HISTORIC STRUCTURE REPORT
ARCHITECTURAL DATA SECTION
on the
HARTWELL TAVERN
Minute Man National Historical Park
Concord, Massachusetts

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

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Memorandum

To: Regional Director, North Atlantic Region

From: Assistant Manager, Mid-Atlantic/North Atlantic Team, DSC

Subject: Minute Man, Historic Structure Report, Hartwell Tavern

Enclosed are four copies of the Architectural Data Section of the subject report. Two advance copies were sent earlier. We apologize for the delay.

(Sgd) Robert L. Steenhagen
Robert L. Steenhagen

Enclosures 4

cc:

/DSC-TNE-PIPS(Minute Man General File)

TNE:RLSteenhagen:11m:10/27/78:4515
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FOREWORD

The architectural investigation of the Hartwell Tavern was begun in 1973 by O. W. Carroll. He was later joined by Roland Verfaillie of the Denver Service Center, who stayed through January of 1974 when the project was closed down for lack of funds. During this time Karen Williamson, DSC, provided some assistance in the study of paint colors but this phase of the project still remains incomplete. Merrill Wilson, DSC, dated a few wallpaper samples but the majority of wallpapers, over fifteen, were tentatively dated by Mrs. Catherine Frangiamore of the Cooper-Hewitt Museum of Design in New York City. More than twenty mortar samples were analyzed by Blaine Cliver, Historical Architect for the North Atlantic Region.

Other parties assisting the project were Lynn Yellet of the Concord Free Public Library, the Clerk's Office for the Towns of Lincoln and Arlington, and Paul Sostek of the Middlesex County Superior Court.

Additional funds were found by the Denver Service Center to continue the architectural investigation and on July 1, 1974, Christopher H. Mulhern, DSC, joined O. W. Carroll to complete the project. A copy of the written report in rough draft form and eight sheets of preliminary restoration drawings were mailed to the Denver Service Center on January 8, 1975. In the meantime all of the fabric that was removed from the house was replaced. The exterior of the building was subsequently painted through funds of the Park by contractural work.

Orville W. Carroll

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SUMMARY

The Hartwell Tavern was originally built in 1733 as a two story farm house for Ephraim and Elizabeth Hartwell. Although lacking concrete evidence we believe that there was also a kitchen lean-to across the back of the house jutting beyond the west end.

In 1756, Ephraim Hartwell was licensed as an Innholder by the selectmen for the Town of Lincoln. He renewed his license yearly until 1777 when his son John took over the tavern business. We have found positive proof in the records of the Middlesex County Court of General Sessions that John Hartwell continued to operate the tavern until 1787 when the last approved license was found.

We have no records that describe the house when it was used as a tavern. Architectural evidence found in the West Parlor and West Chamber suggests that these two rooms were used by the Hartwells in their tavern operations. In ca. 1783, the Hartwells expanded their house by building a gambrel addition against the west gable end. During the building of the addition it appears that a "tap-room" was constructed off the tavern room into the new section.

About 1830 the house of 1733 underwent a major renovation. We think that the old kitchen lean-to was torn down and the existing lean-to built. Also, the original clapboards, the window and door openings were removed and replaced. Probably at the same time the existing shed
was built against the north wall of the gambrel addition. Later on, about 1847, the central chimney was removed resulting in several interior changes.

The property passed out of the hands of the Hartwell family in 1873 and in 1875 it was purchased by the McHughes. In ca. 1900 the McHugh family proceeded to remodel the house in much the same way it was done in ca. 1830 by removing and replacing the clapboards, the door and window openings and remodeling the interior of the house. These features along with the addition of new porches up-dated the exterior of the house to the latest architectural style of the day.

In 1967, the National Park Service purchased the property as part of the Minute Man National Historical Park with the intention of restoring the building to its appearance of 1775. The building has been unoccupied since 1967.
I. REPORTS AND OTHER DATA

A. ADMINISTRATIVE DATA

An administrative data section on the Hartwell Tavern was prepared by Benjamin J. Zerbey in April of 1968 prior to the writing of the Historical Data Section of the Historic Structure Report. This section calls for the use of the tavern as an Historic House Museum to be operated by Minute Man National Historic Park personnel. It further states that maintenance and operating funds are to derive from Minute Man Buildings and Utilities Appropriations.

B. THE MASTER PLAN OF 1966

Master Plan Drawing Number NHP-MN-3002B, Sheets 1 and 2 recommends using the Hartwell Tavern as and "Historic House Museum." It is to function as the primary manned interpretive point in the middle portion of the Battle Road Unit of the park. The Master Plan is scheduled for an early revision to reflect changes in conditions at Minute Man since its writing.

C. INTERPRETIVE PROSPECTUS

The interpretive prospectus for Minute Man NHP approved February 11, 1971, contains several references to the Hartwell Tavern. The most pertinent of these occurs on page 15 and states:
"The Tavern should be restored to its 18th century appearance. Although the gambrel roof addition dates to the 1780's it should remain, as its presence is consistent with the period. The interior ground floor rooms should be restored and furnished to the 1775 period... Restoration of the grounds and creation of a living farm here is recommended... The Tavern will be operated as an Historic House with period costumed attendants providing information services and brief interpretive talks. Selected goods and beverages normally served to patrons in the 18th century should be for sale to those visitors who wish an authentic gastronomic experience..."

In its research section, pages 30 and 31, the prospectus calls for the following projects for "Priority consideration"

a. Historic Grounds Report - Ephraim Hartwell Farm
b. Historic Archeology - Ephraim Hartwell Farm
c. Historic Structure Report - Ephraim Hartwell House and Barn
d. Furnishings Plan - Ephraim Hartwell House

The status of these reports is covered elsewhere in this section.

D. DEVELOPMENT CONCEPT PLAN

A development concept plan for the Battle Road Unit of Minute Man was begun in 1972, by the Denver Service Center but work was stopped on it before substantial progress was made pending the revision of the Minute Man Master Plan.
E. HISTORIC GROUNDS REPORT

The Historic Grounds report on the Ephraim Hartwell Tavern was prepared in 1971 by Mr. John Luzader. This document summarizes all available information on real estate transactions concerning the Hartwell property in addition to the wills and tax records which bear on the state of development of the Hartwell holdings. Because of a scarcity of original document relating to the Hartwell Tavern, there is no clear picture of the original farm and its layout. Although the approximate building dates of the major portions of the house are known, very little light is shed on the number and disposition of the outbuildings existing during the various stages of the tavern's development. Mr. Luzader carried his research into the 20th century covering the various land transactions leading to the McHugh ownership and the subsequent purchase by the U.S. Government.

F. HISTORICAL DATA

The first investigation into the history of the Hartwell Tavern was begun by Mr. Robert Ronsheim. His work, which exists in manuscript form on file at Minute Man, included a complete examination of the myriad property transactions related to the Ephraim Hartwell Homestead, plus a compilation of the geneology of the Hartwells in America. This research identifies the boundaries of the Hartwell property and chronicles all the changes of ownership involved in the history of the farm.
Mr. Ronsheim's work was used as the starting point by Mr. Luzader, the second NPS historian to consider the problem. In his Historical Data Section, printed September 9, 1968, Mr. Luzader discusses the history of both the Samuel Hartwell Farm and the Ephraim Hartwell Tavern. Touching on the family genealogy and real estate transactions investigated in depth by Mr. Ronsheim, Mr. Luzader goes on to discuss the will made by Ephraim in 1786 and the role of the house during the Battle of April 19, 1775. He presents several conflicting accounts of what actually happened at or near the Hartwell Tavern. The conclusion reached is that the tavern had little significance in the events of the day other than being the home of one of the minute men who fired the "shot heard 'round the world."

The most recent research on the Hartwell Tavern is a "Comparative Study", prepared by Anna Coxe Toogood in September of 1974. In her lucid and well written paper, Ms. Toogood discusses Ephraim Hartwell's life and sheds new light on his status and role in the community. Through her interpretation of tax records, she was able to conclude that the tavern was operated by Ephraim and his son John up until 1780. She goes on to present a comparative study of the interior uses of colonial taverns then included accounts from the 18th century describing tavern life. These excerpts along with the laws and inventories included in the appendices should prove very helpful to those attempting to recreate the mood of an 18th century tavern.
G. ARCHEOLOGICAL DATA

Archeological investigation of the Hartwell farm was undertaken by a team from Muhlenberg College under the direction of Charles W. Tremer. The work (NPS contract 14-10-6:990-1635) began in the summer of 1972, and continued intermittently through 1974. During the first year, the area around the barn and house was tested and two major building foundations were located. The investigation of these two sites continued during the summer of 1973; in addition, two smaller foundations were located east of the barn. In 1974 two small, remote sites were excavated and explorations around the house were started but not completed. At this writing, the archeologist's final report on the Hartwell Tavern outbuilding sites has not been received. A progress report covering work completed during 1972 is on file at Minute Man NHP.

H. ARCHITECTURAL DATA

Upon acquiring the Ephraim Hartwell Tavern in 1967, Minute Man workmen boarded up the building pending architectural investigation. The investigation was begun by Architect Orville W. Carroll in October, 1973, but was suspended in March of 1974 due to lack of funds. The decision was made by the Denver Service Center to complete the architectural investigation even though funding for restoration was not immediately available. In July of 1974, Architect Carroll was joined by Architect Christopher H. Mulhern. At that time the investigation was resummed.
and continued throughout the summer and fall. At this writing, we have completed our investigation of the house and are in the process of replacing the fabric removed during the investigation. This work will be completed by December 31, 1974.

I. FURNISHING PLAN

As of this date, the Furnishings Plan has not been started for the Ephraim Hartwell Tavern. The timetable for its completion is not known at this time.
II. HISTORICAL BACKGROUND OF THE HOUSE

A. COLONIAL STRUCTURE OF 1733

A year after his marriage in 1732, Ephraim Hartwell, the youngest son of Samuel Hartwell and member of the fourth generation of Hartwells in America, received several parcels of land in the towns of Bedford and Concord by Deed of Gift from his father.\footnote{1} Included among the parcels was one piece described as follows: "Eighteen acres of woodland an upland lying in the easterly part of said Concord bounded westerly on land of Ebenezer Brooks northerly on Saml (Samuel) Brooks, easterly on my own land and southerly on the road containing a new dwelling house and also free liberty of a way to my barn to use and improve forever the northerly end of it being a new addition unto it made by Ephraim Hartwell."\footnote{2} Although the description is sketchy, it is clear that the house was new at the writing but a barn not yet built. At that time or shortly before the actual gift, Ephraim moved into the new house with his wife Elizabeth and there raised a family of eight children.

\footnote{1}{From the Research Notes on the Hartwells, compiled by Robert Ronsheim and on file at Minute Man National Historical Park in two file folders marked "Hartwells in General" and "Hartwell: Rewritten Drafts," hereinafter referred to as the Ronsheim. Page numbers refer to the manuscript page numbers. This reference from "Ephraim Hartwell Homestead Section," page 1.}

The house mentioned in the deed of gift is the oldest part of the Hartwell Tavern. It is typical of colonial farmhouses of the period and locale, rectangular in plan with two equal sized rooms on each of two floors.

The rooms on each floor were separated by a massive central chimney, but joined on the front or south side by an entryway and stair hall. A half cellar and chimney base under the east end of the house, and original gable roofed structure. The structural frame measures thirty-six feet in length from east to west, eighteen feet deep from north to south, and twenty four feet three inches from sill to gable peak.

At the time of its building, the Hartwell house had its main entrance in the center of the south wall, and a secondary, but probably much used door in the north wall leading to the well yard behind the house. 3 This back door, located in the west parlor, was the only opening in the north wall of the dwelling at that time and implies that the west parlor served the more functional daily needs of the family; the east parlor being the more formal room. The ceilings of the west parlor and that of the room above it were left unfinished, as were those of the entry and stair hall. These two west rooms and portions of the stair hall were covered with a full height chamfered and beaded wainscoting applied to the walls. The corner posts were encased and the exposed edges of the girts and summer beams bonded to match the wainscot. In the early years of the dwelling, probably at the beginning

3. See photo illustration No. 2 included as part of the Appendices.
of the tavern period in 1756, the west chamber was divided south of the east-west center line by a vertical board partition. This partition probably had a door near the east wall of the chamber, connecting the north two-thirds of the divided space to the south one third and then to the stair hall. The original location of the doorway is based on the absence of nail holes in the floor boards as the partition was removed in the early 19th century when the room was wallpapered.

The floor at the first floor level were probably two layers of pine boards nailed to the floor joists to insulate against the cold ground and cellar below. The upper floors were made of wide, square edged pine boards, double grooved and splined. The floor boards ranged in width from fifteen and three quarters inches to eighteen and three quarters inches, tapering as much as two inches over their length.

The treatment of the two west rooms and stair hall is indirect contrast to the finish used in the two east rooms of the dwelling. Here, the walls and ceiling were finished with plaster applied over had wrought lath nailed directly to the ceiling joists. The exposed edges of the girts and summer beams were beaded. A chair rail molding was used in the east parlor, but none in the chamber above (see sheet Nos. 6 & 7 of the restoration drawings). The floor construction throughout the house was probably similar employing the hand-planed, splined type

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4. See restoration drawings included in the Appendix, Sheet No. 4 of 12.
boards, face nailed with T-headed nails driven flush with the top surface of the boards.

Although the original central stair way was removed from the house during one of its many alterations, enough evidence was found during the investigation to determine its original location and design with reasonable accuracy.

The central stair way of the house was U-shaped with two intermediate landings. The stairs started on the 1st floor just north of the east parlor door and ended near the doorway to the West Chamber, colonial structures in the area (see Photo illustration No. 26). The runs of the main stairs were three, five and three risers respectively.

The stairs were originally built with square newel posts but sometime in the mid-19th century were turned on a lathe to their present form. Paint studies show that the first stairs were built without blasters, that is, the treads and risers were housed into a wide, molded string board that covered the ends of the steps and stair carriages. A molded handrail, in turn, morticed and tenoned into each of the four newel posts. There was no evidence to suggest walls of the stairway. Photo Illustration No. 4 shows the original plaster extending down to the treads and platform on the upper and lower sides of the steps. A baseboard may have been painted on the plaster of these two walls.
On the west all above the second landing the treads and risers butted the wall paneling and chimney girt of the West Parlor.

A 3'-6" wide hall, open to the stairway, connected the two chambers over the front entry. An L-shaped stairs with one landing ran from the east end of the stair hall on the 2nd floor up to the attic. This stairs hand runs of three and eight risers with its landing falling directly over the lower landing of the main stair. The landing was apparently supported from above by means of a suspended post possibly nailed into an attic floor joist. Like the stairs below there apparently were no interior string boards against the plastered wall. Paint evidence remaining on the west board wall near the attic floor suggest that the stair carriages were supported by a dropped board nailed, in turn, into the chimney girt. (See Sheet No. 7 of the restoration drawings.)

The upper run of the attic stair was enclosed by wall of beaded running vertically from the stringer to the attic floor boards. The attic was closed off from the second floor by means of a door located above the second step of the attic stairway (see Sheet Nos. 6 & 7 of the restoration drawings). The underside of the stair construction was thought to be left exposed.

The original stairs to the cellar was located under the main stairway. Access to the cellar stairs was by means of a doorway cut through the
vertical wainscoting of the east wall of the west parlor. The existence of a stairway in this location supports the theory that the west parlor was the room chosen by the Hartwells to be used by the public in their newly opened tavern. Although this stair has been removed, it is thought that it was a straight run built against the brick chimney base in the cellar.

The cellar of the Hartwell Tavern at the time of its construction from the west chimney girt to the east wall of the dwelling, with approximately one fifth of that space being taken up by the massive chimney base. The foundation walls were of rubble field stone measuring twelve to fifteen inches thick at grade level they extended an average of 1'-4" above grade and supported the sills of the house at that level. A cellar window in the south wall provided limited natural light and ventilation. The floor of the cellar was thought to be earth with no provision for drainage other than the natural seepage through the soil.

5. The original grade on the south side of the house is thought to have been six inches lower than the present. This is based on the photographs of ca. 1895, Illustration Nos. 1 and 2, and test pits dug at intervals along the south side of the dwelling. At present, the amount of foundation wall visible above grade varies between six and fourteen inches. A grade lowered by six inches and of the same slope would yield an average grade of one foot four inches.
The north west corner of the original cellar area was occupied by the base of the central chimney mentioned above. This base consisted of a 4'7" wide by 9'8" deep "winter dairy"6 arched over with a brick barrel vault running east and west (see Sheet No. 6 of the restoration drawings). The vault sprang from two piers, one brick and one rubble field stone, 2'-1" and 3'-0" thick respectively. The brick pier to the south contained four storage niches measuring 1'-4" to 1'-6" wide, 1'-5" deep and 2'-11" high. The tops of the niches were spanned by two one-inch thick boards from which the brick vault sprung. The vault itself is one brick stretcher thick (7 3/4") with the floor of the smoke chamber and the fireplaces laid directly on top of it. There is one additional niche built in the south wall of the chimney base, located one course (2 1/4") below the floor of the smoke chamber and west of the east side of the base. The purpose of this 1'-5" x 1'-3" x 1'-5" deep niche is not known.

The brick floor of the smoke chamber is located 1 3/4" below the first floor of the house. The smoke chamber was formed by the masonry backs and flues of the two first floor fire places, on the east and west sides, and a single brick width (7 3/9") wall backing the plaster of the north wall of the central stairway. The construction of the north

6. Carroll, Orville W. "Glossary of Pre-Revolutionary Architectural Terms" (unpublished). The winter dairy was used to store perishable food during the winter months. Heat from the fireplaces above kept the space below warmer than the rest of the cellar and prevented foods from freezing. There was probably a wood floor in the dairy and a door covering the opening.
wall of the smoke chamber is uncertain, but is thought to have been the back of the lean-to kitchen fireplace and oven. Access to the smoke chamber was in all likelihood gained by means of a small opening through the south brick wall of the chimney reached from the cellar stairway. Both the original first floor fireplaces and the north brick wall of the central stairway were removed from the house in the mid-19th century, but the outlines of the jambs and back of the west parlor fireplace and the imprint of the south wall against the central stairs are still visible (see Photo Illustration Nos. 19, 20 and 23).

The original second floor fireplaces were also removed in the 19th century but the size and exact locations can be determined from the existing evidence in both chambers. The west chamber fireplace was recessed ten inches from the wall with the sides of the recess closed with wide, vertical boards. Like the east parlor below the east chamber had a fireplace in the plane of the plaster wall. The fireplaces on the second floor were built generally one over the other with a slight variation that can be noted in the plans and elevation of the restoration drawings.

Evidence found in the roof boards indicate that the flues corbelled toward the center of the house to form one massive chimney stem. On the back side was attached the flue for the old lean-to. Although the chimney

7. The description of the original chimney is mostly conjectural, based on the limiting evidence found in the house and other chimneys dating from the same period, especially that of the Samuel Hartwell House, built in ca. 1693.
was removed along with the fireplaces, evidence of original opening exists in the attic floor and the roof sheathing. Based on the measurements of these openings and the known brick size, it is thought that the original chimney measured 2'-11 1/2" x 5'-8" and contained four flues measuring 2'-4 1/2" x an average of 1'-0 1/2". The long dimension of the chimney was in the east and west direction, while the long dimension of the flues was in the north and south direction. The north-south center line of the chimney fell 3 1/2" west of the north-south center line of the house frame while the entire chimney was built north of the roof ridge. Against the north side of the chimney we feel that a flue was built for a kitchen fireplace and oven. The evidence found in the roof sheathing indicated a flue size of 2'-0" x 2'-6" (see Photo Illustration No. 6 and Sheet Nos. 4 and 5 of the restoration drawings).

The roof of the 1733 house was asymmetrically framed. The east and west end girts, the chimney girts, and the summers extend twelve and one half inches beyond the plate on the south side while ending flush with the place on the north. The principal rafters were positioned over the girts and summers and along the south overhang purlins were dovetailed between the girts and summers. The common rafters were placed between the principal rafters: two common rafters per bay in the four outer bays and three in the central bay between the chimney girts. The common rafters rested on the purlins along the south overhang but were notched into the plate on the north wall, extending
seven inches past the north wall sheathing. The overhang of the common rafters on the north side were cut to a depth of 1 1/2" except for the last four inches which were chamfered along the lower side reducing the depth of the rafters at their ends to one inch. The original roof sheathing boards were wide, square edged boards nailed to the rafters with hand wrought nails and covered with wood shingles. The original shingles no longer exist but they were probably hand-riven white pine, tapered and smoothed for uniform fit. The peak of the roof was probably finished with a pair of comb boards.  

The spaces between the studs of the house were filled with a soft nogging brick laid on edge in clay. The outside of the frame on the east, south and west sides were sheathed with wide, rough mill-sawn sheathing boards. On the north wall the boards were made with feather-edges and gapped ends. The east, west and south walls of the building were covered with hand-rived and smoothed pine clapboards, 4 1/4" wide, with an average of 3 1/4" laid to the weather. No corner boards were thought to be used with the original clapboards. Rather, the clapboards of the south wall extended approximately one inch beyond the clapboards of the east and west walls, which in turn were scribed to

8. This roof finishing technique was a common practice in New England during the 18th century.
those of the south wall.9 On the gable ends, a tapered verge board
was used at the roof line, with the roof shingles covering its upper
edge. The overhang along the south wall formed a cornice which was en-
closed by a crown molding, fascia, board, soffit, board and bed molding.
The bed molding closed the joint between the fascia board and the shingle
overhang of the roof. The verge boards extended past the fascia to cover
the ends of the crown molding.

The north wall of the house was never clapboarded, and there is no evidence
that the eave was encased.

The windows in the south wall of the 1733 house contained double hung sash,
six lights over nine, placed in heavy plank frames.10 The glass size as
determined from the old sash measured seven by nine inches. The molded
and beaded jambs and head of the window frames found reused in the house
but thought to be original measured 3 1/2" x 3 3/8" by means of four
wrought iron spikes, one near the top of each jamb, and one at each end of
the sill. On the first floor of the south wall the window frames were
positioned so that the bottom of the head was flush with the bottom of the

9. The John Beaton House, built in Concord in ca. 1714, and the
Longfellow House, Cambridge, ca. 1760, have examples of this type of
corner construction.

10. During the architectural investigation, six pieces of the original
sills and jambs were found reused as lath and wainscoting nailers in the
changes of ca. 1830 and ca. 1847. One six light sash, fitting these jambs,
was found loose in the attic of the house, and is thought to date from the
original construction. Sash and frame sizes for the 1733 windows were
determined from these pieces. See restoration drawings, Sheet No. 5 for
window details.
second floor girt, while on the second floor, the top of the head was pushed up to the bottom of the soffit which positioned the head three inches below the plate.

Six over nine light sash set in the same type of frames were used on the first and second floors of the east and west gable ends but in the attic four over four light sash were used. The windows in the gable ends were capped, as were those in the lower south wall. At the top of the upper windows in the south wall, the bed molding was nitered around the heads of the windows. As mentioned earlier, there were no openings in the north wall save the door into the west parlor.

Very little is known about the original front door as that area of the south wall has undergone two remodelings. Studding mortices found in the bottom of the south girt at ceiling level indicate a rough opening of 3'-11 5/8" wide. When considered with the size of the entry hall and the proximity of the stairway the width of this opening suggest that double doors would have been used rather than the typical single door. Hinges were probably of the T-strap type found elsewhere in the house along with a thumb latch and sliding bolts for security. The height of the opening between floor and girt suggests that a transom was used over the solid doors to light the stairhall.

11. See items E and G of this section for a description of these alterations.

12. The elevations drawn on Sheet Nos. 2 & 7 of the restoration drawings represent our best approximation of the original front doors and trim.
The original interior finishes of the 1733 house can be summarized as follows:

Cellar – white wash on foundation walls, chimney base and possibly on ceiling joists.

First Floor – The west parlor seems to have been painted with a blue-gray paint over the wainscoting and trim. The exposed ceiling joist and boards and floor boards were left unfinished. The east parlor probably had red baseboards, grey paint on the wood trim, and unpainted plaster on the walls and ceiling. The central hall had an unpainted ceiling, but the walls, trim and stair were probably painted grey.

(Munsell Color 5GY 5/1, as determined by Karen Williamson in 1974.)

Second Floor – The second floor walls and ceiling of the central hall were probably not painted. The north and east wall of the hallway were probably plastered whereas the west wall still retains the vertical boarding.

The ceiling joists and boards, south wainscot and west board wall were painted a cream color sometime after 1783. The west chamber may have been unpainted until the partition of ca. 1756 was installed then the room to the north was given a red tinted limewash on the walls and whitewash on the ceiling joists boards. The smaller room to the south was left unfinished until after 1783 then the exposed joists and boards were painted a cream color identical to the hallway. (Munsell Color 5Y 8 5/2).

The east chamber was plastered, but the plaster shows no signs of whitewash or paint. A small section of the baseboard covered by a later mantel was found unpainted. The wood work in this room needs more analysis.
Attic - At the time of first occupancy, the entire attic was unfinished, although it was floored as described.

The exterior of the house from 1733 until ca. 1830 was unpainted pieces of the original woodwork found bear no traces of applied finishes. In addition, there was significant weathering on the woodwork before the first coat of paint was applied.

B. THE KITCHEN LEAN-TO

Based on the evidence obtained from our architectural examination of the existing lean-to, we have concluded that it was built in its present form around 1830. We found, however, other visual, structural and architectural evidence that leads us to believe that a former lean-to existed as early as 1733. A visual examination of the north exterior wall of the 1733 house revealed that this wall has always been protected from the weather, most likely by a roof covering such as the present one. The wall is covered with the original wide, tapered, featheredged pine boards having lapped ends.

