next summer. Seed potatoes were commonly kept in cold storage (cellar) for replanting each spring (Pasto, 1993).

The large orchard indicates that the Lemons were either storing food, serving their guests food from their land, or selling food. Likely, all three scenarios are true, which supports the summer vegetable garden theory at the Lemon House. However, given no documentation of a vegetable garden, it is recommended that the garden be not reconstructed. Interpretive means could convey the importance of a summer vegetable garden to the time period.

Coal Mine and Coal Wharf:

Primary components in the industrial and commercial composition of the historic landscape were Samuel Lemon's coal mine and the coal wharf. Samuel Lemon is recorded to have been involved in commercially mining coal for sale and shipment via the Portage Railroad (Toogood, 1973). A timber shaft ruin is evident north of the railroad trace (Figure L-16), during the 1880's. A depression in the ground north of the railroad trace and west of the Gallitzin Road marks the old entrance, that was filled in by later property owners, presumably for safety purposes.

The coal mine is recorded to have been a shaft style mine reaching a depth of approximately 60 feet. The timber shaft entrance provided the capability of lowering and hauling up of equipment and coal via a motor driven winch. Once the coal was at ground level, it was hauled a short distance and dumped at the coal wharf that

was built into the cut bank of the railroad corridor. At the time of the 1880's photograph (Figure L-16) there is only the vertical timber shaft structure visible above the trees. No roof is evident, and it is difficult to determine the structural makeup of the shaft. Since there is no documented evidence that would support reconstruction of the Lemon mine shaft, it is recommended that interpretive means be employed to explain the importance of this feature to the historic summit landscape.

Vestiges of the original coal wharf were discovered by archeological investigations related to utilities construction (Levin, 1993). The location of the wharf is known to be in the north side cut bank across from the Lemon House. Determining the actual design of the wharf will require additional investigations; however, it is known to have been of timber construction, and to be a series of open bins that were loaded by dumping from the top. This is another important feature of the historic landscape that is recommended be interpreted rather than reconstructed, because of limited documentation. At a later date, with more definative documentation, these coal industry features could perhaps be represented in the landscape.

Stone Quarry:

Most of the building materials for the railroad, the Lemon House, and other manmade elements within the historic landscape were obtained on site or close by. Remnants of a historic period limestone outcropping/quarry site remain today, and has been included in the interpretation program for park visitors. Limestone was the principle material for the Lemon House foundation and exterior walls, the rail supports (sleepers) on the Portage Railroad, and the foundations of the Engine House and other related structures. The quarry was an important resource that shaped the landscape and provided durable building material from a local source.

It is recommended that the limestone quarry site be continued and perhaps improved as an exhibit, because of its importance as a local resource to the historic period. The Long Range Interpretive Plan for Allegheny Portage Railroad N.H.S. recommends the interpretation of the natural resources and their use by the original settlers including the quarry site and the timber from local forests. Possibly a section of clear cut trees with stumps remaining could exhibit historic timber harvesting. The setting of the quarry site is ideal for the exhibition of early methods of stone quarrying, cutting, and use; along with timber cutting and finishing for construction materials. These activities were very important to the shaping of the historic landscape, and are important factors to be told within the lifestyle and times of the Portage Railroad. A combined exhibit site to interpret these local

resources and their historic uses is recommended to tie with the historic zone visitor circulation system.

Lemon House Outbuildings:

The Lemon House is reported to have had a number of specialized outbuildings located around its perimeter (Toogood, 1973). One stone slab foundation of an outbuilding was discovered during utilities construction north of the house, and the location of a privy site west of the house was identified. Limited investigation has been conducted relative to these exterior buildings, and they may not warrant further extensive investigation. However, the outbuildings were essential to the workings of the Lemon House and reflect the lifestyle of the historic period. Other buildings may have included a smoke house, a wood shed, a spring/well house, a privy, and a bake house/kitchen which were essential components of the historic landscape.

The outbuildings were important components of the historic period landscape; however, documentation is limited and these buildings and their roles could be interpreted by various means without actual reconstruction. It is recommended that these outbuildings be interpreted to the park visitor within the story of the lifestyle and workings of the Portage Railroad era and the function of the Lemon House.

