

COMPLETION REPORT
RESTORATION OF THE HARTWELL TAVERN
Minute Man National Historical Park
Concord, Massachusetts

May 1983

National Park Service - North Atlantic Region
North Atlantic Historic Preservation Center

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i. FOREWORD

Restoration of the Hartwell Tavern was begun in 1980 under the direction of the North Atlantic Historic Preservation Center and completed in 1981. Excluding the heating system and structural steel frame supporting the central chimney which was installed under contract, the bulk of the restoration work was accomplished by day labor. Members of the crew at one time or another included the following persons:

Michael Fortin, Exhibit Specialist-NPS, Project Supervisor; Albert Walkup, carpenter; R. Boucher; D. McKeever; T. Nieves; K. Harper; C. Cretien; L. Burnash; R. Companion; R. Wylie; K. Thompson; C. Thomas; C. Barry; D. Roblis; P. Deleon; D. Ramsey; P. Cuevas; T. Bradley; K. DiFranza; M. Barnad; M. Smith and G. Lambert. NPS personnel on-the-job training included P. Labounty, F. Carroll and J. Gilbert.

ii SUMMARY

Over one hundred years of architectural details and construction methods are represented in the completed work at the Hartwell Tavern. The earliest part of the so-called Tavern, built in 1733, is represented by the one room deep, two stories high, gable roof structure with its central chimney located on the southeast side of the existing structure. In addition, the original house probably possessed a one story lean-to running across the north wall incorporating a jut-by extending some five feet beyond the westerly end of the house. A cellar was dug out under the easterly side of the house and contained under the chimney arch, a "winter dairy" for preserving food.

In ca 1783, the Hartwells built a gambrel-roofed addition against the west side of the original house. The room layout on the first floor consisted of a south entry way and parlor occupying the front of the addition and at the rear a kitchen and kitchen pantry. Off the entry way on the first floor was a closet containing access to a smoke chamber now concealed by the present-day stairway. On the second floor was a single chamber and three closets. About 1830, the Hartwells rebuilt the existing lean-to and added the shed structure north of the gambrel. With the exception of a few hand-wrought clapboard nails found on the north lean-to wall, both the lean-to and shed additions were built using machine-cut nails, a nineteenth century technological invention. Improvements were also made to the 1733 house during the ca 1830 remodeling work: the original window and door openings were removed and replaced as well as the clapboards and verge boards; corner boards were introduced for the first time. These

alternations lasted until ca 1900 when the McHugh family decided to improve the property once again by removing and replacing the window and door openings and clapboards on the 1733 house and lean-to and adding three porches. While the room interiors were improved from time to time, their basic shape remained somewhat the same throughout the changes.

RESTORATION WORK

A. INSTALLATION OF UNDERGROUND UTILITIES

New steel conduits were installed underground from utility pole 4/17 located off Virginia Road into the Hartwell Tavern to provide a new electrical, telephone and fire alarm service. Between the Tavern and the Barn, one steel & one PVC conduits and one three-quarters-inch copper water line was installed underground to provide electrical, telephone and water service into the Barn. These facilities were put into use during the restoration work.

In order to expedite the work before cold weather set in, cost quotations were solicited from three companies for each phase of the project: excavation and backfilling; electrical supplies; electrical (and telephone conduit) installation work; and plumbing. Excavation and backfilling work was completed by Robert McCart of Sudbury; electrical supplies were purchased from Maynard Supply Company; electrical (and telephone conduit) work was completed by Norell Service Co., of Lincoln; and plumbing work was completed by Beaudoin Brothers of Concord. Gene Goldsmith, NAHPC-NPS, was Project Supervisor. Excluding patching of the asphalt pavement on Virginia Road which was completed on October 17, all utility work was completed between October 1 to October 5, 1979. New electric and water meters were installed in the southeast corner of the 1733 cellar in addition to a new electrical distribution panel. The primary electrical service is furnished by three #3/0 AWG THW stranded copper cables connected to a 200 amp 1Ø 30 circuit distribution panel. The secondary service into the Barn is furnished by three #6 AWG THW stranded copper cables connected to a 60 amp 1Ø 12 circuit panel. Both services have single pole fuse disconnectors of comparable amperage installed prior

to each distribution panel. New England Telephone Company furnished and installed a 25 pair telephone cable from the utility pole into the Tavern and from the Tavern into the Barn. No. 12 wire duct cable was pulled through the conduit from the utility pole into the Tavern and connected to the fire detection system. At the utility pole, a "Gamewell" fire alarm pull box was installed.

B. Stone Masonry Work

The east and south foundation walls under the 1733 house were raked free of its clay mortar to permit the pumping of cement grout into the wall cavities in an effort to stabilize the walls and to prevent rain water from entering the cellar. This method of stabilization proved to be quite effective for the two walls treated. Due to the tight laying of stone, the foundation walls under the gambrel addition were not pressure grouted, hence rain water escaping the exterior foundation drain is getting into the cellar. This problem needs to be corrected by excavating full depth of the foundation wall starting along the west wall of the gambrel and continuing along the entire south wall of the Tavern, paring the stone work below grade, waterproofing it, then reinstalling the foundation drain at the lowest level of the trench. A concrete apron, at least two feet wide, constructed with a built-in gutter should be installed at the bottom of the trench to provide a water tight joint at the juncture of the stone foundation wall. Drainage from the run-off would be piped into the leaching tank located east of the house.

Two techniques of mortar pointing was used in the cellar. A flat type of mortar joint was used in the 1733 cellar matching the original pointing found in situ within the "winter dairy". A "V" type of pointing was used

for the joints in the c1783 cellar, again matching original pointing found within the chimney arch.

Whitewash was applied to the interior walls of the cellars throughout using a mixture of lime, water and "Acryl 60" (an acrylic polymer emulsion acting as a binding agent).

The stone underpinning of the shed addition was found unstable and required relaying. Four lower steps in the cellar bulkhead were either dislodged or missing before restoration work began; these were replaced.

C. Brick Masonry Work

With the use of two laborers from the Minute Man NHP, two chimneys were taken down in 1979 and the bricks salvaged and cleaned for reuse in the reconstruction of the central chimney, hearths and fireplaces. The colonial size bricks were used to build the central chimney above the attic and the fireboxes in the second floor chambers. The bricks used in constructing the south face of the central chimney came from the floor of the "winter dairy" in the Derby House in West Concord, Mass., which was dismantled several years ago. Salvaged "pressed" bricks, originally part of the flue, oven and fireplaces in the lean-to kitchen, were sorted out, cleaned and reused in the reconstruction of these features. Hearth bricks for the lean-to fireplace were found intact but were badly out of level. These bricks were recorded, removed and relaid over a solid foundation. Additional "pressed" bricks for use in reconstructing the parlor fireplaces and hearths, were obtained from a building demolished by the City of Lawrence.

A new brick wall, one wythe in thickness, eight feet in width and extending from the arched chimney base to the attic floor, was laid between the central stairway and the central chimney area. The hallway side of this wall was plastered after the central stairway was installed.

The brick chimney above the roof in the gambrel was repointed with mortar matching the original. The modern oversized bricks topping out the chimney cap were to be replaced but this was not done because bricks matching the size and color of the original ones could not be found. The existing cap can be removed and replaced whenever the appropriate bricks are located.

D. LEACHING PITS

Two concrete, perforated wall, leaching pits with reinforced concrete covers, measuring 3'-4" high by 6'-6" in diameter were installed for field drains. One leaching pit was placed on the west side of the gambrel addition, nearly opposite the cellar bulkhead, at the west edge of the access road. The second leaching pit was placed on the east side of the house, near the center of the 1733 Tavern end wall, at the east edge of the access road. The interior of the pits were left empty but 3/4" gravel was placed around the outer perimeter to allow water to percolate into the surrounding soil. The foundation tiles and sump pump drains were connected to the pits.

E. EPOXY REPAIRS

Through the efforts of Blaine Cliver, NAR Historical Architect, a two week training session (September 8-23, 1980) was set up at the Hartwell Tavern to instruct N.P.S. employees in the use of the "Beta" system of epoxy repairs.

The "Beta" system of "Renofors" was developed and patented in the Netherlands in 1971. In 1975, the United States Government granted the Dutch company patent No. 3900541, designating them as sole distributors in the U.S.A., for this system of repair work. Representing the Dutch company at the site were Dutch ("Bill") Klapwikj and Wilhelm ("Bill") Vandertoorn. Mr. Vandertoorn was the day to day instructor for the two week course.

Using a combination of measured drawings completed for HABS in 1961 and restoration drawings completed in 1974, framing members throughout the Hartwell Tavern were color coded according to the degree of deterioration observed. With this information, Mr. Klapwikj was able to estimate the amount of materials required to complete the repair work. These materials were shipped from Europe via air and water transportation and consisted of pottery clay; wax; sand; 3/4" diameter fiberglass reinforcement rods; "aerosil" powder used as an aggregate; wood flour also used as an aggregate; methylethylketone used as a cleaning agent; and packaged ingredients used for the two-component part epoxy resin systems, E1200 and E1620.

NPS employees were instructed in the method of removing rotted wood; building formwork; applying wax (for release) and clay (for sealing cracks); restrengthening wood with an impregnating solution; drilling holes and installing fiberglass rods; mixing and pouring the two component epoxy resin mortar (using aggregates of sand, aerosil, wood flour and gravel, depending upon the desired mix); and/or mixing and placing epoxy paste to build up deteriorated wooden members to their original shape and size.

Persons participating in and completing the course were given a diploma of recognition by Mr. Klapwijk.