The north wall of the original rectangular portion of the house fastened directly to the studs with hand-wrought rose-headed nails. The wall sheathing shows no evidence of weathering. Furthermore, the characteristic nail hole pattern left behind after the removal of clapboards cannot be found anywhere on the north wall. The opposite was found on the north wall of the ca. 1830 shed when the clapboards were
removed in 1974; deep weathering and shingle/clapboard nail holes were found. The wall sheathing even had a lichen growth still adhering to it. We estimated that the shed wall was first covered with shingles in ca. 1865, then replaced with clapboards in ca. 1900, so that the walls were exposed about thirty-five years. If one compares the condition of the shed wall with that of the house, it is obvious that the boards of the house have always been protected.

The second bit of evidence pointing to an early lean-to is the construction of the north plate at the west end of the 1733 house. Here a portion of the north plate extends past the corner post and girt about six inches. However, the plate is substantially rotted and shows evidence of once being larger in section and longer in length as if to suggest that a "jut-by" extented several feet west of the main house. If such an extension did exist it might account for the placement of the gambrel-roofed section some four feet away from the west gable end.

Photo Illustration No. 7 shows the structural frame of the so-called "jut-by" on the south side of the wall. Evidence of clapboard nails were found in the studding under the horizontal wallboards of ca. 1783 that once covered this wall. Since the "jut-by" is framed into the main post of the house at this corner we found additional evidence in the form of nail holes on the west side of the main corner post to support the proposition that the "jut-by" existed as early as 1733. Here nail holes spaced about 3 1/4" apart vertically were found and assumed to be from the 1733 clapboards removed in ca. 1783.
The holes were located about three inches in from the edge of the corner of the post which would leave the right amount of space for the thickness of the "jut-by" wall. The location of the clapboard nails here are unlike those at the two south corner posts of the main house which were located about 1 1/4" in from the corners edge. The closeness of the nails to the edge of the post on the south wall indicates that corner boards were not used in the 1733 construction. (See Sheet Nos. 2, 3 & 4 of the restoration drawings.)

The west ends of the featheredged wall boards show a ragged cut along the cornerpost indicating that they too may have extended past the post but were cut off in place. (See Photo Illustration No. 26.)

At the sill level of the southwest corner post of the "Jut-by" there is no mortice and tenon joint so we assumed that the original sill had been replaced, probably in 1783. The doorway seen in Photo Illustration No. 8, showing the south wall of the "jut-by" probably dates from ca. 1830 when the house was remodeled and the existing lean-to constructed. About 1900, this area of the connecting link was converted into closets.

To continue our listing of evidence supporting the existence of an early lean-to (ca. 1733 to ca. 1830) we submit the following: In the center of the north (1733) wall just back of the central chimney
on the second floor, evidence was found of an early doorway connecting the lean-to garret with the West Chamber through its east closet, opening through the north wall has been changed at least three times (See Photo Illustration No. 30). The first opening probably pre-dates the existing lean-to which we think was built in ca. 1830. Still embedded on the underside of the north plate spanning the opening are "T" headed, hand-wrought, finish nails suggesting that a soffit board was once nailed to the plate. When we removed the vertical casing board from the west chimney post there was a hand-wrought nail and extra nail holes found under the board. This indicates that a previous trim board was removed and replaced with the existing one. Although the existing post trim board is nailed with hand-wrought nails, this is not conclusive evidence that it pre-dates 1830, since the partition boards in the lean-to garret are fastened with hand-wrought, rose-headed nails.

Imprints of either T-strap, H or HL hinges and one dovetail hinge was found on the north side of the featheredged wallboards. The opening on the east side is nailed with machine cut nails into a circular sawn studding indicating a widening of the opening after ca. 1820. There are two possibilities that could have occurred: first, in 1733, there were no door openings through the north wall of the main house on the second floor; then when the tavern business was started in 1756 (and assuming an early lean-to existed) a narrow
doorway was cut through the north wall between the lean-to and the West Chamber via the closet. Still later it seems the opening was enlarged to 5'-0" x 6'-4" when two 1733 studs and featheredged wall-boards were removed. It is possible that the opening was widened in ca. 1847 when we think the central chimney was removed and more floor space was made available in the closet. The opening may have been closed off with double doors which would account for the hinge marks found on both sides of the doorway. According to the experts, the three wallpapers found on the walls of the closet date after the 1880's.

In 1922, the north wall opening was again altered when a bathroom was built in the garret and the two closets for the East and West Chambers converted into an access hallway.

As stated earlier the principal rafters of the 1733 gable roof are six inches off center of the house frame due to lack of an overhang on the north wall. However, the common rafters extend seven inches beyond the wall to achieve the effect of roof symmetry. Nail holes were found on the top surface of all the common rafters indicating that the sheathing of the main roof covered the overhang of the common rafters. There was no evidence found on the undersides or ends of the common rafters (other than slight weathering) to indicate that they were once encased with a fascia or soffit. The only reason for removing the bottom sheathing board along the north side would be
to install the existing rafters for the ca. 1830 lean-to roof which are notched and pinned into the plate.

Evidence for the rafter locations of lean-to roof of lean-to roof of ca. 1733-1830 was never found in our architectural investigation. Several pieces of evidence point to the conclusion that an earlier lean-to roof existed. First, the southwest corner post of the "jut-by" (as seen in Photo Illustration No. 26) has an angle cut at its top that is steeper than the existing lean-to roof. Secondly, the wall sheathing nailed to the ca. 1783 addition butting the lean-to extends past the existing roof line and is cut on an angle much steeper than the present roof. The angle of the sheathing cuts were measured and recorded and found to fall over two feet lower at the eave line than the existing roof. (See Photo Illustration No. 9.)

This lower roof fits in with the evidence found for the location of the original east chamber window in the addition of ca. 1783. (See Photo Illustration No. 8.) The original window frame would have appeared completely above the conjectural lean-to roof line. When the present roof of ca. 1830 was built, the window frame of ca. 1783 was raised against the gambrel girt as far as it would go. This was still not high enough to clear the roof of ca. 1830 and the south corner of the window sill was probably cut off on an angle to clear the roof. (See East Elevation of Sheet No. 4, restoration drawings.)
The explanation of the moving window frame as described above is conjectural since the opening was changed in ca. 1900 and a complete new window frame having new sash with weights and trim was installed along with new clapboards on the wall.

A section of the roof sheathing was removed at the west end of the lean-to and lower part of the main roof (see Photo Illustration No. 7). The roof boards of the lean-to were nailed with machine cut nails and when we examined the rafters under the boards for former nails or nail holes none were found. This indicates that the rafters and roof boards are contemporary in age.

The original roof boards of the main house were nailed with hand-wrought, rose-headed nails except at the chimney where the roof was filled in after the removal of the central chimney and machine cut nails were used. (See Photo Illustration No. 6.) The roof boards on the addition of ca. 1783 were nailed with hand-wrought, rose-headed nails.

Located in the area of the central chimney of the 1733 house is the remains of a "bee-hive" oven. Only the base remains intact (see Photo Illustration No. 24). It appears that the oven was built at the same time as the original fireplace for the West Parlor. The existing remains can be seen in Photo Illustration No. 23. The
oven (at its floor level) measures 1' - 9" x 4' - 3" by 1' - 10.3/4" high on the inside with its opening facing north. Below the oven is an ash pit also accessible from the north. Chemical analysis of two mortar samples taken from the brick vault below and from the oven floor proved to be very similar in their materials composition; enough so to make the assumption that they were constructed together.\textsuperscript{13}

To complicate the investigation of this area it appears that the front of the oven was rebuilt in ca. 1830 when the first house remodeling was done; most of the oven and all of the kitchen fireplace were destroyed in ca. 1847 when the central chimney was removed.

We did not determine the construction date for the cellar extending under the east end of the lean-to. There was a slight difference in the composition of the lean-to mortar when compared with the main house. All of the cellar walls were basically built the same way, from 1733 through 1783, with rubble stonework laid in clay and pointed with a lime and sand mortar. The joints of the lean-to cellar walls are still heavily pointed while those under the 1733 house are not. There is no obvious break in the east cellar wall where the lean-to

\textsuperscript{13}. The method for analyzing mortar and plaster samples is being developed by Blaine Cliver, historical architect, NARO. The test procedure involves the crushing of a clean sample to powder form, weighing it, then mixing it with hydrochloric acid. The acid dissolves the lime which is separated by filtration. The remaining sand residue is rinsed with water and dried. By weighing the lime and sand residue after the test is completed, the percentage of sand and lime is obtained. In addition, relative weights, particle sizes and color of the sand can be recorded. Twenty samples of mortar and plaster from the Hartwell Tavern were tested in this manner. The results are on file in NARO.
begins; nor is there evidence that a stone wall once existed under the north wall of the 1733 house between the chimney base and the east wall. Instead we found portions of a former brick partition directly below the north sill. The bricks were laid in clay mortar and measured the same size as the bricks in the partially destroyed bee-hive oven. We have assumed that a door opening existed in the brick wall at the foot of the ca. 1830 stairway for no other reason that to provide access into the main cellar.

From the evidence cited we think that the original lean-to ran the full length of the north wall of the 1733 house and extended beyond the west gable end four or more feet. Evidence is inconclusive as to the arrangement and attachment of the original floor joists and rafters. Joists pockets for the 1st floor of the existing lean-to were cut into the back side of the north sill at the east end of the house but not at the west end where approximately five feet of the original sill remains covered with a featheredged board. There is no contact between the north sill and the existing ca. 1830 joists at the west end so this condition may have existed in 1733. Framing of the original lean-to garret floor is unknown also as is the framing for the rafters of ca. 1733.

C. THE HOUSE USED AS A TAVERN, 1756-1787

When the Town of Lincoln was incorporated in 1754 it included land belonging to Ephraim Hartwell. Ephraim was elected
as one of Lincoln's first Selectman and served in this capacity and other town office for many years. 14

Shortly after its incorporation, the Selectmen had a road built from Lincoln Center to Bedford Center. The new road crossed the old Bay Road to Boston near Ephraim's house. Two years later, in 1756, Ephraim received a license to operate an inn at his house. 15 The location of his house near the intersection of two busy roads proved ideal for a tavern and financial records of the period indicate that the business grew and prospered. 16

In two days of searching the records of Middlesex County, substantial proof was found that the tavern operated throughout the Revolutionary War years and that it ceased operations between September 10, 1787 and September 15, 1788. By checking the actual documents filed with the Middlesex County Court of General Sessions for the years in question, the story of the post-Revolutionary War years became clear. The Court sent a form letter to each town in the county in the spring of each year listing the Innholders and Retailers for that particular town and requiring the selectmen of the community to approve the renewal of each license. Each September the Selectmen met and either accepted the list or modified it before approving the names. These approvals


15. Ibid. p. 2

were done on the back of the form letter which was then returned to the court for approval by the justices during the September session. Unless there was a challenge from a citizen or petitioning group, the list prepared by the Selectmen of the various towns was approved automatically and the excise tax collected. Because of the large number of applicants the names of the license holders from each town were not entered in the minutes kept by the Court sessions; instead the documents were saved each year. These documents, some of which are included in Appendix C, are the only records we have of the actual names of the license holders between 1772 and 1791, when the court began keeping a separate book of the license holders names.\textsuperscript{17} The document dated 1777 is important to this discussion as in that year, the record shows that the Selectmen approved of John Hartwell "in the room and stead of his father" (Ephraim).\textsuperscript{18} This is the first proof we have that John ran the tavern. John continued to run the tavern until 1787 or 1788, the former being the last year the Selectmen approved his name. The letter from 1788 was not in the document file, but in its place was a slip of plain paper signed by the Selectmen of Lincoln, approving a man named Ephraim Weston as

\begin{itemize}
  \item[17.] This volume, titled \textit{Licenses from 1791-1830}, is located in the vault of the Middlesex County Courthouse and lists the Innholders and Retailers Licenses granted by each town for the years listed above.
  \item[18.] See Appendix C.
\end{itemize}
having an Innholder's license. Weston was sworn as an innkeeper on September 15, 1788, by Samuel Hoar, the clerk of the town of Lincoln. The records for 1789 and 1790 are missing, but as there is no mention of John Hartwell having a license between 1791 and 1796, it is unlikely that he kept a tavern after 1787.\textsuperscript{19} Ephraim Hartwell was probably involved in the tavern business throughout its existence but the responsibility of operating the tavern for the last ten years fell on the shoulders of his son John.

Exactly which rooms in the Hartwell Tavern were used as part of the tavern operation is not certain. Judging from the room relationships and the finishes of the walls and ceiling it is probable that the west parlor served as the public tavern room while the partitioned chamber above was used for overnight guests. The lean-to rooms were also probably used by the Hartwells as part of the tavern operations. According to Toogood, the barrooms of colonial taverns were often connected directly to the kitchen.\textsuperscript{20} Since the only door into the lean-to at this time was through the West Parlor, the choice of this room seems likely as the tavern room. The stairway to the cellar storage area was also located off this room.

\textsuperscript{19} No mention is made of the Hartwells in the Book of Licenses 1791-1830.

\textsuperscript{20} \textit{op. cit.} Toogood, p. 18.
We have no knowledge of how the original lean-to was arranged. The kitchen was undoubtedly centered in front of the fireplace and oven. There may have been a "taproom" or storage room for keeping liquors and food in the lean-to. A likely place for this would be at the west end of the lean-to in a room much smaller than the existing one of today. A third room commonly found in the lean-to was a small bedroom which could have been located at the east end of the addition.

We are not sure that the Hartwells kept overnight guest but the likely place would have been the West Chamber. Like the parlor below, this room was finished off with horizontal and vertical wainscoting and had exposed ceiling joists and boards. Prior to 1783 (probably around 1756) the West Chamber was partitioned off into two rooms. The larger room to the north retained the fireplace. If the Hartwells did not keep overnight guests then the extra room provided one more separate space for his family of ten. The mysterious door through the north wall of the closet and into the garret of the lean-to might have led to additional sleeping rooms for paying guests. If so, those that slept in the garret had to "trop" through the West Chamber rooms to arrive at their quarters for the night. The 1733 attic was another likely place to use as sleeping quarters either for the Hartwells or the tavern guests. It was unheated and may not have been used in the wintertime. The attic remained unfinished until ca. 1830 when the east end was made into a small room having plastered walls and ceiling.
A word must be said about the so-called "Hartwell Tavern" sign as seen in a photograph included in the historian's report. The sign is presently owned by the Lexington Historical Society and hangs in the Hancock-Clarke House, a museum house owned by the society in Lexington, Massachusetts. The sign was given to the society around 1910 and when the accession card was checked, the donors name was missing. This means if the sign is to be reproduced for the restoration work, we will have to accept the traditional story of it coming from the Hartwell Tavern. More archeology will have to be done between the house and the "Battle Road" to relocate the original grade of the semi-circular drive as seen in Photo Illustration Nos. 1 and 2. Finding the location of the original sign post is a remote possibility but should be included in the archeology work.

D. THE GAMBREL ROOFED ADDITION OF CA. 1783

When Ephraim Hartwell made out his will on January 25, 1786, he disposed of his home place in the following manner: "...I give unto my son John Hartwell...my dwelling house in Lincoln and the new addition adjoining in which I now dwell...and all my other buildings there unto belonging and all my lands in Lincoln...excepting what I have given to my son Samuel..."21 Since this is the first reference to a new addition we conclude that the gambrel roofed section had just been completed.

21. op. cit. Ronshiem Research, p. 64
We think that the gambrel portion was added by Ephraim and his wife Elizabeth for their retirement. In the language of the will, we know that Ephraim and Elizabeth were already living in the gambrel section by 1786; from this fact we can infer that the main portion of the house was occupied by John. John was married in 1783, and fathered his first child in 1785, it is known that John lived with his father and farmed his father's land.\textsuperscript{22}

The personal inventory of Ephraim Hartwell at the time of his death in 1793 confirms the fact that he and Elizabeth had been living in the gambrel portion of the house. The items mentioned in the inventory are divided among the rooms for the gambrel with no mention made of the gable portion of the structure or the lean-to.

In plan, the gambrel roofed section is rectangular measuring nineteen feet in the east-west direction by twenty-five feet. The gambrel frame is located 3'-9 1/2" west of the 1733 house; the space between being filled in by a 10'-6" deep, two story high link. The link, built in conjunction with the gambrel in ca. 1783, fills the space between the west wall of the gable, the east side of the gambrel frame, and the south wall of the lean-to. The south wall of the connecting link forms a continuous wall with that of the gambrel and joins the west gable wall of the 1733 house near its mid-point.

\textsuperscript{22} ibid. p. 65.
Since the gambrel portion is located some four feet west of the gabled section this strengthens the theory that there was an earlier lean-to than the present one. The existence of a lean-to "jut-by" on the west end may have been the reason for the gambrels being built in the present location.

Had there been nothing in the way, they could have simplified their task by placing their new addition against the old gable end. The amount of space gained by the connecting link does not seem to justify its existence, whereas the presence of a "jut-by" would have dictated that a new addition be built at its terminal end.

The frame of the gambrel rests on rubble field stone foundation walls, which is twelve to fifteen inches wide at the top. The foundation walls extend six feet below the frame to form the cellar. At the east end of the cellar, the foundation wall was constructed partly under the sill of the 1733 house extending to the north wall of the lean-to where it jogged five feet west then two feet north then west again to form the north wall of the gambrel addition.

The north, west and south foundation walls support the frame of the gambrel directly except at the east end of the south wall where the connecting link begins and ends at the gable end of the 1733 house. There are three opening through the cellar walls: the cellar bulkhead to the west; one window opening in the south; and a narrow way to the cellar under the 1733 house to the east.
The existing cellar bulkhead, located between the chimney base the northwest corner of the cellar, appears to have been built at an integral part of the original foundation wall. Its inside measurements are 4'-2" x 4'-4". Four granite steps remain out of what were probably six steps. The stair well containing the steps has been severely eroded by water draining through the bulkhead into the cellar. Mortices for the original frame of the bulkhead were found in the west side of the house sill but no evidence was found in the wall above to determine its height. The sloping board and batten doors on the exterior of the bulkhead dates from ca. 1910, while the vertical board and batten door hanging at the lower cellar level appears to date from the fourth quarter of the 19th century. Mortices for the original door frame can be seen in the bottom of the foundation sill.

The south wall of the cellar bulkhead is an extension of the stone chimney base. The base of the chimney extends into the cellar 7' x 7" x 9'-3" and is constructed of two stone piers supporting a brick barrel vault that carries the chimney construction. Storage niches, twelve inches deep, were built into the outer wall of the north pier which measures three feet thick. The brick chimney was constructed with three fireplaces, a bee-hive oven and ash-pit.

The existing cellar window opening in the south foundation wall is probably an original one. The original wood sash and frame was replaced with a steel frame and sash in the 1940's.
When the gambrel addition was built in ca. 1783, a cellar was excavated under it as well as the four feet space under the connecting link and the lean-to. A narrow passageway was built to the east to connect the new cellar with the existing cellar of 1733. This passageway can be seen in the floor plan drawings.

Directly under the southwest corner of the "Jut-by" a brick pier was built to carry the load from above. Since the gambrel addition and connecting link was built about eight inches higher than that of the 1733 house, the sill extensions of the gambrel rest directly upon the sills of the early house.

The gambrel addition of ca. 1783 was built as a free standing half-house frame measuring 19'-0" x 25'-0" and standing 21'-2" from foundation sill to roof peak. It was attached to the existing 1733 house by filling in the four feet space with additional floor joists, wall studding and roof purlins. As stated before, we think the rear wall of the gambrel addition butted against the "Jut-by" of an existing lean-to.

The gambrel frame consists of four main oak corner posts (6 1/2" x 7") (+1/4") that support the front and rear oak plates (6 3/4" x 6 1/2") (+1/4") and the lower east-west wall oak girts (7 1/4" x 7 3/4"). The interior of the house was built with three unequal bays framed with two full length summers. Starting from the east end girt the bay spacings, center to center, are 7'-10", 5'-6" and 5'-0". The two
end girts and two summers overhang the north and southwall plates seven inches. Into the top of these structural members at both ends were morticed and tenoned the lower rafter chords of the roof. Four feet back of each rafter (and morticed and tenoned into the same structural members) were set upright posts to support the two upper wall girts (6" x 6 3/4") and two attic summers (5 1/2" x 6 3/4"). Into the top of the upper wall girts and summers were morticed and tenoned the upper chords of the roof rafters. Spanning between the foundation sills and summers, 2nd floor girts and summers, the attic girts and summers, and the gambrel frame and gable frame were oak joists and purlins measuring 3" x 3 1/2" ± 1/2". The purlin in the upper south roof of the connecting link was let into the wall sheathing to the west gable end of the 1733 house while the peak purlin of the "link" was notched over the top of the gable rafter. These two purlins can be seen from the attic of the 1733 house. The lower south rafter of the "link" butting against the gable end of the 1733 house was nailed to the wall sheathing from the inside of house (see Photo Illustration No. 21).

To complete the gambrel house frame, the ends and sides were filled in with oak studding and rising diagonal braces measuring 3" x 3 3/4" (± 1/4"). No evidence of brick nogging was found within the outer walls of the gambrel. The roof was sheathed with wide, vertical-sawn, pine boards, one inch thick, running with the slope of the roof. These
were probably covered in ca. 1783 with hand-rived, white pine shingles, smoothed and tapered and fastened with rose-headed, shingle nails. Shingles of this sort can be seen on the lower north roof of the gambrel in the attic of the attached shed. These pine shingles are fastened with machine-cut nails; under them were left some of the hand-wrought shingle nails from the roof of ca. 1783. Since we are dating the construction of the shed around 1830, the existing shingles were probably installed about 1820.

The south roof was framed with two shed dormers. A crown molding was used under the shingle overhang to close the joint made by the intersection of the two roofs on the south side with the molding breaking around the shed dormer roofs. No evidence of a like molding was found on the north side. The roof peak was probably finished off with a set of comb boards.

Most of the original wall sheathing remains intact. On the south and west walls it is wide, vertical sawn, pine boards, one-inch thick with square edges and butt ends, nailed directly to the house frame. The north and east walls (east wall above the lean-to roof) have similar boards except they are featheredged and have lapped ends. (See Photo Illustration Nos. 8 & 10.) We found evidence of early clapboards on the south, west and east walls but none on the north wall. None of the original clapboards were found but the spacing was determined by measuring and recording the nail holes left in the wall sheathing.
(See Photo Illustration Nos. 10 & 13.) We think the clapboards of ca. 1783 were identical to those of 1733: hand-rived white pine, smoothed on both sides, not exceeding 54 inches in length, 9/16" thick at the butt, 3 3/4" to 4" in width and lapped at both ends. They were laid an average of 3 1/4" to the weather and fastened with rose-headed nails placed about twelve inches apart. Single corner boards were used on the north and south corners at the west end of the house to butt the clapboards against. Four tapered and beaded verge boards were nailed over the clapboards used on the east wall. These unpainted boards still exist, the lower ones measuring 5 1/2" at the bottom to 4 1/2" at the top while the upper verge boards measure from 4" at the bottom to 3 3/4" at the peak. The upper verge boards extend 3 1/2" beyond the sheathing at the lower ends and have a square butt cut even with the shingle overhang. The bottom ends of the lower verge boards also ended with square but cuts in line with the roof shingles except here the fascia boards had to be notched to accommodate the projecting verge.

Prior to clapboarding the walls the door and window frames were nailed in place to butt the clapboards against. The south wall facing the road was given a more decorative treatment. The front door, located at the west end of the wall, was flanked by seven inch wide board pilasters nailed over a wide vertical casing board measuring 1'-6" wide. The inside edge of the casings were molded, as was the head casing located just below the frieze. The top of the door opening was filled with a four light transom separated from the head.
of the door by a wide molding trim strip 1 1/4" wide. The three windows located in the south wall of the gambrel were originally six over nine light sash set in heavy plank frames. These frames, having jambs measuring 3 1/4" x 2 1/2" were placed on top of the wall sheathing with their heads four inches below the soffit. Four wrought iron spikes secured each frame to the studding in the same manner as the windows of 1733. The frieze board on this side of the addition was fitted around the heads of the doors and window frames, the short following the line of the soffit and window heads was applied. A crown molding was nailed over the joint of the fascia and roof shingles.

The west wall of the gambrel contained three window openings when first built: one in the kitchen and one in each of the two small rooms located off the main chamber on the second floor. These window openings had frames of the same type as those used in the south wall except the sash were six lights over six. Since there was no cornice to protect the window heads in this wall they were covered with a sloping cap about 3 1/2" high and projecting 1 1/2" beyond the window head on all three sides.

We have no old photographs of the north and east walls of the gambrel. We think that the north wall had one window and one door opening in the kitchen wall. Evidence of these openings were determined by the spacing of the mortices left in the north plate and by impressions found on the lower side of the original soffit left intact after
the remodeling of ca. 1830. The east wall had only one window placed to the north side to avoid the old lean-to roof. (See Photo Illustration No. 8.) We think this window was similar in all respects to those in the west wall of the gambrel.

The original floor plan of the gambrel addition can be reconstructed from architectural evidence found in the house. The first floor contained two main rooms, the "Front room" or parlor and the rear kitchen. The parlor remains much the way it was built. It measures 13'-3" x 14'-5" with a ceiling height of 8'-1". The summer, one exposed corner post and the grits are encased with beaded boards. Three of the four walls were lathed and plastered above a wooden baseboard while the west wall was fully paneled. Incorporated into the west wall was a diagonally built fireplace and a tall shallow cupboard called a "beaufat" in the inventory of 1793. (The fireplace was blocked off when a fireframe was installed in the 19th century.) In the southwest corner of the parlor is a doorway leading to a small entrance hall which probably contained a closet where the stairway now stands. (See Photo Illustration No. 31.)