Structural Ruins:

Several foundation ruins related to the historic period are located within the landscape. The ruins of the Engine House 6 are now protected with the construction of the new Exhibit Shelter (October, 1993). The foundation ruins of a small structure related to the Engine House lie west of it along the railroad trace. A barn structure that was constructed atop the foundation, was removed, because it was not of the historic period. It is recommended that this foundation ruin, along with any others that are discovered be protected, and be interpreted as to their historic function.

There are recorded to have been several other structures on site during the Portage Railroad era, including the old Lemon tavern, several cabins, and possibly several other work buildings (Toogood, 1973). If these locations are determined in the field, their interpretation to the public will add more pieces to the complete historic landscape.

Trails:

The focus of contemporary use within the historic zone of the Park

will be pedestrian access, circulation, and interpretation of historic features. A system of pedestrian trails is planned to effectively link the Visitor Center with the historic zone. The existing boardwalk trail provides access from the Visitor Center descending the wooded slope that will mesh with a system of internal historic zone pathways and exhibit stations. This system of pedestrian paths and interpretive exhibits are a further refinement of the schematic plan. The old Gallitzin Road will also play an intregral role in the pedestrian circulation system linking the Visitor Center with the historic zone.

Interpretive Stations:

The location of the interpretive stations are to be coordinated with a logical pedestrian circulation system. The method of interpretation is to be determined by NPS interpretive staff; however, the location of these stations is an important component within the landscape treatment. These stations need to be designed to best interpret the information within a means that is sympathetic to the goals of historic landscape rehabilitation. The setting, materials used, and pedestrian circulation are important factors for the interpretive station planning which are a step beyond the schematic stage of this report.

D.3. Conclusions

All of the site features described above composed the inter-related landscape of the Allegheny Portage Railroad near the summit of inclined plane no.6 during its period of significance (1834-54). The landscape was a complex combination of **industrial** (train, coal mine, stone quarry, timbering); **agricultural** (fields, barnyard, home, animals, timber management); and **commercial** (inn/tavern, train passengers & freight, coal sales, timber sales, horse sales) landscapes of the rural Allegheny Mountains in 1840.

These site features are character defining elements of the historic landscape. Rehabilitation of the landscape to its historic form will require the restoration of some landscape components like the meadows, the front lawn area, the orchard, and a section of the railroad corridor, while providing interpretive means to descibe the importance of other features like the coal mine shaft, coal wharf and barn area. The goal of the historic landscape rehabilitation is to recreate the character of the working landscape that surrounded incline plane no. 6, while allowing contemporary uses of a National Park Service unit.

Fortunately, the spacial organization of most all the historic

landscape elements has been left relatively intact. A challenge of the rehabilitation treatment is to restore the historic landscape character from a multi-sensory standpoint (sight, sound, smell, feel), and provide for contemporary park visitation. The rehabilitation of the landscape will require phased implementation, and a period of maturing and weathering to establish a landscape which closely represents the historic period.

E. LANDSCAPE MANAGEMENT PLAN

E.1. Management Standards

The treatment determined to best suit the historic landscape at Allegheny Portage Railroad National Historic Site is landscape rehabilitation. Rehabilitation encourages improvements to the historic property that make possible an efficient contemporary use while preserving those features of the property which are significant to its historical values. The following standards based on the Secretary of the Interior's Standards for the Treatment of Historic Properties apply:

* A cultural landscape is used as it was historically or is given a new or adaptive use that maximizes the retention of historic materials, spaces, and spatial relationships.

* The historic character of the cultural landscape is retained and preserved. The replacement or removal of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize the landscape is avoided.

* The cultural landscape is recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development are not undertaken.

* Historic materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the cultural landscape are duly considered.

* Deteriorated historic features are repaired rather than replaced. Where the severity of deterioration requires repair or replacement of a historic feature, the new feature matches the old in design, color, texture, and where possible, materials. Repair or replacement of missing features is substantiated by archeological, documentary, or physical evidence.

* Archeological and structural resources are protected and preserved in place. If such resources must be disturbed, mitigation measures are undertaken including conservation, recovery, curation, and documentation.

* Additions, alterations, or related new construction do not destroy historic materials, features, and spatial relationships that characterize the cultural landscape. New work is differentiated from the old and is compatible with the historic materials, features, size, scale, proportion, and massing of the landscape.