F. CLAPBOARDS

It was decided that the clapboards used on the 1733 house and ca 1783 gambrel addition were to be hand-riven and hand-smoothed to match those used in the original construction. White pine logs, five feet long, were selected for a log deck in Carlisle, Massachusetts. Richard Wright of Acton, Mass., supplied and delivered the logs. An equal amount of white pine logs were supplied by the P.H. Chadbourne Company of Bethel, Maine. Michael Fortin donated two five-feet long white pine logs from a tree felled on his property in New Hampshire.

The chief clapboard maker was Pedro DeLeon, aided by Michael Smith and Pablo Cuevas. The logs were split into bolts then rived into rough clapboard stock on a mechanical splitting device invented by Michael Fortin. The clapboard stock was smoothed and the ends lapped using a long handled slick. Clapboards for the ca 1830 lean-to kitchen addition were mill-sawn and planed in Oregon, then shipped to the site. Inadvertently, sugar pine was substituted for western white pine but it was decided to accept the alternative. These clapboards were hand-planed and the ends lapped to match those used in ca 1830. Since all of the clapboards used were to be unpainted, they were immersed in a solution of "Hydrozo" a water repellant containing a small amount of fungicide.

The clapboard used on the 1733 and ca 1783 gambrel addition were nailed with hand-made rose-headed nails. The clapboards used on the lean-to kitchen were fastened with a mixture of hand-made, rose-headed nails and machine-cut nails intended to match the nailing style used on the original seven courses of clapboards found in situ on the north wall.

Wherever the original wall boards existed and the original clapboard nail holes could be measured, these measurements determined the spacing of the new clapboards.

G. MILLWORK

Twenty-seven sheets of drawings showing the proposed millwork for the restoration work were prepared by O.W. Carroll and Larry Sorli during the summer of 1979. The Clifftondale Woodworking Company of Saugus, Massachusetts, were sole bidders on furnishing the millwork from eastern white pine. Clifford Agersea, shop foreman throughout the term of the contract, was very cooperative and saw that the millwork produced was accurate and of high quality.

Custance Brothers of Lexington, Massachusetts, furnished a small amount of millwork, generally on a moment's notice.

The millwork was all hand-planed by our day labor crew in a shop set up in the Hartwell Barn. After hand-planing, all material used on the exterior of the building was dipped in a solution of "Hydrozo", a water repellant containing a small amount of fungicide.

All millwork was fitted and installed by our day labor crew under the supervision of Michael Fortin.

H. REPRODUCTION HARDWARE

Steve Nichols, blacksmith at the Saugus Iron Works, reproduced most of the hardware required for the restoration work. Nichols also repaired several original pieces of hardware that we were able to reuse. Other blacksmiths involved in supplying either hand-made nails or reproducing additional hardware were Richard Sargent (Vermont); James Kearney (Maine); Michael Sarri (Connecticut); and Donald Gross (Connecticut). A few pieces of "antique" hardware were purchased from John Hamilton of Chelmsford, Massachusetts.

Nine sheets of hardware drawings were prepared by Larry Sorli during the summer of 1979. Additional hardware details were drawn up by O.W. Carroll as the job progressed.

All hand-made nails and hardware used on the exterior of the Tavern were taken to the Rust Proofing and Metal Finishing Corp., in Medford, Mass., for treatment with black phosphorus to prevent rusting. The hardware was installed by our day labor crew under the supervision of Michael Fortin.

I. ROOF AND ROOF COVERINGS

Generally speaking, the rafters, purlins and roof boards were in relatively good condition and required no replacements. The north lower slope of the

gambrel addition contained the bulk of deteriorated wood. The ends of rafters, plate and end girts of the addition on the east, west and north walls required extensive repairs using epoxy resins. The roof of the shed addition was covered with one-half inch plywood sheets to provide nailing for the roof shingles. The dormer of 1922 built into the roof of the kitchen lean-to was removed and the opening enclosed with used roof boards to match the existing original boards. A portion of the original rafter, cut out for the dormer construction in 1922, was spliced and returned to its original location. A number of deteriorated roof boards were also replaced on the lean-to roof.

Red cedar shingles were used throughout and coated with "Hydrozo", a colorless water repellant solution. At the junction of the roof and side walls, a clapboard was placed parallel to the wall under the shingles to "shoot" the rainwater away from the wall-roof joint. At the central chimney, which was reconstructed above the attic, a chase was cut into the brickwork just above the roof board to allow step flashing to be concealed under each course of shingles. To waterproof the joint between the shingles and the brick chimney a "V" joint of mortar was struck; applied more to imitate the colonial style of waterproofing than to keep out water which was achieved with concealed lead-coated corner flashing.

J. FLOORS

Excluding the floor boards found in the west and northeast rooms of the kitchen lean-to, which are original to c1830, the flooring relaid on the first floor in the kitchen, East and West Parlors and hallway are replacements boards. Boards used on the kitchen floor were those removed from the "Vose" House in Concord, Mass., when it was demolished in 1967. The "Vose" House also supplied the oak floor joists and pine sub-flooring used in the East Parlor. New floor boards were laid in the East and West Parlors and hallway on the first floor. These boards were sawn from white pine, eighteen feet long, and fourteen to eighteen inches wide at the W.C. Cows, Inc., sawmill located at North Amherst, Massachusetts. Each board was tapered from end to end, hand-planed, and nailed with T-headed, hand-wrought nails, then left unpainted (as were most colonial floors). On the second floor of the Tavern, paint was removed from the original floor boards in the hallway and in the East and West Chambers. Paint was also removed from the floor boards of the jut-by in the gambrel. The west half of the floor in the attic was insulated with one and one-half inches of polyurethane panels then covered with plywood to permit walking in this area. All floor joists on the first floor throughout the building were reinforced by "sistering" new Douglas fir joists of comparable size alongside the old ones. Reinforcing of the ceiling joists in the lean-to kitchen was also accomplished before a new lath and plaster ceiling was installed.

The dirt floor in the cellar was sifted for artifacts, cleaned of excess soil and stones, then graded smooth. A tile drain was installed underground starting in the gambrel cellar and extending to the sump pump located in the east cellar. Water is discharged from the sump pump into a leaching pit

installed east of the house. A wooden floor was laid in the "winter dairy" using pressure treated joists and boards.

K. PLASTER

Plaster work was done by Charles Cretien, NPS employee under the direction of Michael Fortin. Plaster repairs in the East Parlor were made to the damaged ceiling; to the wall above the c1830 mantel; and the wall area surrounding the three window openings which were made narrower to accommodate the new reproduction window frames. Plaster repairs in the West Chamber were made to the wall area above the restored mantel; and the wall areas surrounding the three window openings which were also made narrower to accommodate the reproduction 18th century window frames and trim. In the central stairhall, new plaster was applied to the north and east walls excluding a section of original plaster left intact on the east wall between the stairway platform and the second floor level. Above the furnace in the cellar, the stairwell was lathed and plastered to give this area a two-hour fire rating. The north wall in the west room of the kitchen lean-to received new lath and plaster and in the garret room above this, new lath and plaster was applied to the west wall and the ceiling. The west wall of the garret was stripped of its original lath and plaster in order to repair the deteriorated girts with epoxy. In the kitchen room of the lean-to, new lath and plaster was applied to the ceiling and walls and to the ceiling of the east-hall. Several repairs were made to the lath and plaster in the gambrel addition as follows: the kitchen; pantry; jut-by; gambrel chamber and adjoining closets. The central chimney in the Tavern was parged in the attic, in the closet of the second floor (lean-to flue) and in the closet space on the first floor.

L. PAINT MIXES

A. EXTERIOR SURFACES

1. Woodwork, left in natural state: 15% clear "Hydrozo" with a fungicide such as "Wood Life" added. (Sprayed)
2. Brick chimneys: 15% clear "Hydrozo". (Sprayed)

B. INTERIOR SURFACES

1. Paint: Interior alkyd oil, semi-gloss; Benjamin Moore & Company.
2. Whitewash mix:

Fill a five gallon pail 2/3rds full of hydrated masons lime

Add clean water until thoroughly mixed to a consistency of a thin paste

Add one quart of "Acryl 60" and thoroughly mix into limepaste (Thoro brand, Standard Dry Wall Products, Centerville, Indiana)

Add one-half quart of "Liquitex", Matte Medium, and thoroughly mix

Add one pint of denatured alcohol and thoroughly mix

Brush with a four to six-inch brush.

3. Red limewash mix:

To the above whitewash mixture add dry masons color or colors to match Munsell Co. Color Notation 10R 7/4.

4. Floor boards, treated:

1/2 turpentine, 1/2 part "Hydrozo" clear.

M. ELECTRICAL WORK (INTERIOR)

Excluding the ca 1920's wall mounted wall fixtures found in the gambrel addition, which were left in situ, new electrical work on the first and second floors of the Tavern was confined to the installation of convenience outlets and porcelain light fixtures placed inconspicuous locations in keeping with the intent of the approved restoration plan. Light fixtures were placed in the throats of five fireplaces in the 1733 chimney stack and connected to a single switch located on the east wall of the shed. The cellar lights (excluding one ceiling mounted pull chain fixture) are controlled by a wall switch located at the head of the cellar stairway. Another wall switch controlling the light in the main attic is located at the head of the attic stairs. The remaining lights are controlled by pull chains. All wiring (No. 12 AWG) is concealed within EMT tubing. No permanent wiring was done in the Barn.

N. HEATING SYSTEM

A new oil-fired furnace was installed in the cellar of the 1733 house directly under the central stairway in order to utilize the area once occupied by the central chimney for the passage of air ducts and a stainless steel flue. East of the Tavern's access road, a two thousand gallon fuel oil tank was installed underground with copper tubing connecting to the furnace.