The east wall of the parlor has a doorway opening into a passageway connecting the parlor with the 1733 house. When the ca. 1783 addition was built against the west gable of the 1733 house, a window was removed from this wall and the opening enlarged into a doorway giving access to the so-called tavern room of the old house. At the same time,
we think that a 2'-0" x 7'-0" portion of the tavern room was incorporated into the "connecting link" to form a "tap-room". This was done by removing all the wainscot, brick nogging, two studding, the exterior wallboards and clapboards between the girt and the sill of the west wall (north half). This area was apparently partitioned off into a small room measuring approximately $6'\frac{1}{4}" \times 6'-10"$. A cut through the trim board covering the northwest corner post at floor level suggests that the floor of the connecting link was extended two feet into the tavern room to avoid the drop in floor levels between the two rooms. Evidence of the above work can be partially seen in Photo Illustration No. 25.

Returning to the gambrel parlor again we find the two original window frames and trim intact in the south wall. The original sash, which were 6 lights over 9, are gone and newer sash (9 over 6) substituted in their place. The north wall of the parlor has a doorway leading to the rear kitchen. All of the four panel doors are original and have their H or H-L hinges but the original thumblatches are missing. The woodwork has one coat of brown paint and the plastered wall are presently covered with wallpaper dating from ca. 1900. The ceiling plaster of the parlor has the remains of a primitive decoration consisting of a painted border and cross panels. The intersections of the corners contain a quarter circle and in the center of the panels are stars. Much of the design has deteriorated. This important early 19th century feature which may also be found under the
existing wallpaper when it is removed has not been recorded.

The rear kitchen room has been remodeled at least once. We think the original dimensions of the room were 9'5" x 11'0" with a ceiling height of 8'-1". There was probably one window in the west wall near the fireplace and one window and an outside door in the north wall judging from evidence obtained from measuring the empty mortice holes in the north plate. The east wall had two openings: a stairway to the second floor chamber located at the north end and a passageway at the south end connecting the kitchen with the old lean-to of the original house. Off the passageway were doorways to the cellar stairs and an adjoining pantry measuring 3'-2" x 6'-10". The pantry still retains its original shelving and double beaded wallboards. Between the shelves on the east wall plaster was applied directly to the vertically nailed lath of the lean-to.

The south wall of the kitchen was taken up by a doorway to the parlor, a 4'-8" wide fireplace and a bee-hive oven above an ash-pit. Over the existing ca. 1830 fireplace mantel two small cupboards were built into the wall paneling. What may be an original set of shelves is still nailed to the west wall above the mantel. The west and north walls were lathed and plastered above a horizontal boarded wainscot 3'-6" high, as was the south wall of the passageway. We think the original east wall has been removed but it may have been similar to
the one that exists today, a vertical, T&G, beaded board wall. (See Photo Illustration No. 32.)

More evidence was found, in addition to that previously cited, to confirm the thought that an earlier lean-to existed east of the gambrel. When we removed the lower beaded trim board from the east gambrel girt in the pantry and passageway (one piece measuring about seven feet long) we found that it covered the exact width of the girt. No other nail holes were found under the trim and no mortice holes were found in the girt for studding. Without studding and wallboards there could have been no exterior wall within the confines of the lean-to in ca. 1783. Likewise the soffit boards of the stairway in the pantry extend a few inches beyond the east gambrel girt. These boards are nailed with hand-wrought nails and were plastered before the treads and risers were put in. The extended soffit boards would have prevented the application of wall boards over this area. The protruding soffit boards, however, fall well below the slope of our conjectural lean-to roof.

The principal room on the second floor of the gambrel addition was the chamber measuring 13'-4" x 16'-0" with a ceiling height of 7'-2". We think that there were three closet-like rooms built off the chamber: one room on each side of the fireplace in the west wall and one room above the connecting link off the southeast corner. The
two west rooms have one double hung window a piece, containing a six light over six sash and were finished off with lath and plaster. The east room or closet remained unfinished until sawn lath and machine-cut nails came along. However, before the gambrel roof could be framed into the west gable wall, an original window had to be removed from the 2nd floor chamber of the 1733 house. In its place a small six-over-six light window was added just above the gambrel roof. It is possible that the larger window was taken below and installed in the west wall of the parlor in the 1733 house. The exterior of these windows can be seen in Photo Illustration No. 1 and the interior framing of the upper window in Photo Illustration No. 21.

The south wall was built with two shed dormers. Each dormer contained a double-hung window of six lights over six and a built-in window seat with storage space under them. In addition to the doorway to the south closet, the east wall had a window in the north corner placed in this location to avoid the lean-to roof. The north wall of the chamber has an original doorway in the east corner that opens to the stairway that originally went to the kitchen below. Starting from the second floor, the stairway was built with the existing two risers and platform along the east wall then at least nine more risers against the north wall. The lower part of this stairway was altered when the north shed was added. The roof structure in back of the north chamber wall was left unfinished.
The framing system for the ceiling of the gambrel chamber was constructed in such a manner that the summers are not exposed below the plaster. There are three principal bays in the ceiling running north and south framed with two 5 1/2" x 6 3/4" summers. The spacing of the east bay is 7'-7"; the center bay is 5'-0"; and the west bay is 4'-9". The ceiling joists equally as deep as the summers span between the bays. One end of the joists have a tenon extending into a mortice in the summer but the other end slides into a slot cut partly down the side of the opposite summer. "Accordian" split lath (found throughout the gambrel) was nailed directly to the joists, summers and studding then plastered with a lime, sand and hair mix. Prior to plastering all the window and door trim, baseboards, girt, summer and post trim was nailed in place.

The chamber doors are identical to the four-paneled doors below with chamfered and raised panels. These doors have all their original hand-wrought H-L hinges and thumbatches intact. The window frames, sash and trim in the east and west walls all date from ca. 1910, or later, whereas in the dormers just the sash is modern.

The floors of the chamber rooms, like those below, were finished with wide pine boards, face-nailed with T-headed nails. The chamber floor has been painted but those on the first floor are still in their original unpainted condition.
E. THE ALTERATIONS OF ca. 1830

We have not assigned any of the alteration dates to the Hartwell Tavern between 1793 and 1820, the years that Ephraim and John Hartwell died respectively. Ephraim's wife Elizabeth died in 1808 and John's wife Hepzibah died in 1838. According to the historian's report both wives occupied the gambrel addition in the latter years of their lives. It is possible that the first major alteration to the building took place before the death of Hepzibah. These changes were complete remodeling of the 1733 house exterior, the removal and replacement of the clapboards on the south wall of the gambrel, the rebuilding of the ca. 1733 kitchen lean-to and the construction of the existing shed north of the gambrel. In addition there were several changes made to the interior rooms.

We have tentatively set the date of 1830 as the year the first major changes took place to the 1733 house and addition of 1783. While no known documents exist to support our claim some valid assumptions can be made to pinpoint these changes between 1820 and 1840. These assumptions are based on physical evidence found throughout the house. First, the alterations were predominantly nailed with machine-cut nails. These nails were found to be uniform in size with symmetrically cut shanks and heads.23 Not all nails found were machine-cut as some

23. Nelson, Lee H., "Nail Chronology as an Aid to Dating Old Buildings" Technical Leaflet No. 48, American Association for State and Local History "History News" Vol. 24, No. 11. November 1968. This ten page pamphlet with drawings gives a summary of nail types and their ages. Although the precautions recommended by the author were not followed explicitly, most of the nails found seem to match the drawings and written criteria for ca. 1815-1835.
hand-wrought nails were mixed throughout the work. We think that these nails might have been salvaged from the previous work. Secondly, the laths used in these changes were made from vertically sawn boards—split into individual laths (called "accordion" split lath). Thirdly, the stylistic changes made in the fabrication of the window frames and sash as seen on Sheet No. 5 of the restoration drawings are those from the early 19th century. The ca. 1830 door removed from the main entrance (as seen in Photo Illustration No. 2) was fortunately saved in ca. 1910 and it indicates a molding style and method of fabrication indicative of the 1830's, i.e., the panel moldings are applied rather than being an integral part of the stiles and rails. The fourth and most convincing piece of evidence found is the use of circular saw clapboards.  

24. One of the first patents issued by the United States Government for a circular saw clapboard machine was to Robert Eastman of Brunswick, Maine in 1820. See Peters, Richard, Editor, The Public Statutes of the United States, Vol. VI (Boston, 1848) pp. 613-14. This source contains a statute extending Eastman's patent rights for an additional seven years beginning with March 15, 1834. The text of the law describes the earlier patent as "the letters patent granted to said Robert Eastman and Josiah Jaquith for the same on the sixteenth day of March, one thousand eight hundred and twenty..." When Eastman renewed his patent right in 1834 he was having trouble with patent infringements from persons using the principle of the machine he had developed. Eastman paid for a notice entitled "Eastman's Circular Saw Clapboard Machine" in the New Hampshire Patriot and State Gazette, a newspaper edited by Cyrus Barton in Concord, New Hampshire. The notice appeared in Vol. 1, No. 50 of the New Series published on September 14, 1835. Eastman claimed "exclusive right to manufacture clapboards from the round log, with the circular saw." He threatened suits against the "many persons" violating his patent right if they failed to settle with him and pay the going price for the machine—"that being 35 to 40 dollars per machine." For further information on this subject see the APT Bulletin, Vol. V, No. 2, 1973, pp. 162-168. Article by John O. Curtis entitled "The Introduction of the Circular Saw in the Early 19th Century," in which is reprinted an article from "The American Journal of Science and the Arts," Vol. 5, (New Haven, 1822) pp. 146-52. This source describes and illustrates "Eastman's Rotary Sawing Machine".
existing clapboards on the south wall of the gambrel addition (second set since ca. 1783) and the existing seven courses next to the eaves on the north wall of the kitchen lean-to (first set since ca. 1830) are all that survive from the ca. 1830's. They are circular sawn, not over 54" in length with lapped ends and are fastened with machine cut nails.\textsuperscript{25} The clapboards on the south gambrel wall were found to be applied in a graduated pattern starting at 3 1/4" at the base and spacing through 3 3/8"-3 1/2"-3 7/8" to 4" at the frieze although not always in a consistent order. Clapboards with such graduations seem to date after 1800. The nail spacings of the 1783 clapboards were measured and recorded (under the ca. 1830 clapboards) and were found to vary, with no set pattern, as much as 1/2" between 2 7/8" and 3 3/8" (see Photo Illustration No. 13). The nail spacing of the ca. 1783 clapboards on the west gambrel wall were also measured and recorded. The first ten courses measured 3"; above to the window sills of the 2nd floor the nail spacings measured 3 1/4" mixed occasionally with 2 3/4" and 3" spacings. From the 2nd floor window sills to the roof peak the spacings varied: there were three 3 1/4" courses, four 3 3/8", seven 3 1/2", two 3 5/8", one 3 7/8" and three 4" courses. The nail spacing for the clapboards on the south wall of the 1733 house

\textsuperscript{25} All of the clapboards on the south gambrel wall were fastened with machine-cut nails while the clapboards on the kitchen wall were mixed with hand-wrought nails.
(upper 26 courses) varied between 2 3/4" and 4 3/8" (one) with the majority of spaces falling between 3" and 3 1/2" apart. Fragments of the original clapboards of 1733 were found on the east and west gable end walls fastened with rose-headed hand-wrought nails (See Photo Illustration No. 4). These pine clapboards were not painted. We think that the clapboards and trim of the 1733 house and addition of ca. 1783 were left unpainted and not until ca. 1830 was paint used on the exterior of the house.

The major change to the exterior of the 1733 house that occurred in ca. 1830 was the complete removal of the clapboards, verge boards, window frames and sash, door frames and doors. In the process, the original lower one-half or so of the wall sheathing on the east, south and west walls was removed and replaced and the brick nogging taken from the inner wall. All of the new wall boards were nailed with machine-cut nails. We also believe that the original kitchen lean-to was torn away and the existing lean-to constructed. The evidence for this statement is based on the use of machine-cut nails found in all of the wall and roof sheathing, the sub-floor and finish floor boards, and the predominate use of machine-cut nails found in the circular sawn clapboards on the north wall of the lean-to (upper seven courses surviving the remodeling of ca. 1910). Machine-cut nails were also used to nail the studs to the rafter in the east end wall of the lean-to. (See Photo Illustration Nos. 16 & 17.)
The floor and wall construction of the lean-to from east to west does not follow the traditional practice of using and spacing framing members of a somewhat uniform size in a repetitive pattern. This irregularity can best be seen in the floor plans and the cross sectional drawing as shown on Sheet Nos. 2 and 8 of the restoration drawings.

The north wall can be divided into five bays: starting at the east end the posts forming these bays measure 8" x 8" (east corner post); 3" x 3 1/2" (framing for stairway); 8" x 8" (east of fireplace opening); 8" x 8" (west of fireplace opening); 4" x 5 1/4"; 4" x 5 1/4" (west end of lean-to; although this post is at the west end it is not exactly a corner post as the plate extends 5 1/2" west of the post and rests on the gambrel girt). Framed into these posts are the cross beams that support the floor of the lean-to attic. These beams measure 8" x 8" (east wall girt); 4" x 5 1/2" with east edge chamfered (framing for stairway); 8" x 8" (east of fireplace opening); 8" x 8" (west of fireplace opening); 8" x 8" (framed into 3" x 6" post but let into the featheredge wall boards on the south end); 4" x 5 1/2" (framed into 4" x 5 1/4" post at west end). Let into the sides of the cross beams are 3" x 4" (+ 1/2") sawn oak floor joist spaced approximately two feet centers.

The framing plan of the 1st floor is also irregular. Beginning at the east wall of the lean-to there was an 8" x 8" a hewn oak sill (since replaced with a sawn member); then six joists in the first bay, three sawn oak joists measuring 3" x 3 3/4" (later replacements for three
4" x 5 1/2" joists when the stairway was framed in) and three sawn oak joists 4" x 5 1/2", all spaced 1'8" (± 2") apart; then east of the fireplace opening a hewn oak 8" x 8" sill resting on the out-of-square cellar foundation wall; an other hewn oak 8" x 8" sill (west of the fireplace opening); in between the fireplace opening are three sawn oak joists measuring 3" x 3 1/2" (± 1/2"); bays three, four and five contain a mixture of sawn and hewn members best seen in the cross sectional drawing on Sheet No. 8. There are five sawn oak joists 4" x 5" (± 3/8") and three hewn oak joists 4" x 5" (± 1"), some set edgeways and some flatways. All eight joists appear to be reused as is the sub-floor under the west end of the lean-to (one sub-floor board is a featheredged wall board with some age on it).

The posts and studding of the north lean-to wall extend past the attic floor 2'-4" where they support a hewn oak plate measuring 7" x 6 1/4" (which is spliced mid-way along the north wall). Five rising sawn oak diagonal braces, 3" x 3 3/4" (± 1/4"), were tenoned into the three 8" x 8" posts and plate. Three inches of the plate at the west end rests on the east gambrel girt. We know nothing of the appearance of the north foundation sill (now a modern replacement) except it was probably hewn oak 8" x 8" with the three 8" x 8" cross sills tenoned into it and the floor joists on the 1st floor let into side notches. The posts and studs were undoubtedly tenoned into the sill on the top side. Some of the framing details mentioned above can be seen in Photo Illustration No. 17.
The roof of the existing lean-to is supported by eleven hewn and tapered oak rafters measuring 6" deep at the plate and 5" deep at the upper end where they have a long (18") sloping cut to fit the roof slope of 1733. The width of the rafters vary from 5 1/4" to 6" as well as their spacings from 3'-6" to 4'-2" on centers. The lower ends of the rafters are notched ("bird's mouth") over the plate and are fastened to the plate with a hand-wrought spike. The upper ends fit into a shallow notch in the 1733 plate where they are fastened with a wood peg into the plate.

The roof sheathing of the ca. 1830 lean-to is comprised of mixed boards, some square edged, T & G and some with shiplap edges. All of the roof boards we examined at the north end of the roof were nailed with machine-cut nails. When we lifted the roof boards to examine the top surface of the rafters, only one set of (existing) roof board nails were found. The roof covering of ca. 1830 was probably white pine or white cedar shingles, possibly machine sawn by this time\textsuperscript{26} and fastened with machine-cut nails.

Judging from the spacing of the north wall studs and from the daps left in the wall sheathing from the original ca. 1830 window sills, we have determined that the north wall of the lean-to originally had three win-

\textsuperscript{26} op. cit., Curtis, APT Bulletin; p. 165. A patent for a shingle making machine is recorded as early as 1805. Machines for sawing shingles were in use in New Hampshire by 1829.
dows and one door opening. The size of the rough window openings were determined from the sill cuts and remains of the ca. 1830 wall boards at the sides and head. (See Photo Illustration No. 16). We arrived at the size of the window sash and frame by assuming a glass size of 8" x 10" based on the one surviving window frame of ca. 1830 left in the west wall of the ca. 1830 shed. A detail of the sash and frame for the ca. 1830's window can be seen on Sheet No. 5 of the restoration drawings. The east wall of the kitchen lean-to shows up in Photo Illustration No. 2 and probably represents the wall as it was finished in ca. 1830. This photograph has furnished us with the information for the door and window openings for the east wall. (See Sheet Nos. 4 and 5 of the restoration drawings.) The information seen in the photograph also checks with the spacings of the old mortices left in the girt of the east wall.

While the photograph of ca. 1890's furnished us with the correct number and location of the clapboards courses on the east wall, the coursing on the north wall was determined by measuring the holes left in the wall sheathing from the ca. 1830's clapboard nails. The upper seven courses of clapboards on the north wall (east 24 feet) are the original ones from ca. 1830 and butt against an existing original 1" x 7" corner board that is nailed with machine-cut nails. Spacing of the clapboards vary between 3 1/2" and 3 3/4". The north cornice of the lean-to was
replaced in ca. 1910 therefore it is conjectural.

We think we know the approximate size of the original lean-to (ca. 1733-ca. 1830), its conjectural roof slope and some facts about the construction of the west end wall but very little more. We know considerably more about the existing ca. 1830 lean-to even though it underwent minor and major renovations in ca. 1847, ca. 1910, 1921-23, 1948, and so forth. We are reasonably sure that the ca. 1830 lean-to was divided off into three areas: a room at the west end; a center kitchen room; and at the east end a passageway, a small north room and two stairways.

When the existing lean-to was constructed there were a number of interior changes made: an original doorway in the north wall of the old "tavern" room (West parlor) was moved 12" to the east and a new (existing) partition set up to create the present day west room in the lean-to; a new doorway was cut through the old wall between the kitchen and the east parlor (time-frame conjectural); and the passageway-"bedroom"-stairways built at the east end of the lean-to.

The east end had a 4'-6" x 8' long passageway with a small (bedroom) 4'-6" x 8' on the north side and a 3' x 8' stairway to the attic on the south side. Under the attic stairs was another set of steps going to the cellar. It appears from the change in 1st floor joist sizes that the stairway was either a later addition or a change in plans during construction (more likely).
Both partitions of the passageway were wide, T & G boards, hand-planed and nailed in place before lath and ceiling plastering was done. The ceiling of the passageway was covered with "accordian" lath fastened directly to the ceiling joists with machine-cut nails (still existing) whereas the ceiling of the "bedroom" had "accordian" lath nailed to the joists with hand-wrought nails (also existing). Both plaster mixes were identical. The north and east walls of the "bedroom" were originally covered, from a baseboard to the ceiling, with wood lath fastened with hand-wrought nails (determined from nails found in the studding) and plastered up to the protruding east corner post and east ceiling girt. In the east wall of the "bedroom" was a six over six light window.

The center of the ca. 1830 lean-to was occupied by the kitchen. It is possible that the original kitchen fireplace and oven survived when the old lean-to was torn away. If so, the fireplace and oven must have been remodeled to fit the existing ca. 1830 mantel and the present-day hearth built as the brick sizes of the oven face, oven floor and hearth are the same: 2" x 3 5/8" x 7 1/2", whereas the size of the bricks in the 1733 brick vault measure 1 3/4" x 3 1/2" x 7 3/4".

We think that the ca. 1830 kitchen had a total of seven door openings and two windows. Two windows and one door were located in the exterior north wall; two doors in the south wall (to east and west parlors); one door to the west room; and three doors to the east ("bedroom," passageway and cellar stairs). In the center of the room in the south wall was the
fireplace and oven. A wainscot 38" high consisting of three wide, T & G, hand-planed boards were face nailed with machine-cut nails to the north, south and west walls. Above this was nailed "accordian" split lath (but separated into individual pieces) held with hand-wrought nails. Prior to plastering, the wainscot, and the trim for the doors, windows and the two projecting north posts (encased on three sides) were nailed in place. The ceiling of the kitchen was lathed and plastered directly to the underside of the 8" x 8" summers which meant that strapping had to be hung in between the beams from the 3" x 4" (+ 1/2") ceiling joists. (See cross section on Sheet No. 8 of the restoration drawings). The ceiling height of the kitchen was about 6'-2" while the height in the east end was approximately 6'-5".

The west lean-to room was probably partitioned off as it is today in ca. 1830. If this is the case then the lath and plaster on the south wall may pre-date ca. 1830 as it shows the plaster line of the old door to the West Parlor (see Photo Illustration No. 27). The lath and plaster on the west wall may also pre-date 1830 and be as old as ca. 1783 although the evidence is confused by the presence of both machine-cut nails and hand-wrought nails in the same wall, i.e., baseboards in this room placed over floor boards where both have machine-cut nails while "accordian" split (but separated lath) is nailed with hand-wrought nails. This condition is also true of the ceiling construction of the west room. Both hand-wrought nails and machine-cut nails were used to fasten the wood hangers to the joist and strapping.
which in turn holds the "accordion" split lath and plaster. The lath is held with hand-wrought nails mixed with machine-cut nails. Mixed into the ceiling construction are several pieces of used studding used for nailing purposes. The east door (to the kitchen) and west door (to the gambrel) trims are plastered in place but the south door opening was cut through the wall lath with the door trim nailed over the uneven lath and plaster cut. The trim on all three doors are nailed with machine-cut nails. In the north wall the original lath and plaster finish along with two windows were removed in ca. 1948 when new foundation sills were installed along the north wall. After 1948, only one window was put back. The replacement of only one window in the north wall as shown in the restoration drawings is based on the spacing and location of the original studding as measured and recorded for this wall. We think that the two previous windows found in the wall prior to 1948 and the two windows directly above in the garret room were installed in the 1860's. This deduction is based on the comparison of the sawn lath, lath nails, plaster and molding style of the baseboards found in the garret with the room below.

The west lean-to room has two interesting features: first is the former wall decoration (ca. 1830?) new covered over with yellow paint. A small section of the original design and colors survived in back of the east wall radiator installed in 1922. This portion can be seen in Photo Illustration No. 28. The early wall decoration was first laid off with horizontal and vertical lines placed about 12" apart making a 12" square grid around the room. At the intersections of the grid lines
semi-circles were incised into the plaster in an alternating pattern, first above the horizontal line then below the line in the next grid. Each semi-circle was divided in two parts with one half painted red and the other black. Before painting the semi-circles a swirling gray paint of undetermined pattern was applied as background. We still need to do more study on this decorative motif to determine its exact design. Stylistically, the primitive design of this wall compares favorably with the ceiling painting in the parlor of the ca. 1783 gambrel. A reproduction of the wall design can be seen on Sheet No. 8 of the restoration drawings.

The second feature of the west room now missing was a stove that stood against the west wall of the 1st floor prior to the 1860's. The stove pipe passed through a round opening in the ceiling and floor above where it turned west through an opening in the east gambrel wall into the passageway below the plaster ceiling. The pipe ran the length of the passageway through the east kitchen wall as far as the fireplace where it turned south and entered the chimney of the gambrel through a hole in back of one of the cupboards above the mantel. We think this contraption was removed in the 1860's when the west garret room was lathed and plastered.

The lean-to floor of ca. 1830 was a double floor. Both 1st and 2nd floors have their original rough sawn sub-floor boards; some on both floors at the west end are used showing whitewash underneath and some with feather-
edges. The sub-floor is nailed with machine-cut nails. The original wide, hand-planed, square-edged, finish floor boards are still intact in the west room and east "bedroom" but the kitchen and passageway floor boards were replaced about 1910 when the kitchen was remodeled. The original finish floor was face nailed with machine-cut finish nails and left unpainted. The west partition was built directly on top of the finish floor while at the east end the vertical board partitions were set on the sub-floor with the finish floor cut to fit against it. The design of the stairways to the attic and cellar of the lean-to can best be seen in the floor plans of the restoration drawings.

The attic of the lean-to had a room (12' x 12') partitioned off at the west end with vertical, T & G, hand-planed boards nailed with hand-wrought, rose-headed nails (two of the boards are used boards). Since the wall was set on top of the finish floor (machine-cut nailed) it obviously dates after the 1830's. The door in this partition is a board and batten style with H hinges having leather washers and hand-wrought nails but the jamb side of the hinge is without leather washers and nailed with machine-cut nails; it obviously had been used elsewhere. This may be true for the board and batten door at the foot of the attic stairs. This door has battens that are beaded which is very unusual in New England.

As previously stated the west attic room of the lean-to was finished off in the 1860's with machine-sawn lath and plaster and two windows at floor level in the north wall. These windows were closed off in ca. 1910
with sheathing and clapboards. The west room became virtually isolated after 1922 when a bathroom was installed in the attic of the lean-to.

Another major change to the appearance of the Hartwell Tavern in ca. 1830 was the construction of the existing 1 1/2 story gable roofed shed north of the gambrel addition. This structure measures 15' x 30' and rises 11'–8" from the stone foundation to the top of the plate with the roof adding another 4'-7" making a total height of 16'-3". The south posts of the shed lack 1 1/2" butting against the overhanging cornice of the gambrel leaving a gap of 8" between the two walls. This gap was filled in by extending the wall boards of the shed on the west wall over to and covering the corner post of the gambrel. On the east side the shed wall boards butted against the featheredge wall boards of the gambrel where they were nailed to a vertical wall strip.