The historic landscape rehabilitation planned for the Allegheny Portage Railroad N.H.S. site will retain the spatial relationships which still exist between the character defining features (railroad trace, quarry, coal mine, woodlands, structures, fields, etc.). These spatial relationships will be enhanced with the reintroduction of plant materials, landscape features, site amenities, and maintenance practices that evoke the character of historic landscape. Visitor interpretation of the landscape will be an important aspect of the experience at Allegheny Portage Railroad National Historic Site. The landscape will be an exhibit representing the lifestyle and workings of the Portage Railroad era.

E.2. Appropriate Management Options

This report has defined schematic preservation treatments for the historic landscape at Allegheny Portage Railroad summit area. Because landscapes are dynamic and changing by nature, it is appropriate to begin a limited management program for the existing landscape components that would prepare the site and the visitors for the pending landscape rehabilitation changes.

* The fields south and west of the Lemon House, east of the old Gallitzin Road, and the field north of the railroad trace are planned to be returned to their historic meadow character. These fields could be prepared for meadow reestablishment by not being mowed, fertilized, or any customary maintenance to allow succession plants to establish, and turf grasses to diminish. A general record could be kept regarding the rate of succession, types of plants, etc. if the park felt it was appropriate. (These fields are planned to be reseeded with appropriate native and naturalized grasses and forbes during Phase 1 rehabilitation).

* Ideally, the historic landscape will be maintained with historic means. These maintenance practices will become an exhibit to visitors conveying the historic lifestyle. By contracting with a local farmer, sheep could be brought into the Lemon House lawn area to maintain the grass by grazing. Other normal lawn maintenance practices should be replaced, if possible, with historic means. Grazing would also allow the grasses to re-naturalize prior to seeding with historic grass mix. All existing shrubbery and flower beds would need to be removed from the fence enclosed lawn before grazing. A record of grazing frequency, grass condition appearance, could be kept as data for maintenance scheduling.

* Also regarding historic maintenance methods, the meadow areas could undergo some experimental maintenance to establish the best means of reestablishment and preservation. Plots or areas

could be control burned in the spring; other areas cut over with schyes; bi-annual mower cutting of a portion of the fields; allow another area to remain uncut or burned; and graze an area. Records and photographs of the results would provide useful information that might establish alternative maintenance techniques.

* The old Gallitzin Road was an important component in the historic landscape. The road would be returned to its historic dimensions and representative surfacing in its new role as park service road and pedestrian trail link. Limiting the use of modern park vehicles into the historic scene would enhance the historic integrity strived for in the landscape rehabilitation.

* An orchard is planned to replicate the historic orchard west of the Lemon House. In this area there are many buried utility lines. These utility alignments need to be established in the field, for close coordination of orchard tree planting.

* The primary pedestrian access to the historic zone begins at the Visitor Center. Via the boardwalk, visitors will descend the hillside to the core historic zone and return to the Visitor Center via the old Gallitzin Road. These pedestrian patterns would be established by the interpretive staff, along with circulation within the historic core.

* Many aspects of the historic landscape rehabilitation will be of interest to citizens in the local communities. These citizens become a valuable resource as volunteers for planting, record keeping, patrolling, interpretation, and other park functions. A solid base group could be established to coordinate needed activities with the park staff.

* Reestablishment of the historic landscape elements is scientific from a research, preparation, development, maintenance, and records keeping perspective. Park staff involvement with local experts and university staff and their classes would bring more public interest to Allegheny Portage Railroad N.H.S. and provide outside educational opportunities that would enhance the landscape rehabilitation program.

E.3. Landscape Development Phasing

Implementation of the historic landscape rehabilitation plan is to be completed in two phases of development. These phases develop the character of the 1840's landscape in a practical sequence that avoids conflicts and reconstruction over previously established landscape elements.

Phase 1: Reestablishes the overall historic landscape character to the property.

A. Reforestation Screen:There are approximately 35 small trees planted in the field southwest of the Lemon House. These trees are to be moved with a tree spade to begin the reforestation area along old U.S. Route 22, and clear the field for hay meadow establishment. New tree and understory shrub plantings are to be planted as planned adjacent to old U.S. 22 between Old Gallitzin Road and the picnic/ service road.