The entire house is heated from supply registers placed in the throats of three fireplaces located on the first floor. Warm air is drawn throughout the rest of the house to return grilles placed in the throats of the second

floor chamber fireplaces. Since the rooms are to be heated to a maximum of 50°F, the effectiveness of the system depends upon specified doors remaining closed and other doors to remain open. A floor plan indicating the position of each door has been prepared and given to the Park staff for use during the heating season.

O. WATER SUPPLY

The copper water pipe running between the Lincoln Town water main on Virginia Road and the Hartwell Tavern is the existing pipe installed by McHughs, former owners of the property. It was assumed that the water pipe was in good condition and therefore not replaced. Between the Tavern and the Barn, a new three-quarters inch copper water pipe was installed, buried four feet deep in a trench paralleling the telephone and electrical conduits. A cut-off valve was placed four feet deep inside the cellar of the Barn near the southeast corner. Several years ago, the Lincoln DPW installed a new water meter in the cellar of the Hartwell Tavern. During the winter months, the water line between the house and Barn should be drained and the interior water pipes and meter protected with heat tapes.

P. INTRUSION ALARM SYSTEM

Materials for the intrusion alarm system were purchased from the Alarm Device Mfg. Company of Waltham, Massachusetts. The system utilizes concealed magnetic contacts installed on every exterior door and window opening. Surface mounted magnetic contacts were used on the demountable window screen frames for the three cellar windows and on the cellar

bulkhead doors. Installation of the magnetic contacts and running of the wire was done by the Day Labor crew while the restoration work was underway. Final connections, installation of the main control panel (located within the central chimney space on the first floor) and testing of the equipment was accomplished by the Lexington Alarm System of Lexington, Massachusetts. The intrusion alarm system is connected directly to the Lincoln Police Department where a dialer immediately transfers the message to the homes of three staff members of the Minute Man NHP.

FIRE DETECTION SYSTEM

The existing fire detection system installed at The Hartwell Tavern was one pre-selected by the staff at Minute Man National Historical Park in an effort to have a uniform alarm system throughout the Park. The type of equipment and controls selected are those distributed by the Fire Control Instrument, Inc. (FCI). The alarm system in the building is connected to a "Gamewell" general alarm pull box mounted to a utility pole located on Virginia Road. This, in turn, is connected to a red aerial cable running directly to the Town of Lincoln Fire Department.

The fire detection system is a combination of smoke detectors, and "Protectowire". The detectors are recycled units once having been installed at the Adams Birthplaces in Quincy, Mass., and were reinstalled at the Tavern by the Solar Electric Company. In unheated areas of the house, such as the attics and cellars, where temperatures were anticipated to fall below 32° F, the "Protectowire" was used in place of the FCI smoke detectors which have a tendency to "sleep" below freezing weather. Most of the wiring was installed by Michael Fortin whereas the locations of the detectors were

selected by Blaine Cliver. Because so many of the detectors were installed inside closets, the effectiveness of the system will depend upon a constant monitoring of the doors to see that they remain open.

The main alarm control panel is located within the central chimney space on the first floor. In the event of an alarm, the annunciator panel located at the Lincoln Fire Department direct dials the telephone at the homes of two staff members of the Minute Man NHP.

Orville W. Carroll
Historical Architect-NPS

December 18, 1979

Chief, North Atlantic Historic Preservation Center

Hartwell Tavern Restoration

Superintendent, Minute Man National Historical Park

Mike Fortin has been assigned as the project supervisor for the subject project. It is my intention that he work closely with your park, including observing the rules and regulations there established, while he is involved in this work.

We feel the most expeditious way of accomplishing the work would be to hire day labor personnel through the park. Such personnel would be under Mike's direction and would be 10-3'd by the park to account 1820-0002-302 for this year of the project. It is requested that copies of all 10-3's and other charges made by the park to this account be sent to Linda Nelson at the Preservation Center. Mike has been authorized to sign DI-1's up to the amount of \$2500 for work or supplies relating to this project and will coordinate the hiring of the work crew.

At the moment, we are scheduling this year's work on the Tavern so as to be able to know the number of persons we will need and when we will need them. Mike will be getting in touch with you or whomever you designate to begin hiring personnel for this project. After the first of the year I will be in touch to set up a meeting to go over our schedule and discuss other matters related to the Tavern project.

If you have any questions, please call me. Thanks for your cooperation.

E. Blaine Cliver

cc: O. Carroll
M. Fortin
L. Nelson

EBCliver:ld 12/18/79



United States Department of the Interior

NATIONAL PARK SERVICE

North Atlantic Region

15 State Street

Boston, Massachusetts 02109

IN REPLY REFER TO:

May 14, 1982

Memorandum

To: Superintendent, Minute Man NHP

From: Chief, Historic Preservation

Subject: Floor Loading, Hartwell Tavern, MIMA NHP

We have completed the allowable loading conditions for the first and second floors of the Hartwell Tavern. Since we were able to reinforce the first floors throughout the house, these rooms can accommodate a sizeable group of persons. Because of the limitations imposed by the historic fabric, the second floor rooms were not reinforced hence the loading conditions are restricted as shown below.

First Floor: The total number of persons, at any one time, on the first floor should not exceed twenty-five in any one room. For example, a school group of twenty-five persons would be acceptable in either the West and East Parlors and Kitchen Lean-to (as well as the gambrel addition). The total number of persons in the house at any one time should not exceed 50*.

Second Floor: Without Furnishings, not more than ten persons should be allowed in each room. (The stairhall on the second floor is an exception and should be limited to three persons at all times.) Total limit for second floor is 20 persons.

Second Floor: With light furnishings, not more than eight persons per room with a total limit for the second floor of 16 persons.

Second Floor: With heavy furnishings, not more than six persons per room with a total limit for the second floor of 12 persons.

We recommend that access to and from the second floor be by the central stairway only. The following areas are not recommended for public use: cellars; attic of the main house; all other six stairways (two in cellars, kitchen lean-to, two in gambrel, attic stairs); loft room in shed addition.

Please feel free to call me if you need more information.

Blaine

E. Blaine Cliver

cc:
Chief of Interpretation, NARO
O. Carroll
NAHPC Files

* This figure is based on what the structure will bear, in my opinion, for a quality experience no more than 25 people should ever be in the house at any one time.

PAINT FINISHES hartwell tavern

location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>EAST PARLOR</u> 1733			
WOODWORK - paint removed in 1981	1775	7.5Y 6/2	
WINDOW OPENINGS - restored in 1981	1775	7.5Y 6/2	
CLOSET DOOR OPENING - PAINT REMOVED	C 1830 DOOR OPENING KEPT	7.5Y 6/2	
MANTEL OF C 1830 - PAINT REMOVED	MANTEL OF 1830 RETAINED	-	
BASEBOARD - PAINT REMOVED	1775	DR 3/5	
PLASTER WALLS & CEILING - REPAIRED 1981	1775	-	WHITEWASH
FLOOR BOARDS - RESTORED IN 1981	1775	-	UNTREATED
<u>WEST PARLOR</u> 1733			
WOODWORK - paint removed in 1981	1775	-	UNPAINTED
WAINSCOT N-W WALL - RESTORED IN 1981	1775	-	"
NORTH DOOR OPENING - PAINT REMOVED	DOOR OPENING C 1830 KEPT	-	"
CELLAR DOOR - RESTORED IN 1981	1775	-	"
WINDOW OPENINGS - RESTORED IN 1981	1775	-	"
WEST DOOR TO GAMBREL - PAINT REMOVED	DOOR OPENING OF C 1783 KEPT	-	"
CEILING BOARDS & JOIST - FOUND UNPAINTED	1775	-	"
MANTEL C 1830 PAINT REMOVED	C 1830	-	
FLOOR BOARDS - RESTORED IN 1981	1775	-	UNTREATED

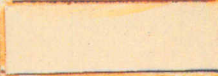
PAINT FINISHES hartwell tavern

location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>CENTRAL STAIRHALL 1ST FLOOR</u>			
WOODWORK - PAINT REMOVED IN 1981	1775	5PB 3/1	
WOODWORK RESTORED IN SOUTH WALL	1775	5PB 3/1	
STAIRWAY RESTORED IN 1981	1775	5PB 3/1	
HANDRAIL OF 1733-REUSED IN 1981	1775	10R 2/2	
CEILING BDS & JOISTS - PAINT REMOVED	1775	-	WHITENASH
PLASTER WALLS MOSTLY RESTORED 1981	1775	-	"
FLOOR BOARDS RESTORED IN 1981	1775	-	UNTREATED
<u>LEAN-TO OF CA 1830</u>			
<u>KITCHEN IN LEAN-TO C 1830</u>			
WOODWORK PARTLY RESTORED IN 1981	C 1830	10Y 7/1	
HANDEL OF C 1830 - PAINT REMOVED	C 1830	-	BLACK
PLASTER WALLS & CEILING RESTORED IN 1981	C 1830	-	WHITENASH
WINDOW OPENINGS RESTORED IN 1981	C 1830	10Y 7/1	
FLOOR BOARDS REPLACED W/ USED BOARDS	C 1830	PAINT REMOVED	UNTREATED
EAST PARTITION RESTORED IN 1981	C 1830	10Y 7/1	
<u>"LOW" OR WEST ROOM IN LEAN-TO</u>			
WOODWORK REPAIRED IN 1981	C 1830		UNTREATED
WINDOW OPENING RESTORED IN 1981	C 1830		UNPAINTED
PLASTER - NORTH WALL RESTORED 1981	C 1830		WHITENASH
PLASTER CEILING & WALLS - REPAIRED	C 1830		UNTREATED
FLOOR BDS - REPLACED AT NORTH WALL	C 1830		UNTREATED