The foundation sills (hewn 7" x 7" (+ 1/4") of the shed were set on a shallow rubble field-stone wall laid up without mortar. The shed was framed with four unequally spaced bays. Starting at the north end, ten hewn oak posts (five on the east side and five on the west side) measuring 7" x 7" (+ 1/4") morticed and tenoned into the sills, were spaced 7'-10"; 5'-9"; and 7'-5" apart. The posts were 9'-10" high, morticed and tenoned into 30' long, hewn oak plates, 7" x 7" (+ 1/4"). Between the corner posts of the north and south end walls a 7" x 7" (+ 1/4") hand-hewn girt was morticed and tenoned into the posts at a
height of 7'-5" above the 1st floor. Morticed and tenoned between
the three sets of interior posts at the same level were 7" x 7" (± 1/4"
) hewn summers having sawn oak joists 3" x 4" (± 1/2") let into them. Above
this construction was nailed the double floor of the attic.

Sawn oak diagonal braces, 3" x 4" (± 1/4") were used throughout the
shed frame. The north wall has two rising diagonal braces morticed and
tenoned into girt and corner posts as did the first and third interior
bays where partitions were built. The south end wall had no diagonal
braces as they would have interfered with access into the gambrel. The
east wall has two rising diagonal braces morticed and tenoned into
the corner posts and plate. The west wall has a similar condition
except the north diagonal brace was moved south to the second bay to
allow the north bay to be framed for a chaise house as described in the
1838 deed.27 The north bay was always intended to house a chaise
judging from the fact that there were no rising or falling diagonal
braces on the west side. Instead there was a header (approximately

27. The deed of 1838 describing that part of the house given by John
Hartwell to his daughter Lydia goes as follows:
"...the west or that part of the dwelling formerly occupied by the widow
Hepzibah Hartwell with one room on the lower floor in the main or old
part house, which was occupied by said widow, with the cellar under the
west or new part of the house as aforesaid, and also the sink room, wood
house, chaise house and all the new additions except the corn chamber in
the same as is now used for the purpose, to where the floor is planned..."
The itemized tax records of Lincoln for the years 1824-1831 lists a
chaise valued at $30.00 as part of the personal estate of Hepzibah
Hartwell (See Ronsheim study, Appendix B, pp. 81-88).
6" x 7") morticed and tenoned into the posts across this opening three feet below the plate with two short studs in between. This formed an opening of 7'-10" x 8'-0" high since the west foundation sill was omitted in this bay.

The original (horizontally nailed) wall sheathing of the shed is still intact. It is 1" thick pine boards, T & G, 7" to 19" wide having a taper (+ 1 1/2") from end to end (each course alternating the taper to level off the boards). Nine boards on the east wall were originally 18'-6" long; all of the wall boards were nailed with machine-cut nails (no holes for earlier sheathing were found in the studding). The wall sheathing was initially left exposed for at least 35 years based on existing lichen growth and weathering observed. The walls were then covered with wood shingles until ca. 1910 when these were removed and replaced with clapboards.

We are not sure if the present roof structure is original or not although no other signs of former rafters were found. The present roof is framed with eleven pairs of 3" x 4" (+ 1/4") rough, vertically-sawn rafters placed on 3' centers (many are whitewashed and appear to be reused pieces). The rafters are nailed at the peak into a 3/4" x 4 3/4" rough sawn ribband running the length of the shed and extending 3'-0" beyond the south end where it intersects the lower gambrel roof. If this detail is original to the ca. 1830 construction then it would be one of the
earliest used of a ribband in this area. The base of the rafters were cut to rest on top of the plate with the outer tip flush with the plate without any overhang. The rafters were nailed through from the top side into the plate.

There are four studding in the north gable end, morticed and tenoned into the girt and nailed into the end rafters. There are no studding in the south gable end of the shed which is open and exposes the lower north slope of the gambrel.

The existing roof sheathing of the shed consists of used boards, 1" thick with square-edges and rough sawn. The lower eave boards of the roof extended beyond the wall sheathing far enough to cover a 1" x 5 1/2" unpainted frieze board (nailed with machine-cut nails). Two unpainted verge boards (still intact) measuring 3/4" x 5" were used up the rake of the north gable end. The original roof covering is not known but could have been machine-sawn, white cedar shingles 15" to 16" long fastened with machine-cut nails and closed at the peak with comb boards.

Window and door locations in the shed were decided by determining the positions of the original studding and braces and from physical evidence left in the walls (i.e., door frames) and on the wall sheathing (i.e., weathering marks, etc.). We are certain the west all had only three openings in the beginning: (1) a set of double board and batten doors
(each 3'-10" x 8'-0") located in the north bay to the chaise house. These doors were hung by strap hinges supported by hand-made wrought-iron pintles (two still intact). (2) A board and batten door approximately 3'-6" x 6'-6" located in the third bay, two feet south of the existing door which was probably moved in ca. 1910. (3) The existing ca. 1830 window frame with 6 over 6 light sash (the existing sash is a replacement) located in the south bay. This window frame is the only surviving frame dating from ca. 1830 and is nailed through the jambs, top and bottom, with what appears to be large cast-iron spikes. (See Sheet No. 5 of the restoration drawings for a section view of the ca. 1830 window frame and sash.)

The north wall appears to have had one door and one window (a 6 over 6 light sash now completely missing) located in the gable end, trimmed with unpainted 1" x 4" jamb and head boards (still intact on the door). The existing unpainted board and batten door (3'-3" x 5'-10") is much older than the shed as it is made with hand-wrought nails, pintles and strap hinges. Just under the door, we found two mortices in the girt suggesting that a platform might have extended out from the wall. Not enough evidence was found to determine its design but the possibility of footings for such a platform existing below the present grade should be explored. At the lower west corner of the north wall was an area
2'-4" x 7'-8" more deeply weathered than other wall boards and unmarked by shingle nail holes dating from ca. 1865 to ca. 1910. We were unable to determine the use of this area but it apparently stood exposed from ca. 1830 until ca. 1910 when it was clapboarded. Sheet No. 5 of the restoration drawings show this area and the notches below the door in the north elevation drawing.

The east wall had at least one door and one, if not two, window openings. At the south end of the east wall we were fortunate to find the original board and batten door with parts of its door jambs intact. This door was made of T & G boards with hand-wrought nails and a hand-wrought thumblatch (latch is missing but the outline is visible). It was hung with two cast-iron hinges, a type of hinge that was extensively used between 1820 and 1850. The exterior of the door frame appeared to be trimmed off with 1" x 4 1/2" boards, probably hand-planed.

One window opening in the east wall that seems certain to be original was located 1'-8" north of the above mentioned door. This opening has evidence of once being the location of four different windows (including the existing ca. 1910 frame and sash stamped "Wilson Lumber Co." of Concord, Massachusetts). Since we are proposing to restore the shed to its ca. 1860 appearance (in order to save the original wall sheathing) it was determined from the wall evidence that a six over six light window was used at this time when wood shingles were applied. The second window opening that might have been original although no definite evidence was.
found is located seven feet north of the first one. A window here would have provided light for the interior room of the shed as it was initially built. In ca. 1860, there was definitely a window here when the shingles were applied to the wall, therefore it is included in our restoration plans and drawings.

The first floor of the shed was originally divided into three sections: (1) the north chaise house bay as defined by the original wall sheathing, studs and diagonal braces found in the north end wall and by the original wall sheathing, studs and diagonal braces found in the partition wall on the south side of the bay; (2) a center room as defined by the existing mortices left in the post, summer and floor boards of the third bay (fourth set of posts from the north end). At the east end of this partition was a rising diagonal brace from post to summer and mortices for three studs as found in the summer and floor boards directly in-line below. There were no mortices for a diagonal brace at the west end indicating the location of a possible doorway. This center room also had the only exterior door to the west leading from the two south rooms and therefore could have been the wood house mentioned in the deed of 1838; (3) a south room, possibly used as the "sink" room described in the 1838 deed. 28 Below the east window in this room we found two

28. Mathews, Nitford A., A Dictionary of Americanisms, (Chicago, Ill., 1951) p. 1549. Defines sinkroom in New England as a room having a sink, especially a room near a kitchen in which utensils are kept and the coarser operations involved in cooking are performed.
approximately 4" x 4" with outward sloping cuts at the bottom suggesting a possible trough through the wall for a sink drain. If so, the water probably spilled out on the ground. This room also had the only door on the east side that led to the well in back of the house. Several large stepping stones were uncovered leading off the door but not traced to their destination. The archeologist spent one day here clearing brush in anticipation of doing exploratory ground work which was not completed.

The attic of the shed was probably used for storage. Part of the space was undoubtedly the "corn chamber" mentioned in the 1838 deed. It had access off the rear gambrel stairway through a crude opening cut into the lower gambrel roof boards. There was also access to the attic through the door in the north gable end. The floor boards of the attic are doubled; the sub-floor having many used boards throughout. Machine-cut nails were used to fasten the floor boards to the joists.

There is ample evidence to prove that the north wall of the gambrel addition was remodeled when the shed was built. The north wall (11'-0") of the kitchen was taken down and a new wall erected 2'-7 1/2" to the north within the shed. The new wall was built with two door openings into the shed; the east door probably going into the so-called "sink room," and the west door perhaps into a small closet. The kitchen side of the new all was wainscotted, lathed (sawn lath with machine-cut nails) and plastered to match the west wall of the kitchen.
We think that the old window removed from the north wall was put in the west all of the gambrel kitchen at the north end of the room where it remained until ca. 1910 when the existing window frame was installed. The other original window in the west kitchen wall was most likely replaced at the same time as both window openings have been enlarged equally.

It appears that the east wall of the gambrel kitchen was taken down and moved eastward about twelve inches along with the cellar stairs. Evidence for the cellar stair moving can be seen in the foundation sill and summer where empty mortises exist and slots for the installation of the existing joists can be seen. When the east wall was moved the lower portion of the stairway leading from the kitchen to the 2nd floor was changed. The bottom four treads and five risers were removed and replaced with two winding steps and two lower straight steps leading into the shed beside the east door. A board and batten door (probably from the kitchen stairs location) was hung above the first tread (see floor plans on Sheet No. 3 of the restoration drawings).

The interior wall of the gambrel kitchen were wallpapered very shortly after alterations were completed. The earliest wallpapers were those found on the vertical, T & G, boards forming the east wall. The first wallpaper, dated mid-1830’s, was pasted directly to the bare wood with
a cloth reinforcement first placed over the joints.\footnote{Samples of wallpapers taken from the house were sent to Mrs. Catherine L. Frangiamore of the Cooper-Hewitt Museum of Design in New York City. Mrs. Frangiamore was able to put tentative dates on many of our samples.} Below the paper was a high painted gray base. The last wallpaper was applied before ca. 1910 as it extends under the window casings dating from that renovation.

When access from the gambrel kitchen stairway to the 2nd floor was closed off another way had to be found from the 1st floor to the chamber above. This was done by building a new stairway off the parlor entry in the southwest corner of the gambrel. We reached this conclusion after finding machine-cut nails in the stair construction as well as finding different sizes of trim and moldings throughout the stairway. When these pieces are compared to the work of ca. 1783, the changes are obvious. An interesting feature of the stairway on the 2nd floor is a built-in closet having a sliding door which must date back to ca. 1830.

The three fireplaces in the gambrel addition could have been altered as part of the ca. 1830's work. The chamber fireplace has an existing stove stamped "Improved Pipe Franklin" dated 1825. The parlor and kitchen fireplaces both have cast-iron fireframes that extend 12" out into the room. Their shallowness almost suggest that coal might have burned rather than wood. More research needs to be done to date the fabrication of fireframes in New England. To the rear of the kitchen fireplace can be seen the outline of the original fireplace with its
hand-wrought crane still in place. When this fireframe was installed
two courses of bricks were added to the kitchen hearth. (See floor plans
on Sheet No. 3 of the restoration drawings and Photo Illustration No. 31).

The last major exterior change of ca. 1830 to discuss is the remodeling
of the 1733 house. Here the old window frames and sash, door frames
and doors, the verge boards and clapboards were removed and replaced with
entirely new material. It is thought that the only window to survive
this work was the ca. 1783 window located in the west wall of the
west chamber. (See Photo Illustration No. 1.)

Excepting the attic sash in the gable ends, the window openings of 1733
were 6 over 9 lights with 7" x 9" glass set into frames measuring
2'-7" x 4'-10" overall. The windows of ca. 1830 including the attic
openings were 6 over 6 lights with 8" x 10" glass set into frames
measuring 2'-9 13/16" x 4'-2 1/4" overall without the two inch molded
cap. Since most of the wall studding for the 1733 window openings were
spaced 4'-2 1/4" apart, the newer frames could still utilize the existing
openings without the studs being cut and moved. On the inside, however,
it seems that the window openings were enlarged to accommodate a new
style of window trim that nailed flat against the wall. The widening of
the openings in the west parlor and chamber and 2nd floor stair hall
was accomplished by cutting back the wainscot while in the east parlor
and chamber the lath and plaster was cut away. The window openings of
ca. 1830 were also lowered approximately six inches on both floors.
The window frames of 1733 held both upper and lower sash (7/8" thick) within its 2 3/8" thick jambs and head pieces. The window frames of ca. 1830 held only the top sash (1 1/16" thick) within a jamb and head thickness of 1 9/16"; the lower sash having to slide against the trim nailed to the studding. The window frames of 1733 were fastened directly to the studding with four hand-wrought spikes, two placed in the upper part of the jambs and two placed in the molded sill. After the frames were set in place the 7/8" (± 1/8") wall sheathing was cut to fit around them with notches cut out for the 1 5/8" head and sill extensions. The clapboards were applied in the same manner with the bottom edge of the clapboard courses aligning with the top surface of the heads and sills.

The window frames of ca. 1830 were installed in the same openings as those of 1733 but placed directly against the wall sheathing since the new frames were three inches wider than the old ones. The new frames were also fastened with four spikes driven through the sheathing into the same studding but placed in the upper and lower parts of the jamb. These spikes had the characteristics of cast-iron rather than wrought iron. The sill of the ca. 1830 window frames were 1/2 inch deeper on the inside than the adjoining jambs and head. This depth was compensated for by notching out 1/2 inch daps in the wall sheathing. These daps gave us the evidence needed for determining the location of the ca. 1830 window frames as opposed to those of 1733 and ca. 1783. (See Photo Illustration No. 5.)
The frames of ca. 1830 had two additional features not found on the frames of 1733 or ca. 1783. The underside of the sill had a full length weatherseal groove 1/8" wide and 3/8" deep for inserting the feathered edge of a clapboard. The two-inch cap piece which was nailed to head of the frame was molded at the back side with a 3/8" square projection that formed a weatherstrip behind the clapboard or frieze board running across the top of the window frame. These details can be seen on Sheet No. 5 of the restoration drawings.

A new cornice was installed along the south wall of the 1733 house in ca. 1830. The fascia and soffit of 1733 was kept but a new crown molding, frieze board and bed molding was installed. The new frieze was notched around and over the window frame cap on the second floor. In ca. 1910 these notches were partly closed in with wood fillers. Along with the crown, bed and frieze members, new corner boards and verge boards were introduced. All of these new pieces were nailed with machine-cut nails whereas the 1733 soffit and fascia were held with the original T-headed hand-wrought nails. During the remodeling of ca. 1910, the pieces of ca. 1830 were either kept intact or reused again.

Two exterior doors were affected in the changes of ca. 1830, the main entrance door and the east side door. We have the front door from the 1830's stored in the shed. It measures 2'-10" x 6'-4" and is a six-panel door with applied panel moldings, once hung with cast-iron hinges.
and having a thumblatch identical with the brass latch on the south gambrel door. Only one coat of paint was applied to the door: the stiles and rails were painted red; the panels, yellow; and the applied molding was green. In later years someone had cut out the two upper panels and substituted glass.

We have only the mortices left in the lower side of the south girt to give us the dimensions of the 1733 doorway. The distance measures almost four feet (3'-11 5/8"). Height from 1st floor to girt is 7'-4". Distance from the interior of the door jamb to the newel post of the stairway is approximately 3'-3". Although the door of ca. 1830 could swing clear of the stairway anything wider than 3'-3" could not. We know nothing about the exterior design of the 1733 doorway but the doorway of ca. 1830 is well documented in the photographs of ca. 1890 and by the preservation of the door. This six panel door was placed in a rather plain but formal frontiecepiece, identical to that of the Sgt. Samuel Hartwell House also remodeled about the same time.

The ca. 1830 frontiecepiece consisted of an architrave containing two pilasters and a plain frieze surmounted by a cornice. The pilasters had recessed panels formed by the application of a backband molding nailed to a plain board. Each pilaster rested on a plain plinth base supported by the extension of the door sill. The pilasters, in turn, supported plinth-like captions which carried the cornice. (See
Photo Illustration No. 2.) When paint was applied to the interior hallway
woodwork in the early 19th century, the outlines of the door trim either
from the 1733 doorway or the ca. 1830 doorway were left behind. Since
the paint outlines extend inside the jambs 3 3/4" on the west side and 5"
on the east side, we assume that the trim of ca. 1830 was in place at
that time.

The six panel door of the 1830's found in the shed has construction
details identical to the existing four panel door (2'-10" x 6'-2 5/8")
of the gambrel, even down to the brass thumbatch (and doorknocker).
The thumbatch on the gambrel door is a close match to those illustrated
in English hardware catalogues having watermarks dating from 1796. It
is difficult to prove whether the existing gambrel door dates back
to ca. 1783 although it is hung with strap hinges and: still retains
an old hand-made wrought-steel rim lock. We think the gambrel doorway
with its surviving ca. 1783 transom sash was patterned after that of
the 1733 doorway. The fronticepiece of the gambrel was reworked in
part during the remodeling of ca. 1830 with the addition of wider
pilaster boards and possibly the introduction of plinth bases. These
pieces were found nailed with machine-cut nails while earlier marks
caused by weathering were found under the existing pilaster strip
indicating a plain narrow pilaster board as shown in the restoration
drawings on Sheet No. 2. Photo Illustration No. 13 shows the earlier
evidence of the pilaster boards. A corner board was added to the west
corner and another interior corner board added at the east end of the
gambrel, south wall, during the 1830's remodeling work. Basically, except for the bottom three or four courses of clapboards, the south wall of the gambrel still retains the wall boards, the window frames, cornice trim (crown and bed moldings, frieze, soffit fascia boards) and portions of the doorway fronticepiece including the transom all dating from ca. 1783 in addition to the clapboards, cornerboards, pilasters and bases dating from ca. 1830.

The clapboards on the east and north walls enclosing the gambrel pantry on the 1st floor were also replaced in ca. 1830. Nail holes from two of the three sets of clapboards (ca. 1783, ca. 1830, ca. 1910) found in these two lower walls were measured and recorded. There was no evidence that a cornerboard was used in 1783 but a double cornerboard dating from the 1830's was still in place held with machine-cut nails. Only two sets of clapboard nail holes (ca. 1783 and ca. 1910) were found in the upper east wall of the gambrel. The verge boards of ca. 1830 were reused on the east and west rakes of the gambrel when new clapboards were installed in ca. 1910.

The east wall of the 1733 house underwent the same treatment as the south wall. All of the original wall boards (as well as the brick nogging) from the sill to the attic girt were removed and replaced with new rough-sewn boards held with machine-cut nails. New window frames and sash, door frame and door, clapboards, cornerboards and verge boards were installed
as seen in Photo Illustration No. 2. The house was probably painted for the first time in ca. 1830.

Some internal changes were thought to be made during the remodeling of ca. 1830. The north half of the west fireplace wall in the East Parlor was apparently removed. We think that a wood chimney breast was taken out and perhaps a small closet to the north. It was replaced with a low mantel piece surrounded by sawn lath and plaster and possibly a closet to the north. Impressions from the 1733 brick chimney can be seen on the back side of the ca. 1830 plaster where it squeezed against the masonry work. Brick headers and stretchers can be counted. Sheet No. 6 of the restoration drawings shows an elevation view of the proposed new chimney breast and closet doorway as it might have appeared in 1733. The mantel of ca. 1830 was in turn removed and replaced after the McHugh ownership in 1876.

Remodeling of the West Parlor took place after 1787 when the Hartwells went out of the tavern business. We have assigned the date of ca. 1830 to these changes, based partly on the rebuilding of the lean-to, although removal of the so-called "tap-room" could have been done as early as 1800 judging from wallpaper remnants still intact in this area. The "tap-room" located against the west wall of the parlor, was removed and the wall north of the center door to the gambrel filled in with vertical T & G boards. The 1733 doorway into the lean-to was shifted east 12 inches and that space filled with a plain vertical board fastened with machine-nails. A chairrail and picture molding was probably
introduced partly around the room and new window trim installed judging from the paint lines found on the wainscoting. The wainscot above the chairrail was ruled off and the rectangular spaces painted with a primitive form of marbelizing. The walls of the newly formed closet in the connecting link of the gambrel were wallpapered above a red painted baseboard. This wallpaper was given a tentative date of manufacture between 1805 and 1825 and may have been made in Massachusetts. A few years after the closet walls were wallpapered the present day doorway was cut through the north wall of the closet into the lean-to (see Photo Illustration No. 26). Then in ca. 1910, the wall between the closet and the West Parlor was remodeled and the interior of the closet divided into two parts: the south part with shelves open to the passageway into the gambrel and the north part with three shelves accessible from the West Parlor and the lean-to.

Evidence for these changes were found when the closet was dismantled during the architectural investigation of 1974 (see Photo Illustration No. 25). The sequence of changes however never became quite clear.

Although no definite date has been determined, it is thought that the finished room in the gable attic was completed shortly after 1830. This room is located at the east end of the attic and occupies most of the space east of the central chimney. It measures 8'-10 1/2" x 13' and has knee walls 3'-4" high and a center headroom of 5'-9". Strapping was nailed directly to the common rafters and 1" x 4" knee-
wall studs and horizontal ceiling joists. Plaster was applied to the circle sawn ceiling and wall lath above a 10" baseboard with the deeper principal rafters left exposed and untreated. The room has a board and batten door at the west end and a window at the east end. It appears that this room was abandoned after the attic stairway was removed in ca. 1847.

F. ALTERATIONS BETWEEN ca. 1838-1876

Following the death of Elizabeth Hartwell in 1837, the Hartwell Tavern passed into the hands of her four living children; Lydia, John Jr., Sarah and Hannah.\textsuperscript{30} It is clear from the deed of 1838 that Lydia was, probably living in the gambrel portion and had the use of the shed and well yard. The occupants of the 1733 house are not known, but it is thought that after Sarah's husband Abijah Hoare Pierce, a Lincoln farmer, came to be the sole owner, he occupied the house.\textsuperscript{31} Sarah Hartwell married Pierce in 1818 and bore four children between 1820 and 1833.\textsuperscript{32} It is possible that she and her family were living in the main house while her mother Hepzibah was alive, but this cannot be proven. In 1839, John Jr. sold his quarter of the estate to

\textsuperscript{30} op. cit. Ronsheim, Hartwell Geneology. pp. 2 & 3. The fifth child of John and Hepzibah Hartwell was William who died at the age of 22 in 1815.

\textsuperscript{31} Hartwell, John E. Geneology of the Hartwells in America 1952. By telephoning a researcher at the Concord Public Library, I was able to find out about the lineage of the later Hartwells.

\textsuperscript{32} ibid.
A. H. Pierce, reserving certain rights to Lydia for the length of her life. It is known that John Jr. moved to Augusta, Maine about this time and had no further dealings with the Ephriam Hartwell farm. Hannah married William B. Johnson in 1818 and had five children between 1819 and 1832. Since her husband was a merchant in Philadelphia and New York, it is unlikely that Hannah was living on the farm while her husband was in business. It appears that she moved back to Lincoln, in 1839 when she sold her quarter of the estate to her sister Lydia. Lydia then sold her half of the farm to Abijah Pierce in 1845, retaining the right to use parts of the farm for herself and Hannah Johnson, who was listed as a widow that year. In that transaction, Lydia gave Abijah Pierce a mortgage for the full price of $1600; each sister to be paid half of the principle plus five percent interest over a period of three years. The mortgage was recorded as discharged on July 15, 1854. At this point, Abijah Pierce and his wife Sarah owned the farm but Lydia and Hannah, through a quit claim deed of 1856, retained the right to live on the premises

34. op. cit., Hartwell.
35. ibid., Hartwell
36. ibid., Hartwell
37. op. cit. MIMA Deed File Bk. 382:324 June 12, 1839
38. ibid. Bk 732: 517-18
until their deaths.

From the wording of the above transactions, it appears that Hannah, Lydia, and the Pierce family were all living on the farm between 1838 and 1858. Several minor changes and one major structural change were thought to be made to the house during this time. The first major change to take place was the removal of the central chimney down to its base at the first floor level. This effectively removed four fireplaces of 1733 and the fireplace/oven complex in the kitchen lean-to. Along with the fireplaces the old chimney breasts or mantels in the West Parlor, East and West Chambers were removed. The central stairway of 1733 including the attic stairs was dismantled along with the north wall of the stairhall and the vertical board wall butting the stairway in the West Parlor. With this area now cleared away, new construction was begun.

Two separate flues (measuring 1"-7" x 1'7" (± 1") using salvaged bricks were built within the old central chimney area (see H.A.B.S. measured drawings, Sheet No. 3 of 11). One fireplace was rebuilt in the east parlor but stove pipe holes were introduced under the new mantels of the other rooms: West Parlor, East and West Chambers. Eventually the fireplace in the East Parlor was bricked up and a stove installed in this room. This may have happened about 1876 when a floor heating register was placed in the floor between the East Chamber
and East Parlor. The space under the existing ca. 1830 mantel in the kitchen lean-to was bricked-in and a stove pipe hole introduced here for a new cook stove. To provide a smoke outlet for the kitchen stove a six feet long gently sloping flue was built and connected to the new east flue. This arrangement proved to be ineffective and in 1922 it was removed and replaced with the existing kitchen flue (see Photo Illustration No. 24).