B. Meadows:The open fields south and west of the Lemon House bounded by the railroad trace, the picnic area/service road old U.S. 22; the field east of the old Gallitzin Road north of U.S. 22; and the field north of the trace, west of the old Gallitzin Road are to be reestablished as meadows. The pre-establishment actions outlined in the previous section set the stage for over-seeding of native and historic naturalized grasses and wild flower seeds. This seeding speeds up the natural succession process in reclaiming the meadows.

C. Fence Line: The historic fence lines delineated spacial relationships in the open fields. The primary fence line recommended for reestablishment is the fence dividing the hay meadow from the succession meadow southwest of the Lemon House. In conjunction with the meadow plantings, a timber fence that replicates the alignment is recommended to be constructed.

During early spring of Phase 1 these fields would have the soil and existing grasses disked by tractor to prepare the seed bed. New seeding is to be sown at the prescribed application rates, then compacted to obtain good seed/soil contact.

D. Lemon House Lawn: The existing white picket fence in the "front" (north) lawn area is to remain as representative of the historic delineation. The existing shrubbery within the fenced lawn are to be moved outside the fence. During the preparation period, the lawn grass within the fenced is recommended to be periodically grazed to establish management and appearance. Over-seeding the lawn with orchard grass, timothy, and brome grass will naturalize the lawn character to the historic period. The entry walk is recommended to be replaced with a granular surface.

Upon completion of Lemon House exterior work (porches, etc.) foundation plantings would be established.

E. Orchard: The orchard west of the Lemon House would be planted in Phase 1 landscape rehabilitation. Tree placements need to coordinate with the historic dimensions of the orchard and with existing underground utilities. It is recommended that a flowering crab species be utilized in place of apple or pear trees for maintenance purposes. Orchard grass would be seeded throughout the orchard, possibly maintained by sheep grazing.

F. Interpretive Stations: The Phase 1 landscape rehabilitation estabishes the major character defining components of the historic landscape. Cultural and natural resource information important within the historic landscape would need to be conveyed to the public via interpretive means, such as wayside exhibits, demonstration areas, etc. These interpretive components would be incorporated within a logical pedestrian circulation system.

Phase 2: Adds historic character defining elements to the landscape.

A. Reforestation Planting: To fully buffer the historic zone from the outside influence of old U.S. 22 traffic and the summit area commercial development, it is recommended that the reforestation plantings be continued west along the right-of way line.

B. Meadow Establishment: There are open field areas within the park, outside the historic zone, that are recommended to be reestablished to meadows. This reestablishment to meadow would be within a sustainable landscape program for Allegheny Portage Railroad National Historic Site, and be a recognizable difference to visitors.

C. Interpretive Stations: Phase 2 landscape rehablitation will include the addition of interpretive stations that have been developed by NPS interpretive staff that are within the goals of the Long Range Inerpretive Plan for Allegheny Portage Railroad N.H.S.

LIST OF FIGURES

Figure L-1	Regional Map
Figure L-2	ALPO Park Map
Figure L-3	ALPO Historic Core Map
Figure L-4	Historic Landscape Boundaries Map
Figure L-5	Existing Land Management and Use
Figure L-6	Ex. Conditions Photo SW Exposure
Figure L-7	Ex. Conditions Photo North Side Lawn
Figure L-8	Existing Conditions Photo Panorama SW Exposure
Figure L-9	Existing Conditions Photo North Exposure
Figure L-10	Northern Hardwood Forest
Figure L-11	Existing Utilities Map
Figure L-12	Existing Conditions Map
Figure L-13	George Storm Painting
Figure L-14	Historic Map of Summit Area
Figure L-15	Historic Map of Summit Area
Figure L-16	1880's Photo SW Exposure
Figure L-17	1903 Photo Lemon House
Figure L-18	1907+ Photo Lemon House
Figure L-19	1940's Photo Lemon House
Figure L-20	1970's Site Plan
Figure L-21	1980's Site Plan
Figure L-22	Park Service Era (1975) Photo Lemon House
Figure L-23	Site Analysis Map
Figure L-24	Schematic Landscape Plan