PAINT FINISHES hartwell tavern

location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>BEDROOM IN LEAN-TO C1830</u>			
WOODWORK-RESTORED IN 1981	C1830		WHITEWASH
WINDOW OPENING-RESTORED 1981	C1830		"
PLASTER WALLS-RESTORED 1981	C1830		"
FLOOR BOARDS - CLEANED 1981	C1830		"
<u>JUT-BY 1ST FLOOR C1783</u>			
BASEBOARD PAINTED ON WALLS/DOORS	C1783	10R3/5	
CLOSET PARTITION RESTORED IN 1981	C1783	-	WHITEWASH
WALL BDS IN CLOSET RESTORED IN 1981	C1783	-	"
WALLPAPER IN CLOSET	1820-1910	-	LEFT AS FOUND
PLASTER WALLS & CEILINGS REPAIRED	C1783	-	WHITEWASH
FLOOR BOARDS-PAINT REMOVED 1981	C1783	-	UNTREATED
WINDOW OPENING SASH/STOP RESTORED	C1783	-	WHITEWASH
<u>EAST CHAMBER 1775</u>			
WOODWORK-PAINT REMOVED IN 1981	1775	-	UNPAINTED
FIREPLACE SURROUND-RESTORED 1981	1775	-	"
WINDOW OPENINGS-RESTORED IN 1981	1775	-	"
PLASTER WALLS-REPAIRED IN 1981	1775	PINK LINEWASH 10R7/4	
PLASTER CEILING CLEANED IN 1981	1775	-	WHITEWASH
FLOOR BOARDS REPAIRED & PAINT REMOVED	1775	-	UNTREATED

PAINT FINISHES hartwell tavern

location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>WEST CHAMBER-NORTH ROOM</u>			
WAINSCOT- LIMEWASH REMOVED 1981	1775	PINK LIMEWASH 10R 7/4	
CHIMNEY PREAST PARTLY RESTORED 1981	1775	10R 7/4	
BOARD PARTITION-RESTORED IN 1981	PARTITION PUT IN C1752	10R 7/4	
WINDOW OPENING-RESTORED 1981	C1783	10R 7/4	
EAST CLOSET DOOR-RESTORED 1981	C1775	10R 7/4	
WEST DOOR TO GAMBRAL- PAINT REMOVED	C1830-40	5Y 8/4	
CEILING BOARDS & JOISTS-CLEANED 1981	1775	-	WHITEWASH
FLOOR BOARDS- PAINT REMOVED 1981	1775	-	UNTREATED
<u>WEST CHAMBER- SOUTH ROOM</u>			
WAINSCOT- PARTLY REPAIRED IN 1981	1775	-	UNPAINTED
BOARD PARTITION OF C1752 RESTORED	1775	-	"
WINDOW OPENINGS RESTORED 1981	1775	-	"
EAST DOOR OPENING REPAIRED 1981	1775	-	"
CEILING BDS. & JOISTS PAINT REMOVED	1775	-	"
FLOOR BDS- PAINT REMOVED 1981	1775	-	UNTREATED
<u>LEAN-TO GARRET C1830</u>			
PLASTER WALLS & CEILING REPAIRED	C1830	-	WHITEWASH
WINDOW OPENING RESTORED IN 1981	C1830	-	UNPAINTED
DOOR OPENING TO 1733 H.-RESTORED	C1775	-	"
ROOF BDS & RAFTERS-REPAIRED 1981	C1830	-	UNTREATED
FLOOR BOARDS- CLEANED IN 1981	C1830	-	"

PAINT FINISHES hartwell tavern

location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>CENTRAL STAIRHALL-2ND FLOOR</u>			
WAINSCOT - PARTLY REPAIRED IN 1981	1775	PAINT REMOVED 1981	UNPAINTED
WINDOW OPENING RESTORED IN 1981	1775	-	"
WOODWORK - PAINT REMOVED 1981	1775	-	"
CEILING BDS. & JOIST - PAINT REMOVED	1775	-	"
STAIRWAY TO ATTIC RESTORED 1981	1775	-	"
PLASTER WALLS - RESTORED IN 1981	1775	-	WHITEWASH
FLOOR BOARDS - PAINT REMOVED 1981	1775	-	UNTREATED
<u>ATTIC OF 1733</u>			
WINDOW OPENINGS - RESTORED 1981	1775	-	UNPAINTED
PLASTER IN EAST ROOM - REPAIRED 1981	C1830	-	WHITEWASH
<u>GAMBREL PARLOR 1ST FLOOR</u>			
WOODWORK CLEANED IN 1981		-	LEFT AS FOUND
WALLPAPER	C1910	-	LEFT AS FOUND
PLASTER CEILING W/STENCIL WORK	C1820	-	MEASURED IN 1983
HARDWARE RESTORED IN 1981	C1783	-	UNTREATED
WINDOW OPENINGS - SASH & STOPS RESTORED	C1783	-	"
FLOOR BOARDS - CLEANED & TREATED	C1783	-	HYDROZOL & TURPENTINE
<u>GAMBREL - ENTRYWAY</u>			
FLOOR BDS RESTORED IN 1981	C1783	-	UNTREATED
DOORWAY REPAIRED IN 1981	C1783	-	LEFT AS FOUND
PLASTER WALLS & CEILING	C1783/1830	-	LEFT AS FOUND
ENTRY STAIRWAY C1830	C1830	-	LEFT AS FOUND

PAINT FINISHES hartwell tavern

location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>GAMBREL KITCHEN C1783/1830</u>			
WOODWORK - CLEANED IN 1981	C1920	-	LEFT AS FOUND
WALL PAPER - PARTLY REMOVED	C1820 TO 1920	-	LEFT AS FOUND
PLASTER CEILING - CLEANED	C1783	-	WHITEWASH
PLASTER WALLS - REPAIRED 1981	C1783/1830	-	NOT FINISHED
WINDOW OPENINGS RESTORED 1981	C1783/1830	-	UNTREATED
FLOOR BOARDS - CLEANED IN 1981	C1783/1830	TREATED	HYDROZO & TURPENTINE
<u>GAMBREL PANTRY C1783</u>			
EAST WALL - REPAIRED IN 1981	-	-	UNPAINTED
<u>GAMBREL STAIRWAY - NORTH</u>			
FOOT OF STAIRWAY REPAIRED IN 1981	C1830		UNPAINTED
<u>GAMBREL STAIRS TO CELLAR</u>			
NEW STAIRS BUILT IN 1981	-		WHITEWASH
<u>GAMBREL CHAMBER - 2ND FLOOR</u>			
WOODWORK CLEANED IN 1981	C1940'S	-	LEFT AS FOUND
WINDOW OPENINGS SOUTH - REPAIRED	C1783		UNPAINTED
WINDOW OPENINGS - EAST/WEST RESTORED	C1783		"
SOUTH CLOSET DOOR - REPAIRED 1981	C1783		LEFT AS FOUND
WINDOW SASH - RESTORED IN 1981	C1783		UNPAINTED
PLASTER WALLS & CEILING - REPAIRED	C1783		LEFT AS FOUND
FLOOR BOARDS TREATED 1981	C1783		HYDROZO & TURPENTINE
PLASTER NORTH CLOSET RESTORED 1981	C1783		UNPAINTED

PAINT FINISHES hartwell tavern

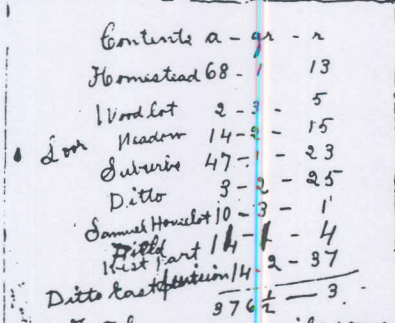
location	DATE OF FINISH	MUNSELL CO. COLOR NOTATION	TREATMENT 1980-1981
<u>CELLARS</u> 1733/C1783			
WINDOW OPENINGS-RESTORED IN 1981	1777/C1783	-	WHITEWASH
"WINTER DAIRY" DOORWAY-RESTORED 1981	1775	-	"
"WINTER DAIRY" FLOOR-RESTORED 1981	1775	-	PRESSURE TREATED
EAST PARLOR FLOOR-RESTORED 1981	1775	-	UNTREATED
LEAN-TO STAIRWAY-REPAIRED 1981	C1830	-	WHITEWASH
LEAN-TO JOISTS & CEILING BDS.	C1830	-	"
REINFORCING JOISTS-DOUGLAS FIR	1980-1981	-	PRESSURE TREATED
REPLACEMENT GIRT/SUMMER- GAMBREL	" "	-	"
STONE WALLS-PARTIALLY STABILIZED 1979	1733-C1783	-	WHITEWASH
EARTH FLOORS-SCREENED/CLEANED			TILE DRAIN & SUMP PUMP
<u>EXTERIOR</u>			
WINDOW FRAMES PAINT REMOVED FROM SIX ORIGINAL FRAMES	1783/1830	UNPAINTED	HYDROZO
WINDOW SASH-RESTORED THRO-OUT	1733-1865	"	HYDROZO
DOOR OPENINGS			
GAMBREL-ORIGINAL-REPAIRED 1981	C1783	PAINT REMOVED	HYDROZO
1733 & 1830 OPENINGS-RESTORED 1981	1733/1830	-	"
CLAPBOARD-RESTORED IN 1981	1733-83/1830	-	"
CORNICES - PARTLY RESTORED IN 1981	1733-83/1830	-	"
ROOF SHINGLES - RESTORED IN 1981	1733-83/1830	-	"
CHIMNEY OF 1733 - REBUILT IN 1981	1733	-	"
CHIMNEY OF C1783- REPOINTED 1981	C1783	-	"

PAINT FINISHES hartwell tavern

[illegible]

in possession of
Lincoln Historical Society.