The two separate flues of ca. 1847 joined into one mass near the attic floor then extended through the roof as it exists today; a three-flue chimney stem measuring 1'-7" x 3'-6" and rising 4'-9" above the roof peak. After the flues were constructed and the mantel areas rebuilt, the central stairway was begun utilizing as much material from the old stairway as possible. The four old square newel posts of 1733 were put into a lathe and turned to their present-day form (based on a study of paint layering) then reset near their original locations. The hand rails of 1733, which originally had no balusters, were replaced and new rectangular balusters introduced (also based on paint analysis). The original boxed string boards which enclosed the old treads and risers were cut down to the tops of the new treads and mitered into the ends of


40. A cook stove was purchased by A. B. Alcott and installed in the kitchen of The Wayside, Concord, Massachusetts in 1845. See Historic Structure Reports on The Wayside dated 1968.
the new risers. A nosing was nailed over the ends of the treads to produce the open string stairway of today. Against the inside walls of the stairway a new square-edged, 10" wide string board was placed, scribed around the treads and risers and above the platforms. This trim board ran from the 1st and 2nd floor and formed a stop for the new lathed and plastered walls. The chimney girt of the West Parlor was chopped away about 1 1/2" to widen the stairway as it approached the 2nd floor; the string board was then let into the girt to gain this extra width. On the 2nd floor a new section of balustrade was inserted between the old newel post and the east wall. This handrail is slightly larger in section than the handrail of 1733.

The attic stairs were not rebuilt at this time. Instead, strapping was installed on the west and north walls and ceiling of the stairhall then lathed and plastered. Access into the attic was gained through a trap door in the ceiling of the closet off the West Chamber.

During the removal of the old stairway, it is possible that two of the original vertical wall boards butting the stairway in the West Parlor were damaged. These boards, once located between the two east doors, have been replaced with newer ones having a beaded edge. The new boards also lack the original paint color found on the old wainscot. They seem to be part and parcel of the existing door trim and four-panel door hung with cast-iron hinges and having a cast-iron thumblatch styled after those patented in 1840.41 We are certain that the original

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41. See figure 15 showing Blakes's U.S. Patent, No. 1704, July 21, 1840, as in Henry C. Mercer's article entitled "The Dating of Old Houses."
board and batten door now hanging at the entrance to the cellar stairs once from the doorway to the south between the West Parlor and the stairhall. This change was discovered when we were able to match the upper and lower screw holes from missing T-strap hinges found on the cellar door with those found in the now concealed door jamb to the south. We are proposing to rehang the door in its original location and build a new cellar door as seen on Sheet No. 8 of the restoration drawings.

The West Chamber also underwent major changes during the ca. 1847 remodeling work, specifically the installation of the lath and plaster ceiling which is identical to the construction and mortar composition of the ceilings in the stairhall on the 1st and 2nd floors. The new ceiling was suspended below the depth of the summer beam, plates and girts in both areas covering a portion of the wall repairs made above the windows when they were installed in ca. 1830. Before the ceiling of ca. 1847 was installed, the ca. 1752 vertical board partition was removed from the West Chamber making this one large room again. Based on the dating of wallpaper fragments found in the room it is likely that the West Chamber was papered at this time. The horizontal chamfered and molded edges of the wainscotting were scored with a hatchet to provide a mechanical bond for a plaster of paris filler which smoothed out the wallboards prior to wallpapering. The wallpaper was pasted directly to the finishes of the wainscot which was paint on the south one-third of the room and red limewash on the north two-thirds.
Between the floor and the new wallpaper a seven-inch high gray baseboard was painted around the room. This first wallpaper had a free-form design and was made from rag pulp, possibly block printed with hand-cut seams. It was found under the trim of the west doorway between the West Chamber and the gambrel addition. We date the cutting through of this doorway after the application of the first wallpaper (ca. 1847) but at the same time as the application of the second wallpaper, a machine-printed stripe, tentatively dated "post 1850." The second wallpaper was also made from rag pulp wallpaper was introduced. The board and batten door at this opening was hung with cast-iron hinges, but instead of having a cast-iron thumblatch a rim lock was installed that had ceramic knobs on both sides of the door, a further deviation from the work that was done in ca. 1847.

The board and batten door between the West Chamber and the hallway, like the parlor below, was removed, cut down to two feet wide and rehung in the closet door opening north of the fireplace. This was determined by matching the screw holes found in the existing closet door with those found on the south jamb of the stairhall doorway now concealed with new trim. When the stairhall door was removed in ca. 1847, a new four-panel door was hung with cast-iron hinges and a cast-iron thumblatch. A new trim board was nailed over the old south jamb which had split away from several hinge hangings. The original board and batten closet door removed in ca. 1847 was found loose in the lean-to garret in 1974. It had but one coat of the red tinted limewash matching that put on the wainscot
in the north two-thirds of the room. This door was hung with H-hinges and had a wooden lift latch similar to that shown on Sheet No. 8 of the restoration drawings.

When the lath and plaster ceiling was removed from the West Chamber in 1974, a scrap of magazine advertisement was found in the space above. One of the illustrations shown was a silver plated table knife having a warranted date of 1847 from Rogers Bros. This date supports the previous evidence cited regarding the wallpapers and hardware subscribed to this period.

The East Chamber underwent less change when the central chimney was removed in ca. 1847. Only the fireplace and mantel area was disturbed. The original fireplace was surrounded by a mantel set against the brickwork of the central chimney then plastered in place, similar to that shown on Sheet No. 6 of the restoration drawings. During removal of the chimney the hand split lath and plaster directly above mantel was sawn out. This area was replaced from the floor to the girt with splayed boards recessed into the wall about ten inches. The old split lath was reused to fill in the wall area recessed above a new 3'-6" fireplace mantel shelf. Over the new mantel a new soffit board was nailed to the chimney girt and into the ends of the splayed boards to complete sealing off the recessed area. Above the soffit board was found a number of loose artifacts including a Boston newspaper with an advertisement date of 1847. In renailing the old lath, three jambs
from the window frames of 1733 were used as studs. In rebuilding the
chimney, the floor boards directly in front of the old fireplace were
cut back five inches to provide a wider brick hearth even though a
stove was introduced into the room. It is possible that the floor boards
were partially burned away then cut back the width of a brick course to
solid wood. The floor boards in front of the old fireplace opening in
the West Chamber are slightly burned but in this case not cut back to
good wood.

On September 6, 1858, two years before his death, Abijah Pierce sold
the Hartwell Farm to his eldest son Samuel. Samuel Pierce owned the
farm fifteen years before selling it in 1873. During this period we
believe that the shed of ca. 1830 was remodeled. Our architectural
investigation concluded that there were four window and four door
openings in the original shed. About 1865 one of these window openings
was enlarged and four new window openings cut into the attic space, two
in each of the east and west walls. The walls of the shed were then
covered with shingles. This conclusion was based solely on weathering
marks left by the window and door casings and from either nails or
nail holes found in courses left by the application of wall shingles.

As previously stated, the original wall sheathing of the shed was
left exposed about thirty-five years judging from the depth of grooves
due to weathering. After the application of new window and door
casings and wall shingles a second weathering mark was produced on the
wall boards at the juncture of the casings and shingles. This weathering left a deep groove in the wall sheathing giving us the overall size of the window and door trim. Evidence that shingles and windows were added at the same time is confirmed by the fact that the shingle nail holes do not occur inside the weathered grooves marking the edge of the casings, but rather stop a fairly uniform half inch short of the grooves, indicating that the shingles butted the window casings. The shingles had a maximum width of eight inches and showed an average of five and three quarters inches to the weather. The original door at the south end of the east wall was trimmed with three and one eighth inch wide casing boards, and the north end of the wall was covered with a four inch corner board. The original frieze board of ca. 1830 was left in place. All of the north wall was shingled except the door and window openings in the gable end and an area 2'-2" x 5'-10" high located at the lower west end of the wall. A four and three eighths inch wide corner board was placed at the east end of the north wall, with a board of four inches width at the west end, but only above the unshingled area previously described. The original verge boards and window trim boards were left in place on this side. On the west side, shingles were applied in the areas left between the window and door openings, ending at a four and one quarter inch wide corner board at the north end. The wide door to the chaise stall was trimmed with five and one half inch wide casing boards on the south jamb and the head, with the corner board trimming the north jamb. At the south end
of this wall, a five inch wide board was placed to separate the shingled area from the clapboards on the west wall of the gambrel portion of the structure. The original frieze board was left intact on the west side.

Unlike the plank window frames of ca. 1830, the new window openings of ca. 1865 had thin box-like frames with one-inch thick casings nailed flat against the shed wall as shown on Sheet No. 5 of the restoration drawings. None of the window frames were trimmed on the interior. In the course of cutting windows through the shed wall, one diagonal brace was cut off in the west wall and one studding cut off on the 1st floor in the east wall. The new attic windows were probably four light stationary sash while the lower east window was enlarged to a 6 light over 6 double hung sash to match the earlier ca. 1830 west window. It is possible that the north window opening in the east wall 1st floor was installed at this time with a matching 6 light over 6 sash. It was common for window sash of this period to be equipped with cast-iron weights, pulleys, sash cord and sash locks. None of the ca. 1865 window frames survived the remodeling of ca. 1910. The window and door locations from the ca. 1865 period are those shown on Sheet Nos. 3, 4 and 5 of the restoration drawings. A close look at the window and door casings will reveal the subtle differences found in the widths of the casings, probably dictated by the widths of available material on hand.

Samuel Pierce sold the Hartwell Farm to Stephen Hanscom in 1873, thus ending over 140 years of continuous ownership by the Hartwell family.
Hanscom held the farm two years before selling it to Edward and Francis McHugh in 1875. It is unlikely that Hanscom ever occupied the farm as he owned larger acreages elsewhere in the Bedford-Lincoln area.

G. ALTERATIONS BY THE McHUGH FAMILY 1875-1967

Of the two McHugh brothers, only Edward was married. It is thought that since the brothers had purchased the farm together, they were probably both living there and sharing the farming duties. If so, this would bring the total number of occupants to six: Francis, Edward and his wife Mary, and their three children, Catherine F., John E., and Margaret A. The death of Edward in 1913 put the farm in the hands of Francis alone, and he gave it to Mary and her children when he died in 1921.

42. op. cit., MIMA Deed File. Bk. 1251:38-9; Bk. 1372:414-15

43. op. cit., Ronsheim Hartwells in General p. 6. Middlesex Probate #133365 Francis McHugh. When Francis died, he left the Hartwell Tavern to his brother's widow Mary and her children. It is unlikely that Francis ever married, for he probably would have left his property to his wife and children if he had.

44. Ibid. p.6. Probate sited by Ronsheim lists the names of the children.

45. These dates represent a correction to the work of Ronsheim and the Luzader Ground Report, which list Francis' death in 1913. Telephone calls to the Lincoln Town Clerk's Office and the Middlesex County Probate Records Department both list the actual date of death for Francis in 1921, with Edward having died in 1913. The will for Francis' Probate (133365) was filed September 21, 1921.
A major renovation of the house was done in ca. 1900 by the two McHugh brothers. The earliest photograph of the house was made prior to these changes and shows the conditions of ca. 1895, while another picture dated ca. 1905 shows the alterations complete. Sometime between these two pictures, substantial changes were made to both the interior and the exterior of the dwelling. The interior changes were confined to the first floor of the gable portion and the lean-to. In the east parlor, the original floor boards, sub-floor and floor joists were removed and replaced. The replacement joists were dimensionally sawn pieces measuring 2" x 8", and set at various depths in the summer beam to compensate for the sag in the beam and to make the new floor level. A sub-floor to ten inch wide, square-edged boards were laid on top of the joists, followed by a hardwood floor of 2 1/4" widths, tongue and groove pieces laid in a square pattern beginning at the edges of the room.

The west parlor received a new finished floor, but in this room, the subfloor and framing were left intact. The new floor consisted of pine boards 3 1/2" wide and blind nailed through the tongue with machine cut nails. The present hearth consisting of 6 1/8" square quarry tiles were laid at the same time as the new floor. The ceiling of the parlor was replastered during this renovation, however the original accordian split lath, thought to date from ca. 1783, was saved in place. The
door leading from the parlor to the cellar was nailed shut prior to laying the floor, as the new flooring prevented the door from being opened.

The entryway and small "bedroom" in the east end of the ca. 1830 lean-to kitchen was remodeled in ca. 1900. The two vertical, wide board partitions forming the south and west walls of the bedroom were removed and replaced with vertical, narrow, beaded, T & G boards nailed with wire nails into the subfloor and ceiling joist. Identical boards were nailed horizontally to the north and east walls of the bedroom above a wide, salvaged board wainscot 36" high. These wall boards replaced an earlier lath and plaster wall dating from the 1830's. The west wall of the old "bedroom" was moved into the kitchen 1'-5" to enlarge the former room which was turned into a walk-in pantry complete with shelves and base counter along the north wall. A new door was hung at the west opening into the pantry but the original ca. 1830 doors and frames were left intact to the entry hall and cellar. The lath and plaster ceilings located in the old "bedroom" and entry hall were left intact during this work. However the wide finish floor boards in the kitchen and entry hall were removed and replaced at this time with new 3 1/4" wide, T & G, pine floor boards, blind nailed through the tongue with machine-cut nails.

The two south rooms of the shed may have been changed during the remodeling work of ca. 1900. It is possible that the interior partitions were removed
and this area turned into one large room. A small section of a brick flue still survives in the attic of the shed near the center of the room that suggests the possible use of a stove on the 1st floor.

The major changes of the ca. 1900 work occurred on the exterior of the house. Most obvious is the addition of the porches on the south and east sides, and that of the entry on the north side of the lean-to. On the south side, the frontispiece and door of ca. 1830 was removed along with the wall between the chimney posts at the first floor level. A small gable-roofed porch 8'-9" x 6'-1" was built against the sheathing of the south wall, then the wall on the south side of the central stair hall at the first floor level was moved out to a new position two feet south of its original location. In the center of the new enclosed wall was hung two doors: one a new six-panel, one light door with the latest hardware and the other a screened door. The inside walls of the enclosed portion was finished with T & G, V-joint, vertical boards as was the new ceiling area. The open part of the porch, measuring 3'-11" x 8'-9" wide, was supported by two turned corner posts having carved brackets and two side balustrades done in a "Chinese Chippendale" style, all carried by the wood floor of the porch.

The porch on the east side ran the full depth of the house including the lean-to, a distance of 29'-9 1/2". This porch was 5'-3" wide and was covered with a shed roof which intersected the east wall 9'-7" above the foundation wall. The porch had a board floor located at the same level
as the lean-to and framed between the sill of the gable and lean-to and a sill supported on four short posts at the east edge. The space between the floor joists of the porch and the grade was closed by three panels of diagonally crossed lattice work set between the porch piers. Two sets of steps were built, one at each end of the porch. The roof was supported along the side by four turn posts, six feet long, similar to those used on the south porch. The carved brackets on each side of every post at the top and the balustrade along the east side between the posts were identical to those used on the front porch described above. A new four panel door with one large light filling the area above the lock rail was placed in the opening in the east wall of the kitchen lean-to, during the remodeling work of ca. 1900.

Along with the two porches an enclosed gabled entry measuring 8'–3 1/2" x 9'–4" was added against the north wall of the lean-to 21'–5" west of the east corner. The door in the north wall of the lean-to was enclosed by the porch which in turn had a door lasted in the north end wall. The east wall held a six light window, of about one-half of the length of the north porch was removed in 1948 after rot damaged the lower north end of the entry.

Another major change made to the exterior of the house was the replacement of all the window frames except those on the south side of the gambrel portion. On the gable section all the windows of ca. 1830 were removed and the openings enlarged with new frames installed. These new frames were factory made with 1" board jambs and trim fitted with pulleys for
sash weights. Since these frames including for the window weights were several inches larger than the previous ones the wall openings were enlarged by cutting out the old studding and moving them to the edge of the new opening. The frames held two--two light sash installed with sash cord and east iron window weights, that operated both sash the first time. The exterior of each frame was trimmed with three-four inch wide casing boards, the sill of the frame extending an inch and one half beyond the jamb casings on each side.

A zinc flashing was placed above the head casing to protect the top from the weather. The inside of each opening was finished with three casing boards (head and jambs), and a stool and apron. We think similar type frames and sash were used in the east end wall and north wall of the lean-to except here the sash were probably three light over six.

In the east lean-to wall the original studs were cut out and reused for blocking in the new frames, but in the north wall new openings were cut between the original studs. The new frames were placed in all kitchen window openings, as well as in the two new north openings in the west lean-to room. These ca. 1900 sash and frames are in place on the house today.

The window frames in the south wall and dormers of the gambrel were left intact during the remodeling of ca. 1900. These are the only original frames left in the Hartwell Tavern beside the west shed window frame.
The only change being the removal and replacement of the sash by changing the six over nine lights to nine of six. On the west side of the gambrel the window frames of ca. 1783 were removed and replaced with the factory made frames identical to those used on the gable. Instead of two over two light sash, six over six lights were placed in the 2nd floor windows and nine over six lights placed in the two kitchen windows. These sash were also double hung with sash weights located outside the jambs in the wall. The exterior and interior window casing are the same as those used on the gabled portion. The window of ca. 1783 located on the east side of the gambrel was removed at this time and a six over six light sash with weight placed in a modern frame put in its place. A small opening was cut in the east wall of the pantry and single six light sash placed there. This opening was cased in the same manner as the others dating from ca. 1900.

The windows of the shed were also modified at this time. The five attic windows were removed and the openings filled with scraps of boards and wainscotting. Two openings on the first floor were enlarged for new six over six sash in the modern type frames, used on the rest of the house.

After the new windows were set in place a green building paper was nailed over the sheathing then new 5 1/2" wide circle-sawn clapboards
nailed to the wall with four inches to the weather. New clapboards
were applied to the entire house with the exception of the south
gambrel wall and dormers and seven courses of the north kitchen wall.
The verge boards, corner boards, and south cornice dating from
c. 1830 were kept intact. On the gambrel and shed ends new
verge boards were applied over the original ones. Frieze boards dating
from ca. 1830 were left in place on the gable and shed, but changed
on the kitchen lean-to. The body of the house was painted yellow
after the clapboards were put on and the trim white. Green window
blinds were hung on the majority of the openings for the first time
in ca. 1900. The changes of ca. 1900 were the last major ones to be
done to the exterior of the house and represents the appearance of
the building when it was purchased by the National Park Service.

When Edward McHugh's wife Mary died in 1927 at the age of 76, her will
passed the ownership of the Ephriam Hartwell farm to her daughter
Katherine F. McHugh who was named executrix of the estate and authorized
to sell the property. On May 27, 1927, Katherine sold 75 acres of the

46. A telephone call to the Arlington Town Clerk's Office verified
the date of death of Mary McHugh as March 11, 1927. The Ronsheim Research
(op. cit., Hartwells in General p. 6) lists her death as ca. 1927. Also
listed in that file is an excerpt from her will.
farm including all the buildings to her brother John E. McHugh and his wife Mary F. 47 John and Mary had been living in the house since their marriage in 1922, John's mother having moved to Arlington at that time. John died in 1947, but Mary and her son Jack continued to live in the house until 1967 when the property was purchased by the National Park Service.

During the forty-five years the house was occupied by Mary McHugh, numerous changes were made to the fabric at various times. The following list summarizes these changes are recalled by Mary McHugh. 48

Pre-1922 - Town water brought into the house.

In 1922 - A shed dormer built through the lean-to roof and a bathroom installed. Closet floor back of central chimney on 2nd floor rebuilt using rafter from lean-to roof. Closet space used for passageway into new bathroom. A cesspool was dug to the north of the lean-to. The interior of the bathroom was removed during the architectural investigation.

A new, separate flue for the stove in the lean-to kitchen was built.

The first coal burning central heating system using hot water radiators was installed.

The walls of the west chamber were covered with plaster applied over

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47. *op. cit.*; MIMA Deed File Bk. 5102:562-63

48. Mary F. McHugh was interviewed by NPS Historic Architect Orville W. Carroll on May 2 & 3, 1967. A type script of that interview is on files at Minute Man NHP.
expanded metal lath. The west end of the central stair at the girt level also received plaster on wire lath, presumably to hide the chop made in the girt when the stair was changed ca. 1847.

Lightning rod protection installed on roof of house and shed. Existing lightning rods and fittings marked with a 1919 patent date.

In 1923 - Ceiling construction of ca. 1830, consisting of strapping, lath and plaster, removed from lean-to kitchen. New expanded metal lath and plaster installed between the floor joists leaving joists and summers exposed.

East Parlor fireplace rebuilt. New quarry tile hearth laid.

Cellar bulkhead repointed.

In 1925 - Shed east of the house torn down.

In 1927 - Electricity brought into the house for the first time. Aerial cables attached to south wall of house. Service installed in the cellar.

In 1929 - The first fireproof shingles put on the house.

In ca. 1929 - Exterior of house painted white.

In 1930 - Plaster removed from above the mantel in the west parlor.

Sheetrock was installed in its place.

In ca. 1930 - Linoleum laid on floor of kitchen lean-to.

In 1932 - An extension of three feet was added to the chaise house of the shed in order to make room for the Plymouth car purchased in that year.

In 1938 - Hurricane of this year blew down the barn and shed to the northwest of the house. The barn was rebuilt on the original floor using many of the original timbers, but the shed was not rebuilt.
In 1940 - Copper water line laid from house to main on Virginia Road.
In 1948 - New sills put under the gable, gambrel, and lean-to portions of the house. All the ground sills on the gable were changed except a 5'-4" section of the north sill at the west end and four feet of the west sill at the northwest corner. Both the east and north sills were changed, but these alterations appear to be of different ages: the east one being a solid piece, while the north is built up of many smaller pieces. The south sill of the gambrel was also changed at about this time; the replacement being built up of several pieces. The two windows in the north wall of the west kitchen lean-to room were taken out and replaced with one opening located in the center of the room having a six over six light sash.
North entry cut down to its present length of four feet six inches. Seven lally columns were placed at various points under the first floor framing to provide support for sagging timbers.
The coal furnace was changed to burn oil, and a two hundred and seventy five gallon oil tank was installed in the southeast corner of the cellar.
A sump pump was installed in the cellar under the east parlor.
Two steal frame sash installed in the cellar. South window in 1733 cellar moved eastward; new concrete light well built against exterior wall.
In 1950 - Steal frame sash installed in south wall of gambrel cellar.
In 1955 - Cellar bulkhead rebuilt.
In 1957 - The shingles on the gambrel and shed changed.
In 1962 - Sliding doors installed on the south side of the passageway between the east and west chambers to form a closet behind the central chimney.

In 1964 - Roof shingles replaced with the present asphalt shingles. New sash placed in the window in the east wall of the chamber of the gambrel.

Other minor changes were made to the interior of the house during this period but Mrs. McHugh was unable to recall all of them or to specify dates. Mary McHugh was the last owner and occupant of the house prior to its purchase by the National Park Service. In two hundred and twenty four years, the property was occupied by only two families.

H. **NPS OWNERSHIP AFTER 1967**

As noted earlier, the Ephriam Hartwell house was closed upon acquisition by the Park Service. The only changes made to the structure were those needed to maintain the building prior to restoration work. A new oil burner and sump pump were installed in the cellar in order to maintain minimum heat in the building and keep the basement free of water. It was also necessary to put a new roof on the shed and gambrel portions to prevent damage to the interior fabric. Asphalt roll roofing was applied over the asphalt shingles of 1957.

In 1973, the electrical wiring in the house was found to be faulty and was disconnected. Most of the ca. 1927 wiring was removed and temporary
circuits installed, on the 1st and 2nd floors of the main house. When the architectural investigation started, obvious that much of the ca. 1900 woodwork had to be removed to study the original building. The first areas of study were the central stair and chimney areas of the gable and the lean-to. The entire interior of the 1922 bathroom in the attic of the lean-to was removed. Boards used in the floor and wall construction were found to reused from other locations in the house. Many of these boards were later identified as coming from the old closets behind the central chimney on the 2nd floor. The passageway between the bathroom and the two chambers in the gable was also taken apart and the central chimney exposed on the north side. The plaster and wire lath on the west chamber walls were removed exposing the original wainscotting. The plaster ceiling of that room was also removed to reveal the original exposed joist ceiling and location of the cross partition dating from ca. 1752.

On the first floor of the kitchen lean-to, the east pantry dating from ca. 1900, was removed and the evidence of the earlier wall construction in that area revealed. The modern stoves and plumbing fixtures were taken out of the kitchen and along with the pantry shelves were stored in the barn. The floor boards along the north wall of the kitchen and pantry were taken up to expose the floor framing and the crawl space below. In the west room of the lean-to, a modern plaster board was
removed from the north wall and the much altered studding of that wall exposed. The south and north floor boards in this room were removed to study the floor frame of the lean-to and 1733 house. Sections of the wall plaster along with several floor boards in the garrett room of the lean-to were removed to expose the framing of the ceiling and the connection between the lean-to and the gambrel. The flooring removed during the investigation has since been replaced.

In order to determine the changes made to the central stair the lath and plaster was removed from the east, west and north walls and ceilings on the 1st and 2nd floors. Marks left by the treads and risers of the original stairs on the 1st and 2nd floor were found on the vertical boards facing these walls. The lower five steps and platform of the stairs were dismantled revealing the ghost outline of the original stairway. These parts of the stairway were subsequently replaced (see Photo Illustration Nos. 19 and 20).

Evidence of the attic stairs was found on the east, west and north walls on the 2nd floor; its width and length determined by the cut left in the original attic floor boards. The fiber board that had been applied to the south wall of the second floor stair hall and the entry below were removed to expose the wainscotting boards on those walls. With the removal of the ceiling from the 1st floor entry, mortices for the original studding were found in the underside of the south girt; these
pockets fixing the location of the first door opening in 1733.

A great deal of time was spent during the architectural investigation on the space between the gambrel and the 1733 house, particularly on the 1st floor. We removed the ca. 1900 closets built by the McHughes then dismantled the wall between the connecting link and the West Parlor. Several of the reused wall boards were pieced together by matching the ca. 1820 wallpaper or painted surfaces found on these boards but a clear-cut understanding of the alterations in this area between ca. 1783 and ca. 1900 was not definitely established.