— *thru*



Total 976 $\frac{1}{4}$ —
These Plans describe some part of the Land of Mr
Ephraim Hartwell and his Son Samuel Hartwell
Lying in Lincoln and Bedford Surveyed March 17+18/1779. By Stephen Davis
NB the meridian Line No 1 is for the Homestead
Scale 20 rods per inch.



IN REPLY REFER TO:

United States Department of the Interior

NATIONAL PARK SERVICE

MINUTE MAN NATIONAL HISTORICAL PARK

POST OFFICE BOX 160

CONCORD, MASSACHUSETTS 01742

September 14, 1979

Department of Public Works
Town of Lincoln
Lewis Street
Lincoln, MA 01773

Attention: Mr. Richard Carroll

Dear Sirs:

The Minute Man National Historical Park, National Park Service, is in the process of starting to install the underground electrical and telephone utilities from utility pole No. 4/117 on Virginia Road to the Hartwell Tavern opposite Bedford Lane. We would like the Town's permission to cut through Virginia Road for this installation.

We plan to lay one 3-inch and one 2-inch galvanized steel conduits under Virginia Road at a depth of three feet, backfilled with six inches sand and gravel cover, topped with a 3-inch asphalt concrete base and finish, in accordance with Mass. DPW Specs, Section 460. The length of the trench is 100 feet.

The excavation and backfilling will be done by Robert McCart of Sudbury, and the electrical installation by Norel Service Co, (Norton) of Lincoln.

We anticipate that the work will begin within thirty days and take approximately two days to complete. We do not expect to close Virginia Road for more than one day. Barricades will be placed at Bedford Lane and Bedford Road to detour road traffic. We will notify your department and the Lincoln police two days in advance of starting work, if this is satisfactory to you.

Sincerely yours,

Orville W. Carroll

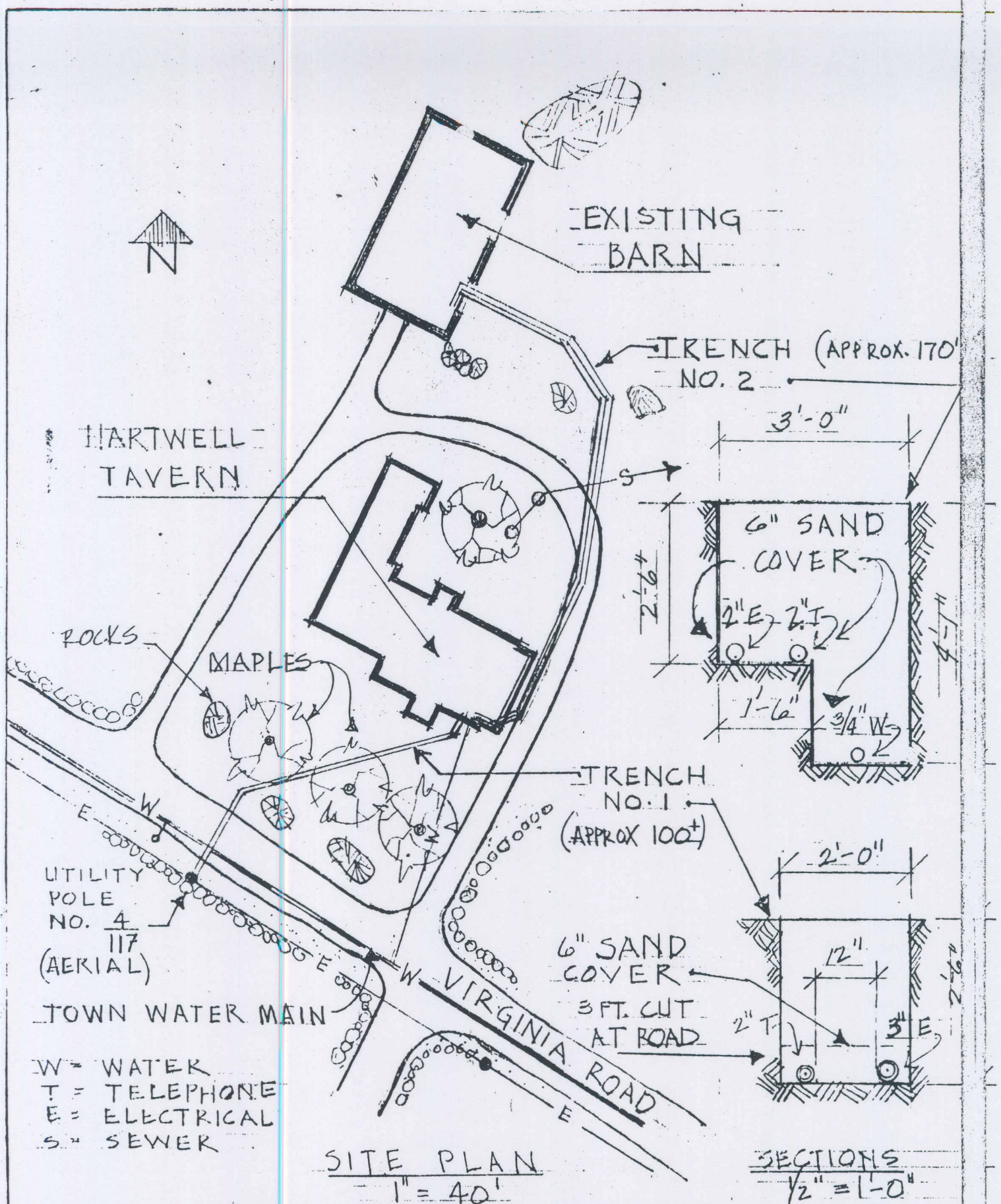
Orville W. Carroll
Architect, National Park Service



Permission Granted By: *[Signature]*

Title: *Super DPW*

Date: *24 Sept 1979*



PROPOSED UNDERGROUND UTILITIES
HARTWELL TAVERN-VIRGINIA RD-LINCOLN, MASS.
MINUTE MAN NAT. HISTORICAL PARK **AUGUST 1979**

March 20, 1980

D. Wilhite & Son Ltd.
143 West Cedar
Webster Grove, MO 63119

Attention Mr. Doyle Wilhite

Dear Mr. Wilhite:

Enclosed are two sets of drawings of the Hartwell Tavern, a 1730's house along the route of the British march from Lexington to Concord on April 19, 1775. We are intending to restore the house and in the process have uncovered considerable areas of decay. In some areas, mostly those marked in blue, we are intending to replace the members either because the piece is missing, not original, or so far deteriorated that it has become completely deformed. Those members marked in orange have some deterioration and are intended to be consolidated with epoxy using a process we have been currently employing on another project. The members indicated in red are those which we feel would lend themselves best to a process of reinforcing. In some cases the connection of plates, posts, and rafters have missing areas marked in blue; it is assumed that these areas could be filled as part of the reinforcing work.

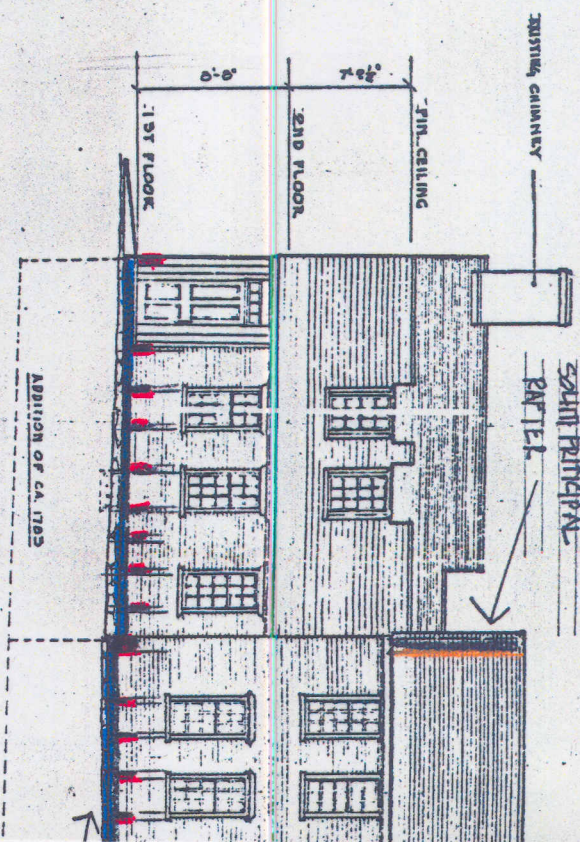
As we discussed on the telephone, we would require some idea of cost before we can consider the possibility of working out a demonstration arrangement for employing the BETA process. I find this process very intriguing and would look forward to demonstrating any methodology which will benefit the preservation of our historic structures. Please contact me if you have any questions and I will look forward to hearing from you concerning the possibility of trying the BETA process at Hartwell.

Sincerely,

E. Blaine Cliver
Chief, North Atlantic
Historic Preservation Center

Enclosures (2 sets)

cc: O. Carroll, NAHPC
H. Miller, WASO (560)



OWC - MLF MARCH 13, 1980

NOTE: INSIDE LINE
2-1/2" ABOVE GIRT
1/8" WIDE X 2 3/8" DEEP
2-11" BETWEEN
NOTCHES

FINISH AT INSIDE
FACE OF GIRT AND TOP

SHEATHING AT UPPER WINDOW
SOUTH
WEST

7-11 1/2
7-3 3/4

LEAST GABLE END GIRT
CONTAINS SOME ROTTED SPOTS

VERGE END 5 1/4" TOP
3 1/4" DOWN

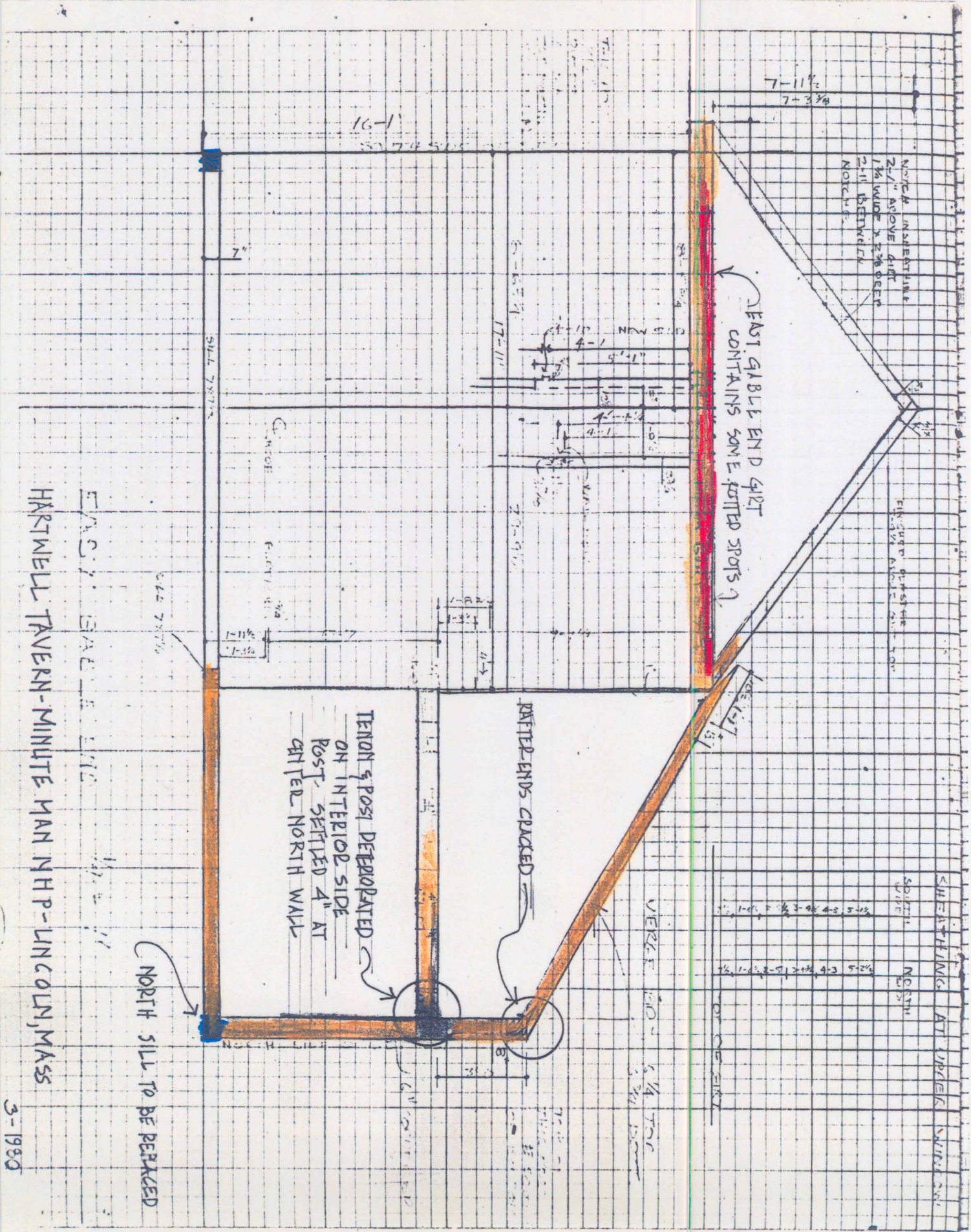
PARTIAL ENDS CRACKED

TENON & POST DETRIORATED
ON INTERIOR SIDE
POST SETTLED 4" AT
GABLE NORTH WALL

NORTH SILL TO BE REPLACED

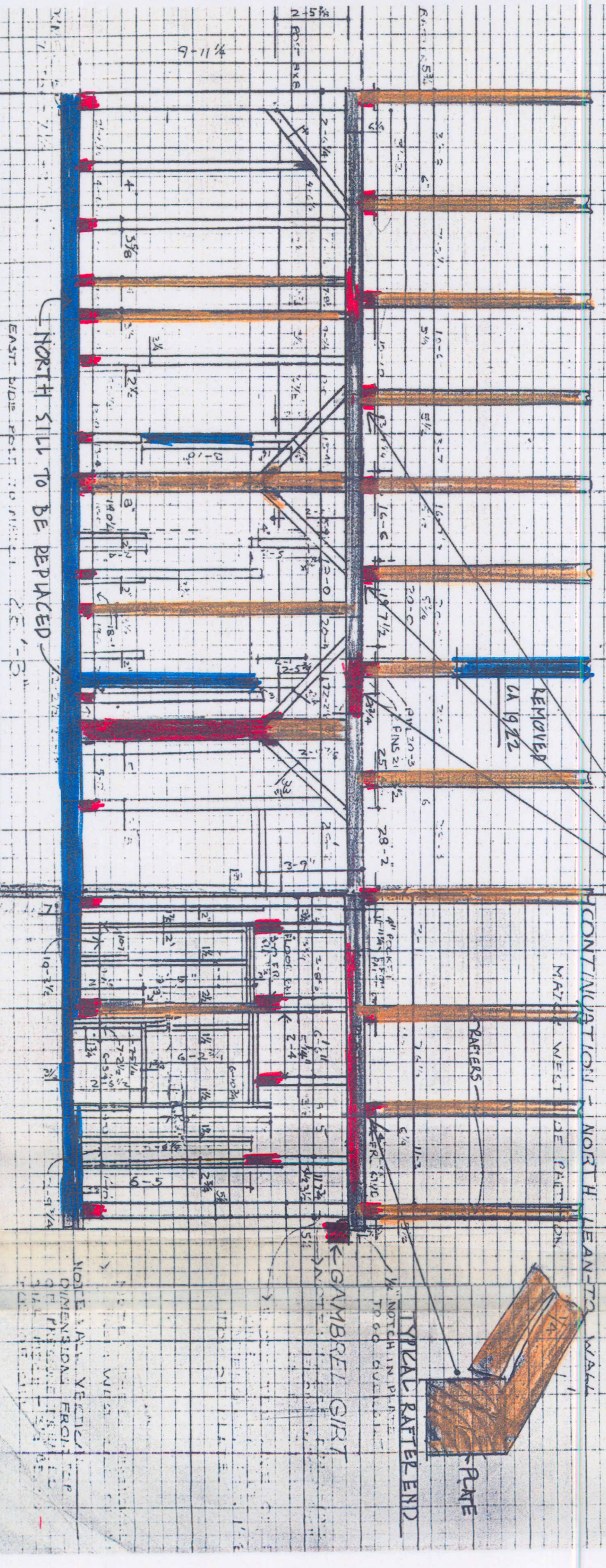
ENCLOSURE
HARTWELL TAVERN-MINUTE MAN NHP-LINCOLN, MASS

3-1980



NORTH WALL OF KITCHEN LEAN-TO
 EXTERIOR VIEW
 HARTWELL TAVERN
 MINUTE MAN NHP LINCOLN, MASS.

1/4" = 1'



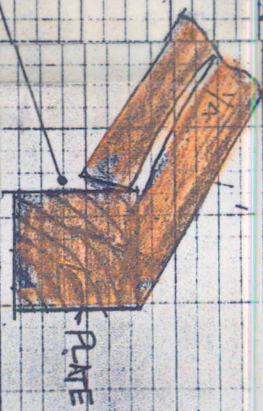
NORTH SILL TO BE REPLACED

EAST SIDE POST TO REMAIN 25'-5"

CONTINUATION - NORTH LEAN-TO WALL

MIDDLE WEST SIDE PARTITION

ALL RAFTER ENDS AT PLATE RAFTERS SOUND BUT CRACKED BY SINKS
 -SPLICE IN PLATE RAFTERS DUE TO SETTLEMENT



TYPICAL RAFTER END

GAMBREL GIRT

NOTE: ALL VERTICAL
 DIMENSIONS FROM TOP
 OF PRESSURE TREATED
 SILL BEAMS - 2x12x10

3-14-1930

END OF WEST GIRT

NORTHWEST CORNER OF PLATE ROTTED

WAINSCOT PARTIALLY ROTTED

NORTH GIRT 2ND FLOOR

FIN. FLOOR

2ND FLOOR

FIN. FLOOR

BOTTOM OF NORTH PLATE

7'-2 3/8" 5'-9 3/8" 4'-9 1/4" 3'-4 5/8" 2'-1 3/4" 9 3/8" 7 3/4" 0"

7'-2 1/2" 5'-11 1/2" 4'-10 3/4" 3'-8 1/4" 2'-5 1/2" 1'-0 3/4" 6 3/4" 9"