The investigation of the exterior fabric began on the east wall of gambrel addition with the removal of the verge boards, clapboards and window frame. This exposed the original wide, featheredged pine sheathing boards having lapped ends and nailed with hand-wrought nails. By marking the holes in the sheathing made from the ca. 1900 clapboard nails, the nailing pattern left behind by the original clapboards was readily determined. The area around the chamber window opening had been altered at least twice, once in ca. 1830 and again in ca. 1900. This evidence was recorded in field notebooks and later used in the preparation of the restoration drawings. (See Photo Illustration No. 8.)

The examination of the lower portion of the gambrel wall revealed that the existing pantry window was installed with wire nails, probably
dating from the work of ca. 1900. The exterior frame of the pantry wall had deteriorated to the point that we were unable to determine its original conditions. However, we think that no window existed here until ca. 1900.

The investigation of the exterior continued on the north lean-to wall, the east, west and south walls of the 1733 house in the same manner as described above. On the north wall of the lean-to, seven courses of circle-sawn clapboards, partly fastened with machine-cut nails, were removed from the upper east end of the wall. We found no other nail holes beneath these clapboards indicating that the wall was first covered after circle-sawn clapboards and machine-cut nails were manufactured. Several sheathing boards were removed from the north wall of the lean-to revealing that these too were nailed with machine-cut nails for the first time. No other nail holes were found in the studding beneath the boards. The window openings showed that all the original frames (See Photo Illustration No. 17) had been replaced, but only three of the seven openings existed in the original construction.

The west end of the lean-to roof was opened to expose the roof sheathing, rafters and north wall of the 1733 house. The sheathing on the east end of the lean-to and gable was found to be continuous across the old and new construction indicating that the existing sheathing was installed when the lean-to was built in ca. 1830. These wall boards on the 1st
and 2nd floors of the east gable wall contained the daps cut out for the window sills installed in ca. 1830.

The original sheathing was found in place on the south wall above the 1st floor girts on and showed two sets of clapboard nail holes; ones from 1733 and those from ca. 1830. The window openings, although much modified, showed evidence of two window frames installations prior to the present ones of ca. 1900. The removal of the clapboards exposed on the west gable end the original sheathing and the window opening of ca. 1783 before it was filled in during the ca. 1900 remodeling work.

Investigation work moved to the west side of the gambrel and shed where the clapboards and windows were removed. Measured drawings of the structural frame and the sheathing were made of this wall. Examination and recording of the shed wall followed with the removal of the clapboards of the clapboards from the east, west and north walls. These were nailed back in place by a local carpenter hired for this purpose. Most of the ca. 1830 clapboards were taken off the south wall of the gambrel leaving the original window frames and trim in place. This work can be seen in Photo Illustration No. 12.

During the course of the investigation, a fire alarm was installed in the building following a series of arson incidents in the immediate area. An ionization type detection system was connected by telephone circuit to the Town of Lincoln Fire Department.
III. **EXISTING CONDITIONS**

A. **EXTERIOR**

1. **Foundations and Walls**

The foundation walls above grade are generally in fair condition. The only exception to this are the shed walls. In this area, the stone foundation walls have fallen and are no longer supporting the sills of the shed. As a result of contact with the ground the sills have rotted considerably along all sides of the shed and in some instances the lower ends of the posts have been affected. The most severely rotted areas are at the juncture of the shed and the gambrel addition the first and second floor levels where sills, girts and posts are nearly gone. At the southwest corner of the gable, the sills have been replaced, but the rotted end of the corner post was not repaired. Elsewhere throughout the sills are sound, but the replacement pieces vary in size and appearance and show little resemblance to their original counterparts.

The frame of the house including the sheathing is in good condition, although many of the sheathing boards at sill level have been recently replaced along with the sills.

2. **Windows and Doors**

The existing windows of ca. 1900 are in fair condition. Vandalism has taken its toll in broken window glass, so the windows have been covered with a layer of sheet plastic and heavy hardware cloth.
The cellar bulkhead door on the west side of the gambrel was rebuilt in ca. 1900 and again in 1955, but has rotted to the point of collapse.

3. **Roof**

The roll roofing put on the gambrel and shed in 1972 is in good condition. The roof of the gable and lean-to dates from 1964 and while it is still weather tight, is only in fair condition. The roofs of the north entry and south porch are in good condition, but that of the east porch is in poor shape with several holes through the shingles and the roof sheathing. The original sheathing of the other roofs has been patched in some places with modern boards and is in fair to good condition.

4. **Chimneys**

The gable chimney of ca. 1847 and the gambrel chimney have been repointed several times over the years and are in good condition. The kitchen flue of ca. 1922 is missing several bricks from the top two courses but is otherwise in good shape.

B. **INTERIOR**

1. **Gable Portion of 1733**

   a. **Cellar**

   The earth floor of the cellar under the gable portion has eroded away over the years by water leaking through the east foundation wall. The main leak occurs at the northeast corner of the cellar where the
east foundation wall of the lean-to joins the wall of 1733. The seepage is presently removed by a sump pump but high humidity caused by the water induces fungus to grow on the floor framing members. No significant leaks have been noticed on the other cellar walls. The vaulted chimney base is in good condition. The oil fired furnace located on the south side of the chimney has been disconnected since the completion of the architectural investigation, thus the house has been unheated since the spring of 1975. The existing electrical panel is located on the south wall of the cellar but it is badly rusted as a result of the dampness.

b. **First Floor**

The walls, floor and ceilings of the East Parlor are in generally good condition except for a section of the ceiling near the west wall at the center of the room. Here the lath of 1733 has separated from the ceiling joists and a portion of the plaster has fallen. The door between this room and the lean-to is on the premises, but not hung in its opening, rather, a plywood temporary door has been hung to retain heat in the parlor.

The West Parlor is in fair condition despite the extensive work done there during the investigation. Holes were cut through the ca. 1900 ceiling plaster in order to check for evidence relating to an earlier ceiling. Two ceiling areas were checked; one in the northwest and southwest corners and a strip along the north side of the summer beam. (See photo illustration nos. 6 and 7). The walls are in fair condition. Several of the quarry tiles in the ca. 1923 hearth are loose. The fabric
removed from the walls of the room has all been replaced except the west
wall baseboard.

c. Second Floor

The east chamber is in good condition except at the
original fireplace location. This section of this wall was removed during
the investigation to determine the size of the original fireplace opening.
The section of plaster above the ca. 1847 mantle was removed in one piece
and saved for study purposes. The mantle shelf and the vertical boards
forming the recess were also removed; these have been nailed back in
place. The remainder of the wall fabric removed during the investigation
has been re-installed.

The West Chamber is in fair condition. The plaster of
ca. 1922 was removed from the walls to expose the original wainscotting.
The ceiling plaster of ca. 1847 was also taken down, but the lath nailers
left in place. The original floor boards are intact. All fabric which
was removed has been replaced.

d. Attic

The floor and roof of the attic are in good condition,
but the room at the east end of the attic space can only be called fair,
as the plaster is falling from the walls and ceiling of this area. There
is no structural damage visible at this level of the gable portion of
the house.
2. **Gambrel of ca. 1783**

a. **Cellar**

Leakage is a problem in the gambrel basement. The main area of leakage is from the northwest corner of the foundation wall. The surface water is drained to a sump pump located in the gable by means of a trench cut in the dirt floor of the two cellars. The high humidity caused by constant moisture is damaging the structural framing of the first floor. The stone steps of the cellar bulkhead in the west wall have collapsed and are in partial ruins. The door located at the base of the bulkhead is in place, but its frame is rotted and the door no longer closed. The chimney base is in good condition.

b. **First Floor**

The parlor of the gambrel is in good condition. The window frames and trim are the original as is the rest of the wood trim and the plaster of the space. The plaster is strong and presently has on one coat of wallpaper dating from around 1900. The painted ceiling has deteriorated severely on the east side of the room but enough remains of the west half to record the design and color schemes. The floorboards are sound and the hearth is in good condition. The window sash has been changed; the present-day sash dating from the 1900's.

The kitchen on the north side is in fair shape. The south and east walls and the floor are in good condition but the west and north walls have only part of their plaster remaining. The ceiling of
the kitchen extension on the north end has lost most of its plaster, but the remaining ceiling is in good shape. The original woodwork is intact on the south wall and is in good condition despite its many layers of paint.

The stairway once leading to the cellar from the passageway was removed about 1900 and boarded over. In 1974 the boarding was removed and this space in the floor left open. The cellar door at the top of the stair is still in place and closes off the opening. The pantry at the east side of the gambrel is in good condition except the loose plaster between the east shelves. The front entry, at the southwest corner, is in fair condition, but the main door needs repair and rehung on its strap hinges.

c. Second Floor

The main space of the second floor is the chamber and it is in good condition overall. The only problem with the finishes in this room is that the ceiling plaster at the northeast corner is coming loose from the lath. While none of the palster has fallen, this area is in need of repair. The remainder of the ceiling, the floor and the walls are in good condition. The closet of the connecting link, off the southeast corner of the gambrel chamber, is in fair condition, with some of the plaster missing from the west and north walls. The top of the front stair, at the southwest corner of the gambrel is in good condition, but the finishes of the small room off the northwest corner has severely deteriorated. In this, the plaster on three walls is cracked and falling. The floor is in good condition. The woodwork near the back stairs at the northeast
corner is in good condition except for the rot in the east plate and girt which is visible from this area. The lower part of the stair is in poor shape with the bottom four treads being loose or broken from their fastenings.

3. Additions of ca. 1830

a. First Floor of Shed

The walls and ceiling of the shed on the first floor are in good condition but the floor is in poor shape, especially at the south end. Here the sills have rotted causing the entire floor to settle about three inches. The floor at the southeast corner is completely rotted however; most of the floor is still intact although soft in spots.

b. Attic of Shed

The shed attic is in good condition, the only rot occurring at the northwest corner of the floor over the chaise stall door. Here, the supporting timber under the floor has been replaced. The remainder of the floor is sound as are the walls and roof.

c. Cellar of Kitchen Lean-to

The cellar at the east end of the kitchen lean-to is generally in good condition, the foundation walls and floor framing being stron. The leakage described in the gable cellar section occurs at the junction of the two foundation walls on the ast side and is the major problem in the cellar today. The water has completely rotted the bottom track of the lean-to stairs. The two summer beams under the middle of first floor of the lean-to are askew to the rest of the frame. At present,
the tenons are rotted and no longer connect to the north plate. The remaining area under the first floor is unexcavated except for a trench dug along the north wall when the sills were replaced in 1948. This area is dry and the timbers free from rot.

d. **First Floor Lean-to**

Overall, the first floor of the lean-to is in poor condition. The subfloor and floor joists are substantially rotted along the north wall of the structure. The pantry of ca. 1900 has been removed along with the door frame and door from the kitchen to the east passageway. The north wall of the kitchen and pantry are in poor condition. The wainscotting having been removed from the east end of the wall, as well as the plaster from parts of the center and west ends. The wainscotting of ca. 1830 was patched sometime during the McHugh years, boards placed and is now a mixed construction of two different types of boards. The casing around the plumbing serving the bathroom upstairs has been removed.

The west wall of the kitchen is in good condition, as is most of the south wall, although some of the plaster has been removed from the east end. The ceiling of ca. 1923 is in fair shape, several holes having been made by rotting of the metal lath. The stair stringers to the lean-to attic are in poor shape and are presently-being supported by temporary shoring.

The west room of the first floor of the lean-to is in fair to poor condition. The floor is in good condition; the boards taken
up during the study have been returned to their original location. Because of the numerous window changes in the north wall the studding is only in fair condition, being much patched and replaced. The gypsum board taken down from this wall during the investigation has been put back. The ceiling in this space is mostly intact, although loose in the area around the thimble installed for the stove pipe.

e. Attic of the Lean-to

The lean-to attic is in fair condition overall. The floor is in good shape, as is the vertical board partition of the east side of the garret room. The roof rafters are cracked at the north end where they rest on the plate; several of them being supported by temporary shoring. The exposed roof and wall sheathing is in good condition, as is the dormer roof of 1922. The plaster in the garret room is in poor shape, the entire north wall and parts of the west wall and ceiling have either fallen or been taken down.

IV. EXISTING UTILITIES

A. HEATING SYSTEM

The oil-fired hot water boiler installed in 1948 by the McHughes is the only heating system in the Hartwell Tavern. The present oil burner and fire chamber were installed in 1972 by NPS and are in good working order. All radiators have been removed from the house except five which are located in the parlors, chambers and entry of the 1733 house. Now that the boiler was made inoperative in 1975 the entire house is without heat. The gambrel addition was always heated by open fireplaces or stoves.
the lack of heat seems to have had no adverse effect on the interior except the house frame in the cellar which shows damage from fungus.

B. ELECTRIC SERVICE

The present electric service was installed in 1927. The cables attach to the south wall of the gable from the pole across Virginia Road. The service was disconnected from all but four circuits of the house by Park employees in 1968. Some of the original wiring is still in place, but most of the fixtures have been removed. The original panel box and meter are located on the south foundation wall under the East Parlor, but only the meter is connected. A new panel box was installed to handle circuits to the boiler, sump pump, heating cables and two circuits to the first and second floor. A heating cable was installed on the water pipes in the cellar in 1973, after the pipes had frozen and burst during a heating failure that year.

C. WATER

Water from the Town of Lincoln is supplied through a copper pipe passing through the south foundation wall in the southeast corner of the cellar. A water meter is located in this same area. The pipes supplying water to the bathroom and kitchen have been removed, leaving only the boiler water supply connected.

D. GAS

There is no natural gas service to the Hartwell Tavern at present. The gas main is located near Massachusetts Route 2A, approximately 1,000 feet
south of the house. It is unlikely that the Boston Gas Company would consider installing a gas service of such length. Fuel oil is the only means suitable for heating purposes.

E. SECURITY SYSTEMS

An ionization type fire detection system was installed in the Hartwell Tavern in July of 1974. These detection devices were taped temporarily to the ceilings throughout the structure. The system is feed off the panel box installed by NPS in 1968, and is connected to the town of Lincoln Fire Department by means of a telephone circuit. In addition, a gong is located in the lean-to to alert anyone in the building in case of fire.

V. PROPOSED RESTORATION AND USE

The Interpretive Prospectus recommends that the Hartwell Tavern be restored to its 18th century appearance with the gambrel in place and a living farm created. At the conclusion of our investigation and assessment of the historic fabric, we feel that this cultural resource is best treated by retaining and restoring all of the existing structure, including the lean-to and shed of ca. 1830.

The reasons for retaining the present lean-to are several. First, when the Master Plan for MIMA was written, it was thought that the existing lean-to dated from the eighteenth century and that it would be retained as part of the tavern. This is not the case, since we now know that the present lean-to did not precede the cut nail and circle sawn clapboard era.
Despite the dearth of evidence, we have concluded that there was an earlier lean-to, and that it was standing during the period the house was operated as an inn. The evidence indicates that the earlier structure was probably similar in dimension and construction to the present structure, except that the roof pitch was lower. Second, although we know there was an earlier structure in this area, we cannot be sure of how it was built, how it was finished, whether it was divided, or what its use was. To try and reconstruct this earlier lean-to on the little evidence we do have would be very difficult and the result mostly speculation. The third reason for retaining the present lean-to is the condition of the west end wall. If the present lean-to were taken down and the gambrel walls exposed the east wall of the gambrel would have to be closed in some manner to make the building weather tight. Since this wall was never an exterior wall, new fabric would have to be added to an area where none previously existed. This course of action is in direct conflict with our goals of historic preservation in the National Park Service. Finally, we have most of the original fabric from the lean-to of ca. 1830 although it is in need of careful repair. The Prospectus calls for the reconstruction of the shed to the east of the house for use as a Visitor Contact Station, but we have very little information on that building. Rather than reconstruct a separate building at this time, we have proposed to use the kitchen lean-to and portions of the ca. 1830 shed for visitor contact functions. In the case of the lean-to, the two exterior doors and two interior within the main house make it the more suitable to receive visitors here prior to touring the restored house and tavern.
The need for saving the shed of ca. 1830 are much the same as those for saving the gambrel and lean-to. Although it did not exist during the Revolution, the construction and style of the shed are consistent with late 18th century buildings found in New England. It is also part of the Hartwell family history. The removal of the shed would result in the reconstruction of the north gambrel wall and roof; while this is possible it would involve much conjecture on the part of the architect. The shed should be restored to the uses it was built to serve, or used to meet the present day needs of visitors to the site. We favor the latter course as the shed is in good condition and could easily be adapted to a modern use, (such as comfort stations) with minimal damage to the historic fabric. This would remove such facilities from the more valuable gable and gambrel sections of the building.

We recommend that all four sections of the Hartwell Tavern be restored as closely as possible to the condition in which each was first constructed with the interfaces between the various sections being restored to the period of the latter addition. All alterations made after the original construction should be removed and the fabric restored to the earliest condition. The lean-to kitchen should be restored to the condition of ca. 1830, but used as an adaptive visitor contact station, with visitation access through the door in the east wall. The first floor of the gable portion should be restored to the period of 1756-1775, when tavern licenses were granted to Ephriam Hartwell. These areas could be furnished with reproduction furniture and opened to the public. Since it is likely that
the west parlor was the public tavern and the east parlor was used by the family, these rooms could be furnished in a manner which tells the story of both the tavern and the farm life which went on simultaneously. We believe that the experience of being in an 18th century tavern would be further enhanced by the serving of period foods and beverages, as recommended in the Prospectus. This activity would take place in the west parlor while the preparation of food and drinks would take place in the west room of the lean-to. This room would require the installation of certain modern conveniences such as stoves and refrigerators. The door between the west parlor and the gambrel addition should be left to provide the visitor access to the first floor of the gambrel in the event the gambrel parlor and kitchen are restored and opened to the public. The gambrel should be restored to its 1783 appearance and furnished with reproduction pieces and artifacts based in part on the inventory taken in 1786. The two upstairs chambers could also be restored to the appearance of 1775, with the west chamber partitioned and furnished as the sleeping spaces for guests at the tavern and the east room fitted as family sleeping quarters. The east end of the lean-to attic should be restored but left empty, the lean-to stair providing an alternate egress from the chambers. Since access to the 2nd floor is difficult and dangerous only the parlor and kitchen of the gambrel should be opened to the visitor. The other areas of the building should be restored, but only opened to special tours. We recommend the shed be put to an adaptive use as restroom facilities for the public and staff. We propose to restore the exterior of the shed to its appearance in ca. 1865 in order to keep the original wall sheathing boards intact, yet still
provide a watertight exterior.

The showing of the site as a working farm of the period, as suggested in the Prospectus, will require the construction of additional out-buildings and the rebuilding of the existing barn above the 1st floor level. Land will need to be cleared, stonewalls rebuilt, wells and roads reopened.

We believe that the restoration of this building would be most effectively handled by a day labor force directed by a historical architect. The complexity of the work proposed, including the replacement of rotten timbers, will require decisions to be made during the construction process, some of which cannot be made intelligently before more fabric is removed. With an architect on the job in direct control, the number of working drawings required would be reduced. In recent NPS jobs, day labor has proven the most reliable method of insuring the historic integrity of the restoration with the minimum of complications. The proposed restoration of the house as both a house and a tavern will dovetail perfectly with the development of the site as a farm and will result in a reasonable approximation of the condition of the area in 1775.

VI. ARCHITECTURAL RECOMMENDATIONS

A. PROPOSED STRUCTURAL WORK

1. 1733 House

   a. Replace all modern foundation sills with pressure treated timbers to match the existing sills.
b. Excavate exterior of foundation walls and parge with waterproof cement mortar, install drain.

c. Repair rotten sections of posts, studding, and braces.

d. Replace original studding moved in window changes to their original positions; repair missing sections with material of the same dimension.

e. Insulate all exterior walls in the areas where the original brick nogging is missing.

f. Remove existing cellar window in south wall and relocate to original position as shown on sheet No. 7 of the restoration drawings.

2. Gambrel of 1783

a. Replace entire south, west and north sills, as well as the north end of the east one with new material of the same dimension as the original.

b. Excavate exterior of foundation walls to bottom and parge with waterproof cement mortar. Install foundation drain at bottom of wall on all sides.

c. Check bottoms of posts for rot and decay; replace bad sections with matching material.

d. Replace northern half of lower east girt with a new piece of the same dimensions; replace rotted portion of lower north plate at east end.

e. Return all original studding to original locations. Insert missing sections with new material of same dimension.
f. Insulate all exterior walls of the gambrel; insulate attic ceiling.

g. Reinforce first floor framing with steel columns in cellar at points of greatest deflection.

h. Rebuild stone steps in cellar bulkhead.

3. **Lean-to of ca. 1830**
   a. Excavate exterior of cellar foundation walls and parge with waterproof cement mortar. Install foundation drain on both sides.
   
   b. Replace cast and north sills with a piece to match the dimensions of the originals.
   
   c. Remove all modern studding from the north and east walls. Return all original studding to original locations. Splice sections missing from original studding.
   
   d. Reinforce northern ends of rafters with an epoxy resin.
   
   e. Replace section of missing rafter removed in 1921.
   
   f. Reinforce the first floor joists.
   
   g. Insulate exterior walls.

4. **Shed of ca. 1830**
   a. Excavate the south west corner of the shed and remove dry well located there. Replace surface drain under roof valley.
   
   b. Rebuild collapsed sections of foundation wall.
   
   c. Repair foundation sills with matching material.
   
   d. Repair rotted posts.
   
   e. Raise south end of shed three inches to bring first floor
in line with the floor of the gambrel kitchen.

f. Replace framing timber located over entrance to the the chaise house door with piece to match dimensions of other framing. Use original mortice locations. Build new double doors; hang on reproduction hinge.

g. Return all studding to the locations they were in in ca. 1860 and replace all missing sections with lumber of the same dimensions.

B. PROPOSED EXTERIOR RESTORATION WORK

1. 1733 House

a. Repair sheathing boards; insulate walls.

b. Remove patches in sheathing at window openings, and fill present opening to the size of original windows with boards to match original sheathing.

c. Remove porches from east, north and south walls.

d. Rebuild wall at front porch, frame opening for the front door.

e. Rebuild frontice piece and double doors as shown on sheet Nos. 2 and 7 of the restoration drawings.

f. Restore window frames of 1733 design in all window openings in the east and south wall, and attic of west wall. Nail each frame to studs with four hand-wrought spikes, one located at each end of the sill, and one in the upper part of each jamb.

g. Restore new window frame matching 1783 design in west
wall of west chamber. Fasten with four hand-wrought spikes similar to those of 1733.

h. Remove clapboards of ca. 1900 and reclapboard with pine clapboards smoothed on both sides. Clapboards should measure about 4 1/4" in width, 9/16" butt with lengths not to exceed 4' 6". All ends to be lapped. Clapboards to be nailed with hand-wrought, rose-headed nails at intervals between ten and twenty inches apart. Lap south wall past gable ends one-inch.

i. Remove bed and crown moldings of ca. 1830 and replace with moldings in the style of 1733, mitering the bed molding around the heads of the upper window frames along the south wall.

j. Restore tapered verge boards along rake of the east and west gable end walls and nail with hand-wrought nails. Boards should taper from 4 1/4" to 3 3/4" at peak of roof.

k. Remove lightning rods, cables and connectors from roof.

l. Remove asphalt shingels and repair roof sheathing.

m. Shingle roof with hand-rived white pine shingles, tapered and smoothed on both sides. Overhang shingles at eaves and on both gable ends.

n. Cover peak of roof with combboards.

o. Remove paint from fascia, soffit and frieze boards on south wall and treat unpainted surfaces with a waterrepellent material such as "Hydrogo."

2. Gambrel of ca. 1783

a. Remove modern clapboards.
b. Repair sheathing boards; fill in pantry window opening, in east wall.

c. Restore window frames of 1783 design in the four west openings and one in the east wall on the second floor. Fasten with four hand-wrought spikes as described earlier.

d. Cover sheathing with hand-rived pine clapboards measuring in 4 1/2" in width. These clapboards should have lapped ends and be placed with an average of 3 1/4" to the weather. Nail with hand-wrought rose-headed nails, about twelve inches apart.

e. Remove clapboards from dormers and replace with reproduction clapboards.

f. Repair front door of ca. 1830.

g. Remove asphalt roofing and repair sheathing as necessary.

h. Re-shingle roof with hand-rived white pine shingles, tapered and smooth on both sides. Overhang shingles at eaves and along verge boards.

i. Cover peak of roof with comboards.

j. Replace crown moulding now missing from the joint between the upper and lower south roofs; match existing molding on the dormers.

k. Remove paint from all exposed woodwork of ca. 1783.

l. Treat all unpainted surfaces with clear water-repellant substance such as "Hydrogo."

m. Rebuild cellar bulkhead as shown on sheet Nos. 2 and 3 of the restoration drawings.

3. Lean-to of ca. 1830

a. Remove entry of ca. 1900 from the north wall.
b. Remove modern clapboards; retain upper seven courses of ca. 1830 clapboards.

c. Repair sheathing at sill level after new window and door frames are installed.

d. Install three reproduction window frames of the ca. 1830 design in their original openings; nail with spikes; two located in each jamb.

e. Install two new doors with trim of the 1830 style in the east and north wall openings.

f. Restore frieze board above clapboards along the north wall; reuse existing verge board at rake of east roof. Nail with machine-cut nails.

g. Reuse existing corner boards on northeast corner of lean-to. Install new board at the junction of the lean-to and gable portions on the east wall. Install interior cornerboard at west end of north wall, and scribe to fit gambrel clapboards.

h. Cover wall sheathing with circle sawn clapboards measuring 5" in width and showing an average of 4" to the weather. These clapboards should have lapped ends and be nailed predominately with machine-cut nails.

i. Remove 1922 dormer and existing roof shingles.

j. Repair roof sheathing and replace modern patches with boards matching the original sheathing. Nail with machine cut nails.

k. Cover roof sheathing with circle sawn shingles nailed with machine cut nails. Overhang shingles to cover frieze board on the north
wall and the verge board on the east end.