NORTH WALL - WEST CHAMBER

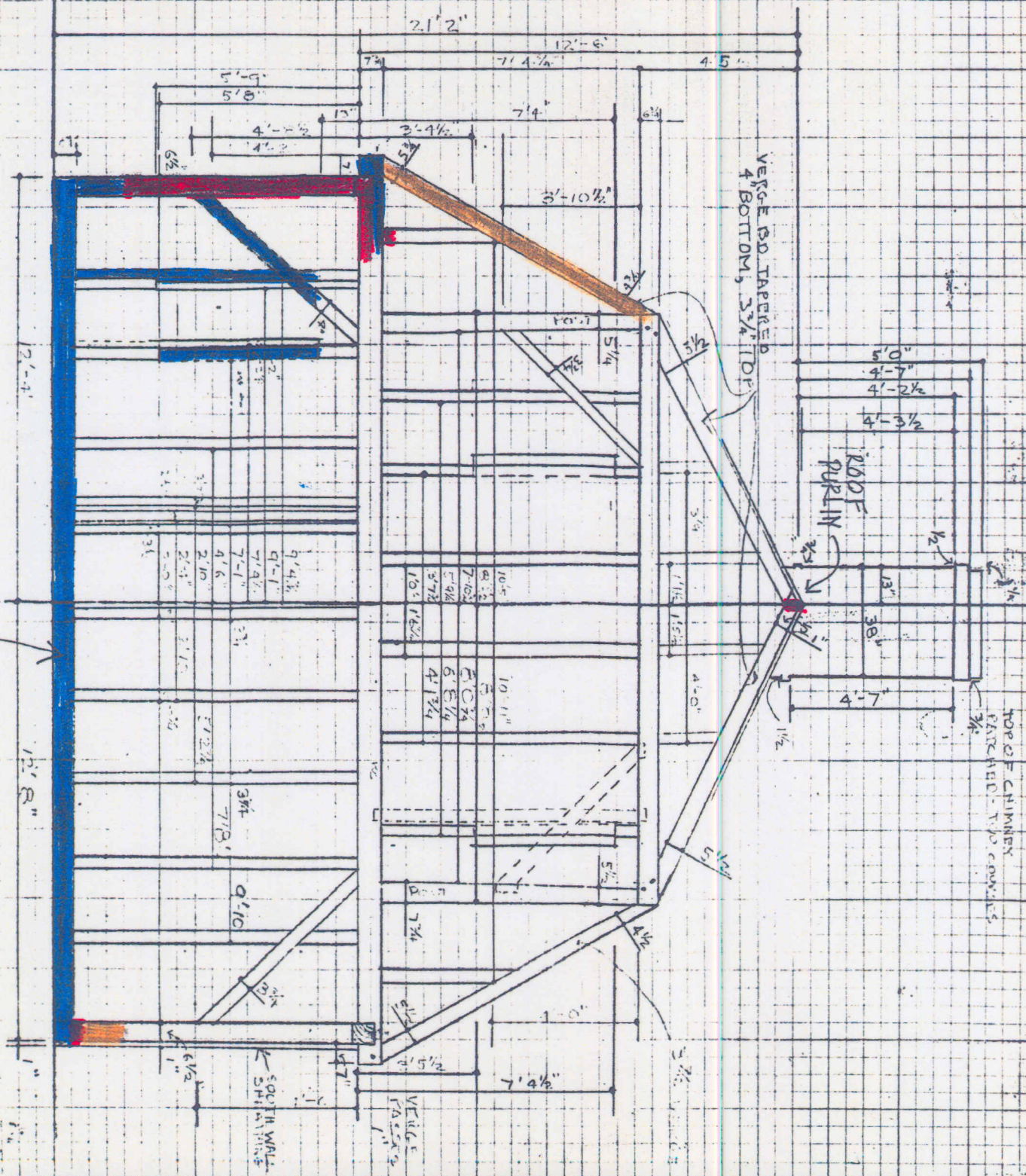
1/2" = 1'-0"

HARTWELL TAVERN

MINUTE MAN NAT. HIST. PARK

LUDLOW, MASS.

NEST ALL TO BE REPLACED



GAMBREL

SPACING OF
1783 CLAUDE ARDS

WEST GAMBREL AT CTR

APEX	0' 0"
69	0' 7 3/4"
68	1' 1 1/2"
67	1' 3"
66	1' 5"
65	1' 7 1/2"
64	2' 1 1/2"
63	2' 3"
62	2' 5"
61	2' 7 1/2"
60	3' 1"
59	3' 3"
58	3' 5"
57	3' 7 1/2"
56	4' 1"
55	4' 3"
54	4' 5"
53	4' 7 1/2"
52	5' 1"
51	5' 3"
50	5' 5"
49	5' 7 1/2"
48	6' 1"
47	6' 3"
46	6' 5"
45	6' 7 1/2"
44	7' 1"
43	7' 3"
42	7' 5"
41	7' 7 1/2"
40	8' 1"
39	8' 3"
38	8' 5"
37	8' 7 1/2"
36	9' 1"
35	9' 3"
34	9' 5"
33	9' 7 1/2"
32	10' 1"
31	10' 3"
30	10' 5"
29	10' 7 1/2"
28	11' 1"
27	11' 3"
26	11' 5"
25	11' 7 1/2"
24	12' 1"
23	12' 3"
22	12' 5"
21	12' 7 1/2"
20	13' 1"
19	13' 3"
18	13' 5"
17	13' 7 1/2"
16	14' 1"
15	14' 3"
14	14' 5"
13	14' 7 1/2"
12	15' 1"
11	15' 3"
10	15' 5"
9	15' 7 1/2"
8	16' 1"
7	16' 3"
6	16' 5"
5	16' 7 1/2"
4	17' 1"
3	17' 3"
2	17' 5"
1	17' 7 1/2"

CONTINUE

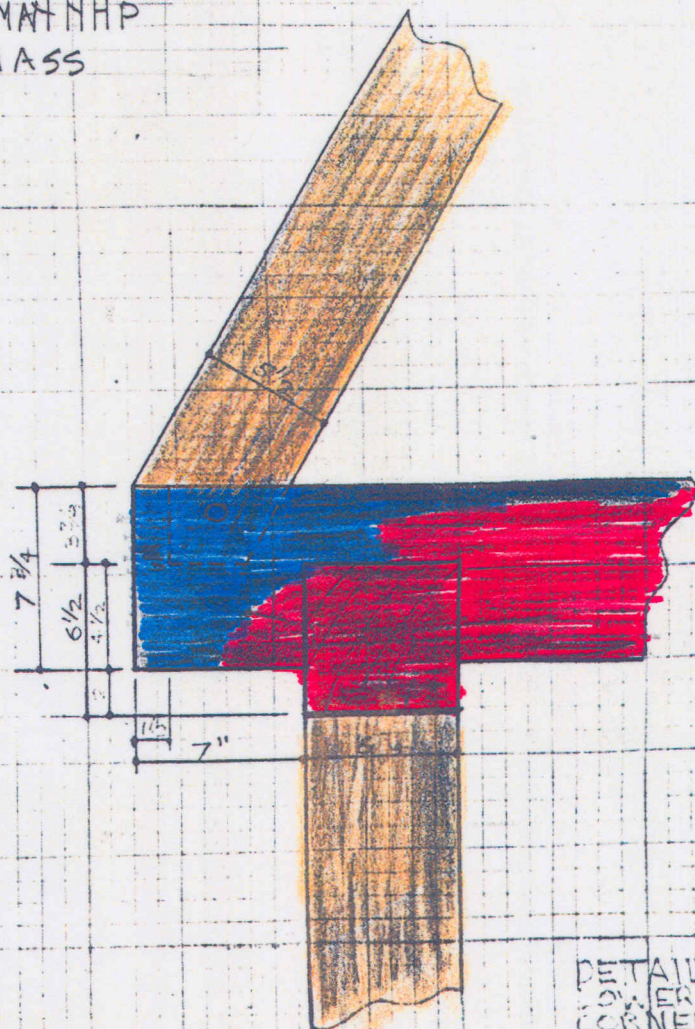
19	6
11	8 5/8
19	11
20	1 3/4
20	1 1/2
21	2"

BRICK FOUNDATION
BOTTOM OF SILL

WINDOW HEAD

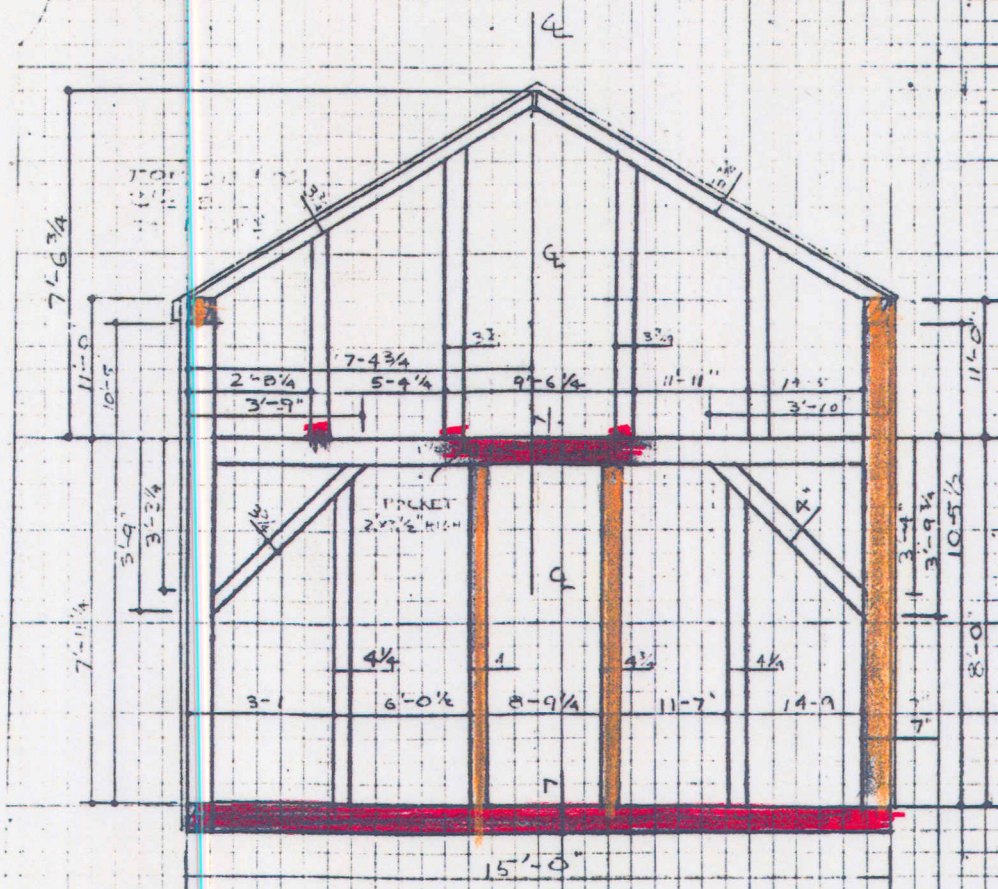
VIEW OF JOINT WHERE RAFTER, PLATE, AND GIRT MEET
AT NORTHEAST & NORTHWEST CORNERS OF GAMBREL

HARTWELL TAVERN
MINUTE MATH NHP
LINCOLN MASS



DETAIL AT
LOWER NORTH
CORNER
SCALE 1/4" = 1'
CHI

NORTH WALL FRAMING ca. 1830 SHED $\frac{1}{4}" = 1'$



HARTWELL TAVERN
MINUTE MAN NHP
LINCOLN, MASS.