1. Treat all unpainted surfaces with clear water-repellant such as "Hydrogo."

4. Shed of ca. 1830
   a. Remove ca. 1900 clapboards and modern sheathing from the east, north and west walls. Remove modern patches from the attic windows.
   b. Remove 1932 addition from the east wall of the shed.
   c. Replace modern sheathing with boards matching the original ones; nail with machine cut nails.
   d. Restore windows of the ca. 1860 design matching casing widths with the grooves in the original sheathing; nail through jamb and head casings with machine-cut nails.
   e. Install corner boards at northeast and northwest corners where missing; match widths to the existing grooves. Nail with machine-cut nails.
   f. Install new trim board at the south end of the west wall at the intersection with the gambrel.
   g. Repair original door and rehang in south end of east wall. Trim opening with casings to match existing grooves. Hang door on butt hinges and replace thumb latch. Nail casings with machine-cut nails.
   h. Build new board and batten doors for the west wall. Size widths of casings to fit the groves in the sheathing. Hang chaise stall door with hand-wrought strap hinges and pintles; use existing pintle holes; hang south door with similar hardware. Nail casings with machine-cut nails.
1. Cover wall sheathing with machine-sawn shingles having a maximum width of eight inches and nailed in courses to match those put on in ca. 1865.

j. Remove asphalt roofing. Repair and patch sheathing boards.

k. Re-shingle roof using circle-sawn shingles. Overhang shingles to cover frieze boards and verge boards.

l. Remove modern door from north gable end.

m. Strip paint from original frieze and verge boards.

n. Treat all surfaces with waterrepellent and leave unpainted.

C. PROPOSED INTERIOR WORK

1. 1733 House

a. Cellar

1. Excavate earth from floor to a depth of twelve inches below bottom of the niches in the vault of the chimney base.

2. Grade floor with a uniform pitch to floor drain.

3. Place four inches of gravel, a plastic vapor barrier and a four inch concrete slab in cellar. Cover slab after curing with four inches of earth to preserve earth floor appearance in space. Install floor drain at lowest point of floor, connecting to foundation drainage system.


5. Repoint joints in masonry work.

6. Install new wooden window sash and frame in the south
wall of cellar as shown in new location on restoration drawings.

7. Remove existing joists in east parlor floor and replace with 3" by 4" oak, vertical sawn members located in the original pockets of summer beam.

8. Reinforce west parlor floor.

9. Replace joist over opening to brick vault.

10. Whitewash all wood surfaces exposed in the cellar.

11. Replace modern joists in floor of central hall with 3" by 4" oak members set in the original pockets.

12. Remove the panel box and wiring of 1927.

b. **East Parlor**

1. Remove existing floor and sub-floor and replace with new floor to be two layers of wide square-edged boards of varying widths face nailed to the new joists with hand-wrought T-headed nails. Top floor to be hand planed.

2. Remove radiator from room.

3. Remove existing electric fixtures, outlets and wiring.

4. Install new brick hearth. Bricks to match those of 1733 found in the chimney base.

5. Install window trim on inside of frames in openings in the east and south walls. Trim to be of 1733 style and nailed with hand-wrought nails. Insert six over nine light sash in the frames and apply sash stop.

6. Repair the plaster wall around the new window trim,
matching the adjoining original palster.

7. Repair the plaster ceiling; renail the loose lath and plaster with matching materials.

8. Remove the construction of ca. 1847 from the north end of the west wall.

9. Rebuild chimney breast and closet door opening in west wall.

10. Repair chaffrail.

11. Remove the paint from all exposed woodwork and repaint with historic colors.

12. Remove paint from plaster ceiling of 1733.

13. Remove wallpaper.

14. Remove floor register from the ceiling and patch openings.

c. West Parlor

1. Remove radiator.

2. Remove existing finished floor from room and replace with a new finished floor of wide pine boards. Face nail with T-headed hand-wrought nails.

3. Remove ca. 1900 quarry tile hearth and replace with new brick hearth with bricks to match those of 1733.

4. Remove ca. 1900 window trim from windows of south and west walls.

5. Repair wainscotting of south wall after window openings are restored to the size required for windows of 1733.
6. Fill window opening in west wall with matching wainscot boards.

7. Replace window trim in south wall with that shown on the restoration drawings, sheet Nos. 5 and 7.

8. Install six over nine light sash in south wall window frames.

9. Reinforce eastern ends of connecting link floor joists.

10. Remove existing boards and doorways in the west wall.

11. Replace oak studs and diagonal brace in west wall.

12. Rebuild partition of 1783 in the connecting link, west parlor.

13. Hang and trim new board and batten door in the west wall as shown on the restoration drawings sheet No.8.

14. Replace horizontal wainscotting boards on the north end of the west wall, matching those on the south end. Nail with hand-wrought nails.

15. Remove nine over six light sash from the window in the south wall of the connecting link, repair the frame, and install new six over nine light sash matching those from 1783.

16. Remove all paint and wallpaper from the surfaces of the connecting link.

17. Remove lath and plaster from ceiling.

18. Remove electrical wiring of ca. 1927 from parlor and connecting link. Fill all holes left by removal with material to match original.
19. Move door from opening leading to basement to opening leading to entry hall and hang on T-strap hinges with battens facing room. Construct new board and batten door for cellar opening.

20. Remove all exposed woodwork including ceiling boards and floor boards from parlor connecting link.

21. Clean and repair all original wainscotting on south, west and north wall.

22. Remove plasterboard from above fireplace opening.

23. Paint woodwork below level of girts and summer.

d. **Entry and Central Stair**

1. Remove radiator.

2. Remove modern floor and sub-floor at first floor and replace with two layer wide pine boards matching the original boards in the west chamber. Nail to new floor framing with hand-wrought T-head nails.

3. Apply new horizontal wainscotting to new wall studding of the south wall.

4. Trim door opening for new front doors on south wall and install transom.

5. Hang new front doors with reproduction hardware, T-strap hinges, rimlock and dead bolts; install locking bar. See sheet No. 7 of the restoration drawings.

6. Rebuild stairway according to sheet Nos. 6 and 7 of the restoration drawings.

7. Remove electrical fixture and wiring of ca. 1927.

8. Construct a new wall of vertical wainscotting boards
below the stair in the first floor entry hall.

9. Replace modern boards in west wall of entry hall with vertical wainscoting boards to match those existing in the west parlor.

10. Remove lath of ca. 1847 from lower east wall of stair hall.

11. Replace lath missing from east wall with hand-rived lath nailed to vertical boards with hand-wrought nails. Patch plaster above and below existing section with plaster matching the mix used on the original finish of the wall.

12. Plaster brickwork on north wall of stairway.

13. Repair west chimney girt.

14. Reconstruct attic stairs as shown on sheet Nos. 6 and 7 of the restoration drawings.

15. Repair wainscoting on 2nd floor, southwall.

16. Install trim of 1733 style around second floor window and insert six over nine light sash in the frame. Nail trim with hand-wrought nails.

17. Remove lath hangers and strapping from ceiling at second floor level.

18. Remove paint from all exposed woodwork including ceiling boards.

19. Paint stair trim and wainscot on the first floor grey (5 GY 5/1). Leave plaster wall, ceilings, floors, treads and risers unpainted. Leave wall and opening trims on the second floor unpainted. Paint inside of front door and trim of all doors on the first floor.
e. **East Chamber**

1. Remove radiator and pipes.
2. Remove electrical fixtures and wiring.
3. Remove existing hearth.
4. Patch original floor boards using matching material.

Repair holes left by removal of floor register, heating pipes etc.

5. Install window trim of 1733 style in east wall and south walls. Insert six over nine light sash in the window frames and apply sash stops. Nail trim and stops with hand-wrought nails.

6. Repair plaster on east and south walls. Use plaster matching the original.

7. Rebuild chimney mantel on the west wall, and replace handsplit lath and plaster above mantal. See sheet No. 6 of the restoration drawings.

8. Repair ceiling plaster.
9. Remove paint from all exposed woodwork.
10. Remove paint from plaster wall and ceiling.
11. Leave all plaster and woodwork unpainted.

f. **West Chamber**

1. Remove radiator and pipes.
2. Remove electrical fixtures and outlets.
3. Remove existing brick hearth.
4. Repair floor sheathing.
5. Remove ca. 1900 window frames and trim.
6. Install 1733 style trim in the openings in the south wall. Install six over nine light sash and sash stops. Nail with hand-wrought nails.

7. Repair wainscotting in the west and south walls with matching boards.

8. Remove patch from ca. 1783 opening in the west wall and insert ca. 1783 type window frame. Trim to match that of ca. 1783; insert six over six light sash in the frame. Nail trim and sash stops with hand-wrought nails.

9. Construct a new vertical board partition running east to west across the chamber, following the line of the original partition, angling it across the west window as shown in proposed restoration drawings on sheet No. 4. Build new board and battan door for the east end of the partition.

10. Move the existing closet door to the south stairhall opening; repair door to fit opening. Rehang closet door of 1733 found in lean-to attic. Replace hardware.

11. Build new chimney breast as shown on sheet No. 8 of the restoration drawings.

12. Remove existing lath strapping and hangers from ceiling joists.

13. Clean and repair all wainscotting in the room.

14. Remove paint from all exposed wood surfaces including ceiling and floor boards; leave woodwork unpainted.
g. Central Chimney

We have submitted two heating proposals for reconstruction of the central chimney area of the gable portion. These heating proposals are presented in the following section entitled "Proposed Utilities." The following work will be required in either proposal:

1. Remove the brick flues and parlor fireplace above the floor of the smoke chamber at the first floor level.

2. Remove the existing kitchen flue and masonry work under the kitchen mantel.

3. Rebuild the hearths and fireplaces in the east and west parlors using bricks and mortar to match those used in the 1733 chimney base.

4. Rebuild kitchen fireplace and beehive oven using bricks and mortar matching those in the existing portion of the oven.

5. Rebuild the east parlor closet as per restoration drawing shown on sheet No. 3 of the restoration drawings.

6. Remove existing closet floor framing behind central chimney on the second floor. Save lean-to rafter and replace in lean-to roof.

7. Replace oak floor in closet behind central chimney, second floor; joists between the chimney girts with pieces to match chamber floors and face nail with T-head hand-wrought nails.

8. Replace the attic joists in closet behind central chimney and replace missing floor boards to match existing floor.
9. Rebuild east chamber closet with vertical board salvaged from the original wall. Replace shelves and cleats indicated on salvaged boards.

10. Rebuild east and west chamber fireplaces using reproduction bricks and mortar.

11. Rebuild brick flues for gable house and kitchen lean-to above the attic floor level using the appropriate size brick. Cap all flues not in use.

h. Attic

1. Remove existing electrical wiring from the attic.
2. Repair holes in original attic floor boards.
3. Replace splines missing from between attic floor boards; insulate beneath attic floor.
4. Remove broken plaster from room at east end of attic and repair plaster with matching materials.

2. Gambrel of ca. 1783

a. Cellar

1. Remove debris found in basement; save all artifacts.
2. Excavate and grade earth floor.
3. Install a floor drain, gravel, vapor barrier, and a four inch thick slab of concrete. Place four inches of tamped earth above cured floor slab to preserve the earthen floor appearance.
4. Remove steel sash and surrounding mortar from the south wall and replace with a three light wooden sash and frame.
5. Remove loose pointing from the foundation walls and repoint using mortar matching the original pointing.

6. Remove modern first floor joists from the southwest corner and replace with timbers matching the originals; place in original mortices.

7. Replace existing pipe columns with adjustable steel columns.

8. Insulate between the ceiling joists.

9. Rebuild the bulkhead door and frame work. Restore framework and board and battan door at bottom of bulkhead.

10. Build a partition with a modern door and frame between the gable and gambrel cellars. Insulate door and partition with three inches of fiberglass.

11. Whitewash all surfaces in the cellar of the gambrel except the insulation.

b. **Entry and Front Stair.**

1. Remove the patch boards from the finish floor; replace with boards to match the original ones still in place and nail with hand-wrought nails.

2. Repair existing door.

3. Restore door opening and sill to the appearance of 1783.

4. Remove paint from all wood and plaster surfaces.

5. Patch all plaster walls and ceilings.

c. Gambrel Parlor

1. Remove electrical fixtures and wiring; repair plaster with matching mix.

2. Remove existing nine over six light sash; repair the window jambs. Install six over nine light sash matching the dimensions and style of 1783.

3. Examine woodwork to determine age of paint.

4. Record the design and colors of the primitive painting on the ceiling. This task may require a specialist as the ceiling has deteriorated badly since the original work was done.

5. Remove wallpaper; check for evidence of the walls having had a primitive design found on the ceiling. This task may also require a specialist.

6. Restore the primitive paintings as determined by the special investigation.

7. Paint woodwork if paint analysis proves paint was applied at an early date.

8. Clean and restore the fireframe and brick hearth.

9. Remove the present cast-iron door hardware and save as artifacts; install wrought-iron door pulls and hinges to match the imprints left on the original door and frames.

d. Gambrel kitchen

1. Remove electrical fixtures and wiring; repair woodwork or plaster.

2. Remove wallpaper from walls.
3. Install new six over six light sash in new window frames.
4. Replace lath missing from the west and north walls and the ceiling at the north end; replaster these areas using the appropriate mix.
5. Remove paint from all exposed woodwork.
7. Remove cast-iron hardware from the doors of the room; replace hardware with door pulls and hinges of wrought-iron to match the imprints left on the doors and frames by the original hardware.
8. Restore fireframe and hearth area.
9. Clean existing floor, repair where needed.

e. Pantry, Passage, Cellar Stair
1. Construct new cellar stair in the existing cellar opening.
2. Whitewash walls and stairs.
3. Remove paint from all exposed woodwork in passageway and leave the surfaces of the passageway unpainted.
4. Remove ca. 1900 window in the east pantry wall; replace with lath and matching plaster.
5. Remove the paint from the pantry shelves and walls.
6. Restore all hardware required with reproduction pieces.

f. Second Floor of Gambrel
1. Re-nail the lath on the walls and ceiling of the northwest room; patch plaster on walls and ceiling with matching materials.
2. Install new six over six light sash in the five windows of the second floor and trim with the stops and casings of the ca. 1783 period;
nail with hand-wrought nails.

3. Remove all paint from exposed woodwork; leave surfaces unpainted.

4. Recondition the stove of ca. 1825 and the surrounding hearth area.

5. Restore and reinforce the back stairs; retain its ca. 1830 location. Rebuild partition and doorway at the bottom of the stairs.

3. Lean-to of ca. 1830

a. Cellar

1. Excavate and grade soil then pour concrete floor in the same manner as described for the gable section, making the slab continuous from one area to the other.

2. Excavate the outside of the foundation walls, parge, and drain in the same manner used in the gable portion.

3. Remove sump pump outlet pipe and install new wood sash and frame in to north wall window opening.

4. Replace missing bottom step of the lean-to cellar stair by splicing on to the bottoms of the stringers and adding a new tread and riser to match the existing.

5. Reinforce first floor joists.

6. Insulate the spaces between the ceiling joists of the cellar.

7. Whitewash all surfaces in the excavated portion of the
cellar except the insulation.

8. Replace lally columns with adjustable steel posts set on the floor slab.

b. Entry, Stairs, and Pantry

1. Remove existing electrical fixtures and wiring from the east end of the shed.

2. Remove patch boards from the finished floor and fill any holes with pieces matching the original material.

3. Construct vertical board partition to form the walls of the "bedroom" as shown on the restoration drawings, sheet Nos. 3 and 8.

4. Construct a vertical board partition with two door openings to form the west end of the "bedroom" and entry way. Locate as per drawing cited in item No. 3.

5. Apply lath and plaster above a wainscotting matching that found in the work of ca. 1830 to the west side of the west end partition.

6. Apply the same type of lath and plaster to the north and east walls of the "bedroom" allowing for the window opening in the east wall.

7. Nail new five-inch baseboard on all walls of the "bedroom."

8. Install six over six light sash and trim of the ca. 1830 type in the frame located in the east wall.

9. Rebuild and reinforce the stair leading to the attic, doubling up the stringers.
10. Hang a six panel door in the exterior wall opening and trim in the ca. 1830 style on the inside.

11. Patch any holes or cracks in the original plaster of the entry and pantry ceilings.

12. Hang doors in openings in the west end partition. Use cast-iron butt hinges and thumblatches on these doors.

13. Remove paint from original ceilings and woodwork, recording the colors.

14. Whitewash plastered ceilings in the bedroom and entry paint walls and woodwork, or not as indicated by the further investigation of the paint at the time of restoration.

c. **Kitchen**

1. Remove the pipes and their enclosures.

2. Remove all electrical fixtures, outlets and wiring.

3. Repair the existing original wainscotting.

4. Remove modern finish floor and damaged subfloor and replace with boards matching the original fabric.

5. Repair or replace post casing boards, matching the dimensions of the original pieces.

6. Install three over six light sash in the two window frames in the north wall and trim in the style of ca. 1830.

7. Install new lath and plaster on the walls and ceiling of the kitchen to the thickness of the original plaster remaining in the space and using a mix matching the original.
8. Hang a new board and batten door in the opening in the north wall and trim in the manner of ca. 1830.

9. Repair mantle shelf on the south wall and the surrounding woodwork.

10. Paint woodwork color used in ca. 1830. To be determined by additional paint studies.

d. West Lean-to Room

1. Remove new boards from the floor and replace with boards matching the originall fabric.

2. Remove electrical fixtures and wiring.

3. Remove gypsum board from the north wall.

4. Replace all missing lath and plaster with a mix matching that used in ca. 1830.

5. Install a three over six light window in the opening in the center of the north wall and trim in the ca. 1830 manner as shown in the restoration drawings, sheet No. 8.

6. Repair woodwork.

7. Clean all original plaster and reproduce painted decoration in the original colors. This design covers all four walls of the space.

8. Nail 5-inch molded baseboard over plaster on all walls.

e. Attic of Lean-to

1. Remove all pipe and plumbing fittings.

2. Install six over six light sash in the frame located
in the east end, and secure with a sash stop. Leave the inside of the opening uncased.

3. Repair all holes in the floor boards; replace rotten boards.

4. Repair south center wall; hang two board and batten doors in the south wall opening, using butterfly type hinges. Leave this doorway untrimmed.

5. Repair the handrail at the top of the stairs.

6. Insulate the attic floor with four inches of fiberglass insulation. Leave exposed attic rafters uninsulated.

7. Leave all surfaces unfinished.

f. Garrett Room in Attic of Lean-to

1. Nail two plywood panels cut to the dimensions of ca. 1830 six light sash in the locations of the two windows in the north wall. After nailing the panels to the studding, trim with casing boards to serve as plaster stops.

2. Replace all missing lath with circle sawn pieces nailed with machine cut nails.

3. Replaster all areas of the walls and ceiling where the original plaster is missing, using a mix matching the original one used in this space.

4. Leave all surfaces unpainted.

4. Shed of ca. 1830

a. South End
1. Remove artifacts and debris from the space.

2. Repair floor and subfloor boards matching the original material nail with machine cut nails.

3. Insulate below the subfloor in the crawl space with four inches of fiberglass insulation.

4. Insulate wall of heated areas with four inches of fiberglass insulation.

5. Frame the partitions necessary for the proposed toilets and service closet and finish interior wall and ceilings.

6. Enclose outside of toilet room partitions and inside of exterior walls with horizontal tapered boards similar to those on the exterior walls of the shed.

7. Install six over six light sash in the window frames. Nail stops with machine cut nails.

b. Chaise Stall

1. Remove existing concrete floor.

2. Replace or hang new board and batten doors on pintle type trap hinges to fill the opening in the west wall.

c. Attic of Shed

1. Replace rotten floor boards with material matching the original.

2. Install six over six light sash in the north window and six light fixed sash in the east and west windows. Nail stops with machine made nails.
3. Insulate walls and floor above heated areas with four inches of fiberglass insulation.

D. PROPOSED UTILITIES

1. Heating and Ventilation

   a. Scheme A

      1. Rebuild central chimney and all fireplaces.

      2. Install dampers in throats of west parlor and kitchen fireplaces. These two fireplaces and the lean-to oven to be operable.

      3. Install underground oil tank. Locate southeast of the house with fill and vent hidden by the existing stone wall.

      4. Install hot water boiler with expansion tank, air handler/heat exchanger. Locate the units to the south of the chimney base in the cellar.

      5. Install supply registers in the throats of the east and west chamber fireplaces. Run ducts from the heat exchanger via the smoke chamber and the east parlor flue. See Restoration drawings, Sheet No. 9.

      6. Install first floor return grill in the top of the cabinet located in the east wall of the west parlor. Duct to the return side of the air handler via the smoke chamber.

      7. Install second floor return in the bottom of the south wall of the east chamber closet. Duct to the return side of the air handler via the east parlor flue and the smoke chamber.

      8. Install cast iron baseboard convectors in the lean-to
gambrel and shed as required by the heat losses in those areas.

9. Cap the flues from the east parlor, and the east and west chambers at the top of the chimney.

10. Install thermostat with remote sensor inside the original cellar stair door in the west parlor. Locate the sensor along the south wall of the space.

11. Install one thermostat for each zone of the hot water system in the lean-to, gambrel and shed. Locate control so it is not visible or accessible to the public.

b. **Scheme B**

1. Construct structural steel tower with concrete decks to support the second floor fireplaces and the chimneys above the attic floor as shown in schematic drawing included in the Appendix.

2. Install underground fuel tank as above.

3. Install boiler, second heat exchanger located as above.

4. Install supply ducts to the throats of the four gable fireplaces.

5. Locate return air grill in the throat of the lean-to.

6. Heat the lean-to, gambrel, and shed with hot water as described in scheme A.

7. Install thermostats as above.

We consider both these alternatives acceptable in terms of the historic fabric of the structure, Scheme A requires the removal of
some fabric to locate the supply registers in the two parlors, but since
neither of the finished floors is original, this solution may be acceptable.
This scheme provides two working fireplaces and a bake oven, but requires
more duct work and much more brickwork than the other scheme. Scheme B
is much more compact than the other, having only short runs of duct. It
replaces the bulk of the corbelled brick work with a steel tower, but provided
for the upstairs fireplaces and the chimney above the attic floor level.
The principal drawback is the lack of a working fireplace in this design.
Both solutions are feasible, so selection will have to be based on the
interpretive needs of the structure and other constraints such as cost.

c. **Ventilation**

1. Install blowers in the two toilet rooms in the shed.
   Run ducting to exhaust in the attic of the shed.

2. Install exhaust fan in the food service area in the west room of the lean-to. Run exhaust duct up the north wall of the lean-to to a grill located just below the eave of the lean-to roof.

2. **Electric Service**

   a. Remove existing overhead service from utility pole to house.

   b. Install underground pull box at the southwest corner of Virginia Road and Bedford Lane.

   c. Install underground service.

   d. Install lighting in the lean-to and shed as required for the modern uses in those areas.
e. Install new distribution panel.

f. Install heavy duty electrical service for food preparation and storage in the west room of the lean-to. (only if food selling operation is approved.)

g. Install receptacles in the throats of the non-working fireplaces in the gable portion.

h. Install a receptacle inside the door at the top of the original cellar stairs in the west parlor.

i. Install receptacles as required in the shed and lean-to.

j. Install service to oil burner and air handler. Locate emergency switch at the top of the cellar stairs in the lean-to.

k. Install service to security systems.

3. Water

a. Install cold water piping from the meter on the south foundation wall of the gable cellar to the west lean-to room and the first floor of the shed.

b. Install water line from meter to the boiler, then to the west lean-to room and the first floor of the shed.

c. Install restrooms in shed as shown on sheet no. 3 of the restoration drawings.

d. Install new underground septic tank north of the house.

e. Install soil line from toilets to septic tank and from there to a new leaching bed.

f. Install stack vent in shed to go through the roof on
the east side of the building.

g. Install ventless kitchen sinks in the west lean-to room as required by the food service operation. Waste line to run to the septic tank. (Only if approved by NPS).

4. **Telephone**
   a. Install multicircuit telephone cable between Massachusetts Route 2A and the building.
   
b. Install phone to serve the interpreters in the kitchen portion of the lean-to. (Only if approved by NPS).
   
c. Install phone on a separate circuit to serve the food service area in the west lean-to room. (Only if approved by NPS).
   
d. Allow two separate circuits to handle the security systems.
   
e. Allow two circuits for future uses.

5. **Security Systems**
   a. Install fire detection system with the least possible number of visible elements. Connect via telephone circuit to the Town of Lincoln Fire Department.
   
b. Install intruder detection system connected via telephone circuit to the Lincoln Police Department.
CONSTRUCTION COST ESTIMATE

10 SHEETS DRAWINGS BY Orville Carroll

DESCRIPTION OF PROJECT: Restoration of the Hartwell Tavern

PARK: Minute Man N.H.P.  PREPARED BY: A. Williams, Denver Service Center

PACKAGE NO.  DATE: March 12, 1975

PROGRAMMED: December, 1973  REVIEWED BY:

PROGRAMMED CONSTR. AMT.  APPROVED BY:

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FORCACCOUNT PROJECT TOTAL  $260,000
APPENDIX A

Architects Survey Sheet on the Harwell Tavern prepared for the

APPENDIX A

HISTORIC AMERICAN BUILDINGS SURVEY

THE HARTWELL TAVERN

Location: On the north side of Virginia Road, between Lexington - Concord, in Lincoln, Middlesex County, Massachusetts. Between "The Bloody Anold" and Sgt. Samuel Hartwell Farm.

Present Owner and Occupant: Mrs. John McHugh

Present Use: Residence

Brief Statement of Significance: This structure was built by Samuel Hartwell, probably about 1692. An appendage was built in 1732 for Ephraim Hartwell. The house and appendage served as a tavern prior to the American Revolution and figured in the retreat of the British Regulars from Concord to Lexington.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. This structure is a two story wood frame building typical of this area. The building appears to have begun as a one room deep, two story-house with the gambrelled appendage and kitchen shed added. The kitchen shed is one story with attic. Wood shed appears to be added to the appendage and kitchen shed.

2. Condition of the fabric: Good. Some structural members are decaying.

B. Technical Description of Exterior:

1. Overall dimensions: 64'-9" x 69'-8". The gambrelled appendage is at the west end of the 176 nucleus. The woodshed at the north side of the gambrelled appendage.
2. Foundations: Exterior foundation wall of semi-dressed rubble and field stone. Stone and brick fireplace foundations, with barrel vault of brick paralleled $\frac{1}{4}$ to front of house. Fireplace foundation under main house has niches in one wall opening into vault, one niche on front wall. Fireplace foundation under 1732 appendage has niches on right, or north side wall. Misc. wood and pipe columns, and brick piers.

3. Wall construction: Exterior walls of new clapboard, butt joints. Exposures at 4". Few old clapboards 4'-0" long 3 1/4" exposure, on 1" feather edged horizontal siding. Corner boards are 8" wide. Brick infilling in wall between main house and kitchen shed. Owner reports brick infilling in east wall, main house.


5. Chimneys:
   a. Central chimney, of two compartments, main house, removed circa 1870 by Edward McHugh. Separate flues for a fireplace and heating system join between floors to form single chimney. Kitchen brick chimney circa 1870.
   b. Chimney in appendage appears to be original, of clay brick, two compartments.
   c. Fragment of brick chimney between attic floor and roof of wood shed.

6. Openings:
   a. Doorways:
      1. Entrance doorway or froutispiece, in main house removed c. 1900 (a 1890 photograph, p. 3 Heroes of the Battle Road, Frank Wilson Cheney Hersey, 1930) shows simple front doorway, unornamented entablature. (The present front door appears to c. 1900 a 7-panel door with one light.) Old door, said to be original front door in wood shed, has six panels, top two glazed.
      2. Entrance doorway 1732 appendage simple unornamental entablature, plain pilasters, four lights (7" x 8-3/4") in head. Four paneled front door.
3. Side entrance into kitchen off porch added c. 1900.


b. Windows: Original double hung sash replaced with 2/2 sash c. 1900. Appendage windows double hung sash 9/6. New wood shutters do not show in 1890 photograph. Dormer windows are 6/6 double hung sash. Windows in wood shed are 6/6, fixed sash of 6 lights. Misc. modern sash.

7. Roof:

a. Main house and wood shed.

1. Shape: Unequal gable. Original house appears to have had equal gable (roof rafters remain.) Long side of gable extends over kitchen and side rooms from second floor ceiling level to create kitchen attic space. Equal gable on wood shed.

2. Covering: Asphalt shingles on wood boards.

3. Eaves and cornice: Simple wood cornice at front, boxed eave only on front elevation.

b. Appendage:

1. Shape: Gambrel

2. Covering: Asphalt shingles. Fragments of old wood shingles (5 1/2" weathered, 17 1/2" long, of varying widths) remain off attic wood shed.

8. Dormers: Original dormers in appendage. Dormer roofs are extension of top plane of gambrel roof. Sides of dormers are clapboards. Window seat storage.

9. Structure: Wood frame, post and girt system. Main house first floor summer beams parallel to front of house, second floor summer beams perpendicular. 1732 appendage first floor summer beam perpendicular to front of house. Wood sills and girts on stone foundation walls. Some structural members mortised and tenoned with wood peg fasteners. Members of oak and pine Summer beams and girts in main house are not boxed and are simply beaded. Cornerposts are boxed. It is impossible to tell if the cornerposts are continuous from sill to plate.
C. Technical Description of Interiors:

1. Floor Plans:

   a. Basement; Full basement under east half of main house and kitchen, connected by narrow curved walk space to full basement under 1732 appendage separated by main house fireplace foundation and unexcavated area.

   2. b. Main house first floor: Central entry, two rooms symmetrical about entry and central fireplaces. Stair to second floor from entry. Kitchen, storage room (probably old bedroom), pantry and stairs to basement. Door from first floor front left leads to appendage.

   c. Appendage first floor: Entry at southwest corner front of chimney and stairway to second floor, front room with fireplace, back room or kitchen to wood shed (kitchen room appears to have been widened and subdivided when shed added). Stair off wood shed to wood shed attic and second floor appendage. Store rooms between appendage and main house.

   d. Second floor main house: Two rooms symmetrical about the stair well and central fireplaces. Storage and bath above kitchen (added c. 1920), hall behind chimney. One finished room in kitchen loft now inaccessible due to 1920 bathroom addition. There is also a finished room in attic of main house, access undetermined.

   e. Second floor appendage: One room with fireplace off stair and end chimney, connects to wood shed attic and to second floor main house.

   f. Construction sequence: It appears from existing construction details that the 1732 appendage was added to the main house before the kitchen and wood shed were built (field observation which should be substantiated by thorough investigation).

2. Stairways: Front stair main house behind front entrance in front of chimney, left hand stair of two landings, turned newels, square ballusters, simple hand rail. Basement stair (now removed) formerly under front stair from front room left Modern stairs to basement and kitchen attic unimportant. (Access to attic of main house through trap door.)
3. Flooring: Some old wood boards 11"-19" wide, 2 1/4" and 3-5/8" wood strips painted, varnished, and untreated; composition tile and floor covering; earth floor in basement.

4. Wall and ceiling finish: Walls are plaster, plaster with wood wainscot, and horizontal and vertical wainscotting (average 1'-4" wide with feathered edge and quarter rounds (sometimes referred to as "panel sheathing"). Some papered walls appear to be of wood. Plaster is applied to split and milled lath. Some lath appears to have been split in succession from one board or derived from what is referred to as "accordion lath."

5. Doorways and doors: Doorways simply trimmed. Doors are of two panels (1-3/4" feathered edge & quarter round one side, slightly feathered and/or recessed backside), four panels, and misc. board doors. One modern five panel door.

6. Trim: Paneled fireplace walls in appendage first floor rooms. Cornerposts are boxed throughout entire building, summer beams and girts in appendage are boxed and have beaded edges.

7. Hardware: Variety of original strap, half strap, H, HL hinges of wrought iron. One strap hinge has an ornamental plate replacing the peg of the earlier type. In a few cases leather washers inserted between heads of nails and hinge. Thumb latches and door pulls occur in a variety of types, some with heart-shaped and/or arrowhead-like plates, with simple decoration on the handle that is either hammered flat or rounded. Wide variety of old nails, staples, hooks, and spikes. Metal block lock on appendage front door. One latch operated by brass knobs, latch housing on surface of door.

8. Lighting: None of interest. Hooks or rings for hanging lanterns remain.

9. Heating:

a. Brick fireplaces in major rooms in main house. Only one operates, the others destroyed by the removal of the original chimney. Remaining fragments include portions of fireplaces and an oval domed oven.

b. First floor front of appendage has a large cast iron fire frame with two white brass finials. The opening is covered with a sheet metal plate with opening for stove pipe.

First floor back has large cast iron fire frame set into
original cooking fireplace with oval oven and ash pit below. (The wood oven cover has notable iron door pull.) The fire frame has cooling crane in place. Second floor fireplace has an "Improved Pipe Franklin 1825" stove inserted into the opening, surrounded by mortar.

c. The main house is heated by a modern hot water system.

D. 

1. Location: House faces south on Virginia Road on a segment of the old Lexington-Concord Road, two large trees and low shrubs screen house.

2. Enclosures: None.

3. Outbuildings: Barn, rebuilt after 1938 storm damage has many original timbers. Immediately behind the house, north side of house at wood shed, is old-well which figured in the April 1775 battle. Filled c. 1930.

4. Landscaping: None of importance.

Signed: F. Blair Reeves

Prepared by: F. Blair Reeves
Minute Man H.A.B.S.
August 1961
APPENDIX B

Eleven sheets of measured drawings prepared in 1961 for the

HISTORIC AMERICAN BUILDINGS SURVEY

note: Originals probably at Library of Congress or HABS in WASO
APPENDIX C

Ten sheets of restoration drawings, Hartwell Tavern

January 1975

Note: Originals at Denver Service Center
APPENDIX B

Facsimile copies of five years of Tavern License records for the Hartwell Tavern, including 1777, when the inn passed from father to son, and 1787, the last year of license. Copied from the original documents found in the vault of the Middlesex County Superior Court.

Researched by:
Christopher H. Mulbeon,
December 11-12, 1974
Cambridge, May 1783

To the Gentleman or the Town he hath Visit.

His Excellency, the Governor.

Hi [sic] is Command the Names of the Perham,

To the bread Mean of the Town of [illegible].

[illegible]
To the Selectmen of Lincoln.

Gent. This contains the names of the persons licensed in your town last year. Very.

John Hartwell Inholder.

The time for re-licensing this year is on Tuesday the 1st of September. Just when you are desired to make return hereof with the names of the persons appointed by you.

John Hartwell Inholder.

This may certify that the subscriber John Hartwell hereby signify our Approbation of the above named John Hartwell as Inholder. In said Town that he is capable of performing the employment as the King directs.

Lincoln, 1794.

John Hartwell Inholder.

Lincoln.
To the Selectmen of the Town of Lincoln in said County.

GENTLEMEN,

This contains the Names of the Persons licensed in your Town the last Year, viz.

John Hartwell
James Aleamp
Buckley Adams

Lethe Parleeck a Retailer.

The Time for renewing Licences for this present Year will be on Tuesday the eighteenth Day of September next, at Concord, when and where you are desired to make Return hereof, with the Names of the Persons approved by you.

Cambridge, May 31, 1787.
We the subscribers electors of the town of Lincoln do hereby certify that we have mutually considered the written list of such persons as was delivered the year last, and to the best of our knowledge the following persons: [names...]

Good will and order for their respective thoues, and their conduct, they are the sons of good and honest parents and suitably educated for the law trade, and are jointly attached to the constitution and laws of this commonwealth and we approve of the above named persons as Holden for the present year...

Edward Wheeler, Selectman.

Lincoln, September 12, 1787.

[Additional names and signatures]

Percy Wofford, Joe Hartwell, James Smith, John Brown.
ILLUSTRATION NO. 1

A view looking northeast. This photograph shows the house as it probably looked shortly after the renovations of ca. 1830. Notice the location of the center 2nd floor gable window which was moved to this position when the gambrel roof was added in ca. 1783. The west wall of the gambrel addition appears to have its original windows in place at this time.

Photograph by: Unknown, ca. 1890
MIMA Negative No. 63-40

ILLUSTRATION NO. 2

View looking northwest. This view shows the south wall, the east end of the gable and lean-to prior to the addition of the porches and new clapboards. Cellar window seen in the south wall is thought to be in its original location but moved after ca. 1900 a few feet to the east. Persons in this photograph are unidentified.

Photograph by: Unknown, ca. 1895
MIMA Negative No. 67-14
ILLUSTRATION NO. 3

View looking northwest. Photograph taken five years before the N. P. S. took over ownership from Mrs. McHugh. The house has been unoccupied since 1967. This view shows the house as it probably looked after the alterations of ca. 1900. The porches, windows and blinds, door and door openings and clapboards were part of this work.

Photograph by: H.A.B.S.
Cervin Robinson, 1963
MIMA Negative No. 63-42

ILLUSTRATION NO. 4

East gable end of the 1733 house after the ca. 1900 clapboards were removed during the architectural investigation. The upper eight rows of sheathing boards date from 1733. Arrows seen in the photograph point to fragments of 1733 clapboards. Window frames date from ca. 1900.

Photograph by: National Park Service
O. W. Carroll, November 1973
ILLUSTRATION NO. 5

The only surviving window frame dating from ca. 1830 was found in the west wall of the shed. It was removed and brought to this location in the south wall of the East Parlor. An old six-light window sash found in the attic fits the window frame exactly. Notice that the width of the frame corresponds to the spacing of the original studs thereby permitting use of the original wall openings. All of the wall sheathing below the 1st floor girts in this wall was replaced in ca. 1830 and the brick nogging removed at the same time. Clapboards seen in this view date from ca. 1900.

Photograph by: National Park Service
O. W. Carroll, August 1974

ILLUSTRATION NO. 6

Roof sheathing north of existing ca. 1847 central chimney shows cuts in roof boards for the original central chimney and the T-shaped lean-to chimney at lower center of photograph. The existing chimney occupies part of the space where the main chimney stood prior to its destruction in ca. 1847. The roof boards at the lower left and to the right are original and nailed with hand-wrought nails. Newer boards filling in the old chimney voids at center and the repair work to the upper left are nailed with machine-cut nails.

Photograph by: National Park Service
O. W. Carroll, September 1974
ILLUSTRATION NO. 7

A view of the north plate at the west corner of the 1733 house. The roof sheathing has been removed to study the rafters and this portion of the house. The left end of the scale-stick rests at the projecting part of the overhanging plate now rotted away. This piece and the ragged cut in the sheathing below suggests that there once was a jut-by, part of an original lean-to across the back of the house. The lath and plaster visible in the photograph, to the right, is the north wall of the connecting link room on the 2nd floor. One roof board above the connecting link of ca. 1783 is visible at the upper right and the rafters of the 1733 gable and ca. 1830 lean-to on the left.

Photograph by: National Park Service
O.W. Carroll, July 1974

ILLUSTRATION NO. 8

East wall of the ca. 1783 gambrel addition showing the window opening into the chamber. The wall sheathing is the original feathered pine boards nailed with hand-wrought nails. Two original unpainted verge boards were left in place during the remodeling of ca. 1900 when the clapboards and window frame of ca. 1783 were removed and replaced. The arrow at lower right points to the first location of the ca. 1783 window sill before the existing lean-to roof of ca. 1830 was built. During the rebuilding of the lean-to roof this window frame was raised against the girt (behind upper right arrow) to clear the new roof. Arrow No. 4 indicates the ghost edge of the ca. 1783 window frame. Right side of opening was enlarged in ca. 1900 for a new window frame.

Photograph by: National Park Service
O. W. Carroll, November 1973

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ILLUSTRATION NO. 9

View of the northeast corner of the ca. 1783 gambrel addition at 2nd floor level showing the exposed building frame. Notice the rotted condition of the overhanging girt that supports the lower roof rafter of the gambrel. The east girt is also severely rotted within the wall. The string line visible to the lower left is drawn along the sloping cut ends of the gambrel wall sheathing and may very well represent the slope of the original lean-to roof. The existing lean-to roof of ca. 1830 can be seen at the upper left.

Photograph by: National Park Service
O. W. Carroll, July 1974

ILLUSTRATION NO. 10

West wall of the gambrel after clapboards of ca. 1900 were removed to expose the original sheathing. All but the bottom two feet of the wall is covered with wide, square-edged pine boards having butt ends nailed with hand-wrought nails. The gambrel was built without brick nogging placed within the walls. Three of the four window openings are original. We think the lower left window opening was added in ca. 1830 when the shed was built and the frame may have come from the north gambrel wall. In ca. 1900 all of the window frames were replaced. The cellar bulkhead can be seen at the lower left.

Photograph by: National Park Service
O. W. Carroll, July 1974
ILLUSTRATION NO. 11

A view of the upper south window in the west gambrel wall (see Photo Illustration No. 10). This opening apparently cut through the wall after the diagonal brace (outlined by the string) was installed but before the clapboards were applied. Clapboard nail coursing between the upper windows do not match those on each side of the openings. Notice to the right, the only section of individually split lath found in the gambrel addition. The predominate lath in the addition is the split board "accordion" lath seen at the left side of the photograph.

Photograph by: National Park Service
O. W. Carroll, July 1974

ILLUSTRATION NO. 12

Looking at the south cornice of the ca. 1783 gambrel addition after the removal of the ca. 1830 clapboards, the ca. 1783 bed molding and ca. 1783 frieze board. The soffit, fascia and crown molding from ca. 1783 is still in place. Notice the unpainted sections on the original window frame and soffit that corresponds to the frieze and bed molding. The nail holes from the clapboards of ca. 1783 are marked in courses by the horizontal string seen in this photo.

Photograph by: National Park Service
O. W. Carroll, August 1974
ILLUSTRATION NO. 13

South wall of the gambrel addition showing the original doorway of ca. 1783 with the original transom sash and surrounding trim. Only parts of the original door trim were left intact after the remodeling of ca. 1830. The outlines of the ca. 1830 pilasters can be seen in this view. The date of the front door with its brass thumb latch is not known but the molding profiles are identical to the door installed in ca. 1830 when the house of 1733 was remodeled. The string courses seen at the lower right hand side of the photograph represents the clapboard nail holes from ca. 1783.

Photograph by: National Park Service
O. W. Carroll, August 1974

ILLUSTRATION NO. 14

West wall of the ca. 1830 shed during the architectural investigation. The wall sheathing is the original T & G, wide but tapered boards, nailed with machine cut nails. The chaise house opening (extreme lower left) and the lower right window opening date from the initial construction of the shed while the attic window openings date from ca. 1865. The lower center door was moved two feet north of its original location in ca. 1900 when the shed was clapboarded.

Photograph by: National Park Service
O. W. Carroll, August 1974
ILLUSTRATION NO. 15

West wall of the ca. 1830 shed after removal of the ca. 1900 clapboards. The two upper attic windows dating from ca. 1865 were closed off in ca. 1900. The lower east door opening dating from ca. 1830 was also blocked off in ca. 1900 but the original board and batten door and frame was left in place. The lean-to addition against the far chaise house was built in 1932 as an extension for an automobile. The wall sheathing is original.

Photograph by: National Park Service
O. W. Carroll, August 1974

ILLUSTRATION NO. 16

North wall of the kitchen lean-to showing seven courses of clapboards (having lapped ends) dating from the original construction of the lean-to in ca. 1830. Notice that building paper was used under the clapboards of ca. 1900. Only two of the three window openings are original. The center opening dates after 1900. The shed dormer and kitchen flue was built in 1922.

Photograph by: National Park Service
O. W. Carroll, November 1973
ILLUSTRATION NO. 17

North wall of the kitchen lean-to showing the building frame and wall sheathing of ca. 1830. Three arrows to the right point to original studding cut off when larger window frames were installed after 1900. The north foundation sill and lower wall boards were replaced around 1948.

Photograph by: National Park Service
O.W. Carroll, November 1973

ILLUSTRATION NO. 18

A studding from the north wall of the kitchen lean-to photographed to show that all nail holes in the studding were made by machine-cut nails holding the existing sheathing. A circle was drawn around each nail hole as soon as the nail was pulled from the sheathing. Attic floor of the lean-to is visible in this view.

Photograph by: National Park Service
O. W. Carroll, November 1973
ILLUSTRATION NO. 19

Ghost outlines remaining from the stair treads, risers and platform of the original 1733 stairway on the 1st floor. Notice that the nosing of the first tread was notched into the door casing at lower right. The original split lath and plaster wall remains intact on the east wall to the right above circle-sawn lath installed in ca. 1847. The original newel posts were probably square in the beginning but later taken out and turned to the present-day profile seen in this photograph. The stairway was rebuilt after the central chimney was removed in ca. 1847.

Photographed by: National Park Service
O. W. Carroll, January 1974

ILLUSTRATION NO. 20

Ghost outlines remaining from the stair treads, risers and platform of the original attic stairs of 1733 on the 2nd floor. Notice that the nosing for the first tread of the attic stairs was notched into the door casing at lower right similar to that on the 1st floor. The original lath and plaster above this height was removed and replaced in ca. 1847 with circle-sawn lath and new plaster. Arrow No. 2 indicates top of second tread to attic stairs and Arrow No. 1 indicates the height of the lower platform.

Photograph by: National Park Service
O. W. Carroll, February 1974
ILLUSTRATION NO. 21

Ceiling of the West Chamber looking northwest with the gambrel addition of ca. 1783 beyond doorway. We think that the lower ceiling construction dates from around 1847 when a new lath and plaster ceiling was installed. The wainscot walls were probably wallpapered at the same time. The doorway into the gambrel dates after the application of the first wallpaper. Notice the far wall where the gambrel roof is outlined with string. The window opening of 1733 was moved immediately to the left of the string in ca. 1783 to avoid the gambrel roof. Later, this window was moved farther south in ca. 1900 where it remains today. Notice the dark outlines on the ceiling boards, the girts and summer beam indicating the location of an early room partition. The partition was most likely removed when the new plaster ceiling was installed.

Photograph by: National Park Service
O. W. Carroll, September 1974

ILLUSTRATION NO. 22

West wall of the East Chamber after the removal of the ca. 1847 recessed mantel construction. A sharp plaster edge, 4'-4" high, can be seen on each side of the opening that represents the original mantel height. Lath and plaster above the original mantel was cut away in ca. 1847 when the room was remodeled. The existing flue, dating from ca. 1847, was built for a stove.

Photograph by: National Park Service
O. W. Carroll, September 1974
ILLUSTRATION NO. 23

Remains of three rows of bricks that formed the original jamb and back of the West Parlor fireplace. Notice the base bricks starting to form the outline for the beehive oven on the right hand side of the photograph. This view was taken from within the central chimney area once occupied by the smoke chamber. The central chimney was removed in ca. 1847. To the left can be seen the base of one of two chimneys built in ca. 1847.

Photograph by: National Park Service
O. W. Carroll, December 1973

ILLUSTRATION NO. 24

A view of the space once occupied by the central chimney removed in ca. 1847. Notice the remains of the beehive oven on the left or west side. The kitchen flue built in 1922 is on the right side. The small closet at upper left and the construction of the kitchen wall to the north probably date from ca. 1847. Mantel in kitchen may date from ca. 1830 when the lean-to was rebuilt. The fireplace in the kitchen lean-to was most likely removed in ca. 1847 and a flue built for a cook stove. The brick floor of the smoke chamber can be seen at extreme lower right.

Photograph by: National Park Service
O. W. Carroll, December 1973
ILLUSTRATION NO. 25

West Parlor, a view looking northwest into the connecting link built in ca. 1783. Many changes have been made to this area over the years. We think that a possible tap-room for the tavern was built in the corner of the room by enclosing two feet of the parlor with that of the connecting link. The new room would have measured about 6' x 7'. Jamb evidence remaining in the ceiling of the parlor suggests two openings existed on the tavern side of the room and doorway off the passageway into the gambrel. The so-called tap-room was removed about ca. 1830 when the room was remodeled. The west wall was remodeled again about 1900 when a new floor was installed.

Photograph by: National Park Service
O. W. Carroll, September 1974

ILLUSTRATION NO. 26

North wall of the ca. 1783 link connecting the gambrel to the 1733 gable. Photograph taken after the removal of horizontal beaded wall boards dating from ca. 1783. These boards match those on the west wall and were nailed with hand-wrought nails. Changes were found in the existing framework that pre-date the ca. 1783 beaded wall boards. Most important were the clapboard nail holes found in the existing studding under the ca. 1783 wall boards that point to the probability that this wall was once an outside wall covered with clapboards. It may have been part of a jut-by for an earlier lean-to on the back of the house. Also empty mortices were found in the upper girt seen in this view. Probably for earlier studding that had been removed. The door seen in this view was installed about 1847 when the center studding was sawn-off and turned sideways in the wall.

Photograph by: National Park Service
O. W. Carroll, March 1974
ILLUSTRATION NO. 27

North wall of West Parlor showing the original door opening. The door trim of ca. 1830 has been removed to show the edge of the original door opening of 1733 to the left. When the door opening was moved 12" to the right in ca. 1830 an original studding on the right side was cut off, the stub being visible at the top center of the view. When the new opening was framed-up two used pieces of lumber were placed on each side of the opening; note the notches in this view.

Photograph by: National Park Service
O. W. Carroll, March 1974

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ILLUSTRATION NO. 28

A view of the west kitchen lean-to room on the first floor. The right north wall has been completely stripped of the original lath and plaster and one window frame. The top floor boards may date from the ca. 1830 rebuilding of the lean-to but the joists and sub-floor are reused pieces. The floor boards are nailed with machine-cut nails. Notice the small section of plaster on the west wall that retains part of a primitive wall decoration once covering this room.

Photograph by: National Park Service
O. W. Carroll, January 1974
ILLUSTRATION NO. 29

Attic floor framing at the west end of the kitchen lean-to. Notice the 8" x 8" summer framing into a smaller wall studding; on the opposite wall the summer is let into the wall sheathing of 1733. Notice the hung lath and plaster ceiling. The hangers used in this construction were nailed with mixed hand-wrought and machine-cut nails while the floor boards were nailed entirely with machine-cut nails.

Photograph by: National Park Service
O. W. Carroll, January 1974

ILLUSTRATION NO. 30

North wall and ceiling of the west room in the attic of the kitchen lean-to. Access into this room was blocked off in 1922 when the bathroom was built. The condition of this room was probably left like this at that time. Notice the two attic windows dating from ca. 1865 that were blocked off in ca. 1900.

Photograph by: National Park Service
O. W. Carroll, September 1973
ILLUSTRATION NO. 31

West Parlor wall of the ca. 1783 gambrel addition showing the original woodwork. Fireframe and mantel shelf may have been added about 1830. Notice the remains on the ceiling of a primitively painted design not yet dated, nor measured and recorded. The wallpaper dates just after 1900.

Photograph by: H.A.B.S.
Cervin Robinson, August 1961
MIMA Negative No. 61-21

ILLUSTRATION NO. 32

A view looking east in the kitchen lean-to during the architectural investigation work. The pantry walls of ca. 1900 have been removed and the floor boards along the north wall taken up to study the floor joists. A new finish floor was laid in ca. 1900 when the windows and doors and pantry were installed. The plaster seen between the ceiling joists dates from 1923.

Photograph by: National Park Service
O. W. Carroll, January 1974