3-1980



Pedro Deleon debarks and splits a white pine log
on the first step toward making clapboards.
Photo: NPS, M. Fortin, March 1981

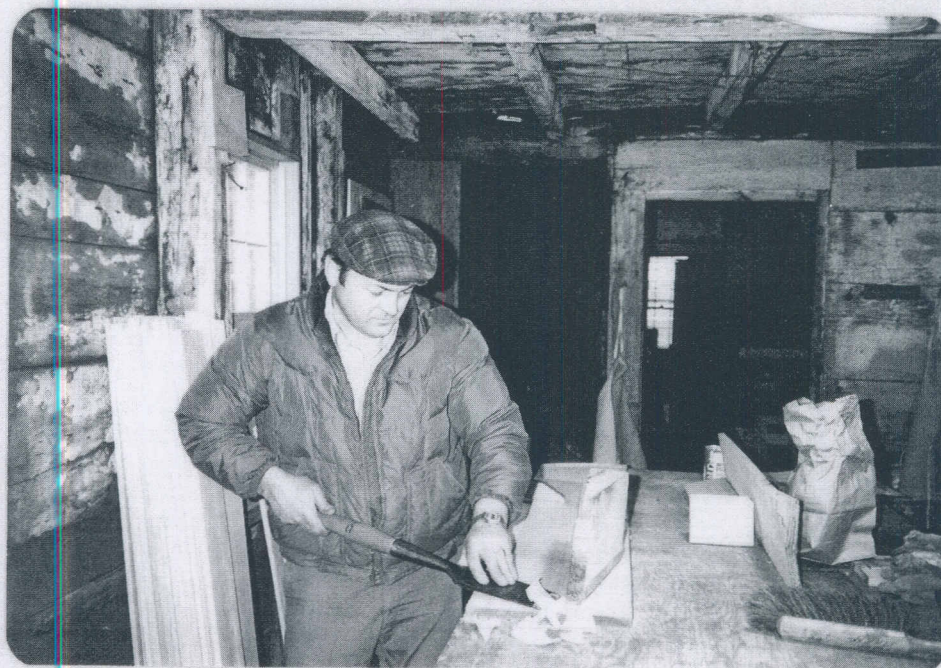


Michael Smith and Pedro Deleon split five feet long
white pine logs into clapboard bolts.
Photo: NPS, M. Fortin, February 1980



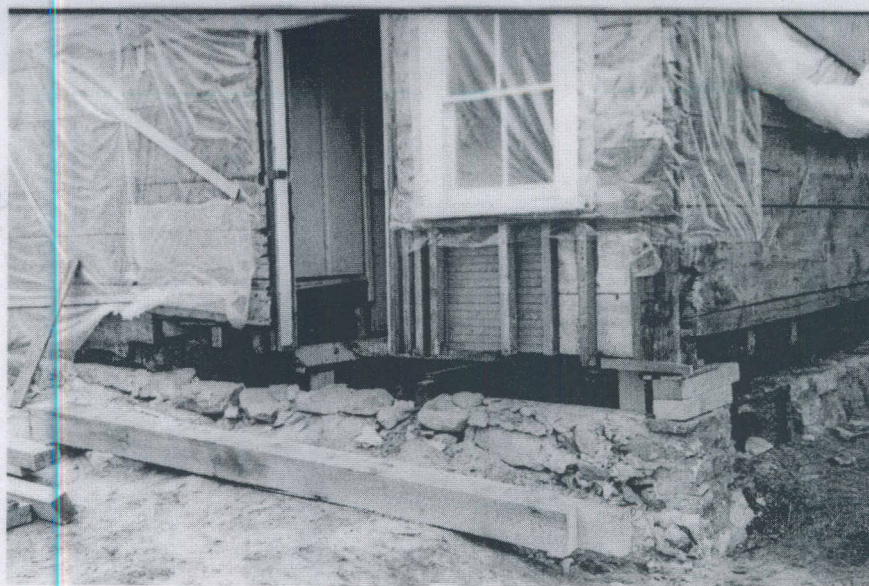
Pablo Cuevas and Pedro Deleon are shown smoothing the rough clapboard stock into clapboards. The use of a long-handled slick proved to be a more efficient way of removing the excess wood than the traditional use of a draw knife.

Photo: NPS, M. Fortin, March 1981



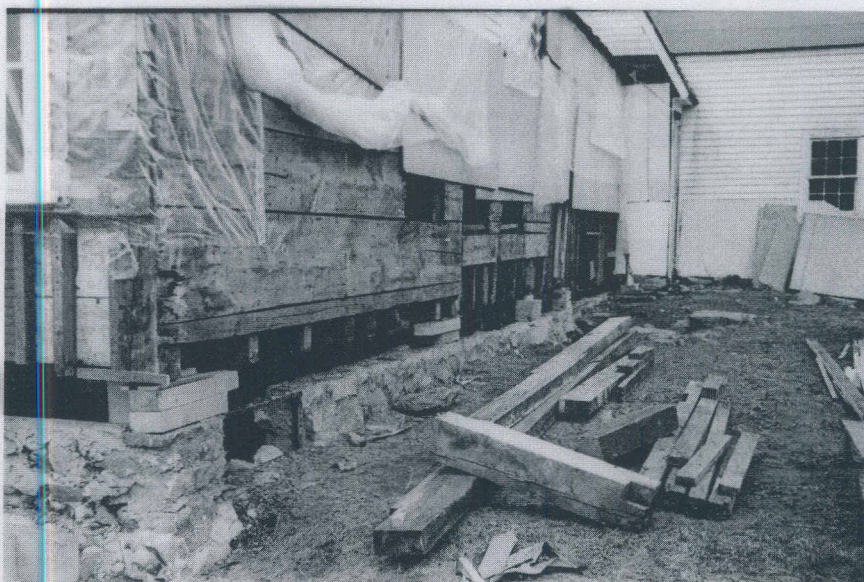
Michael Fortin, Project Supervisor, demonstrates how the lap is made at each end of every clapboard. Again the long-handled slick proved to be a more efficient tool than the traditional draw knife.

Photo: NPS, L. Burnash, March 1981



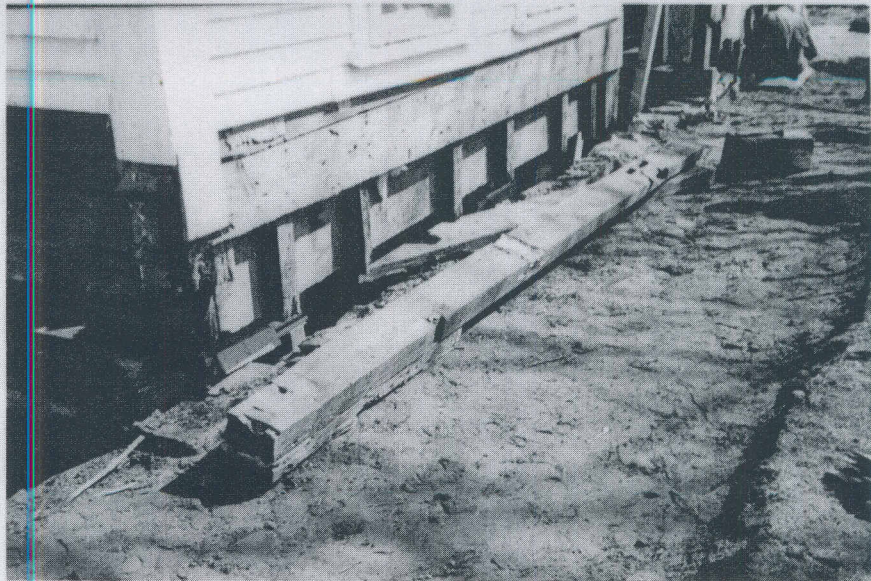
Kitchen lean-to, east wall. A modern sill has been removed and the above oak (pressure treated) sill cut and fitted to take its place.

Photo: NPS, M. Fortin, April 1980



Kitchen lean-to, north wall. Ca. 1900's foundation sills have been removed and will be replaced with pressure-treated oak sills equal in size to the original ones.

Photo: NPS, M. Fortin, April 1980



Southwest corner of the Hartwell Tavern showing the removal of an early 20th-century foundation sill along the south wall of the 1733 house. It was eventually replaced with a pressure-treated oak sill having dimensions to match the original sill.

Photo: NPS, M. Fortin, April 1980



Sill splice installed above the cellar bulkhead on the west wall of the c. 1783 gambrel addition. The stone steps to the cellar were eventually relaid and a new wooden bulkhead constructed.

Photo: NPS, M. Fortin, July 1980



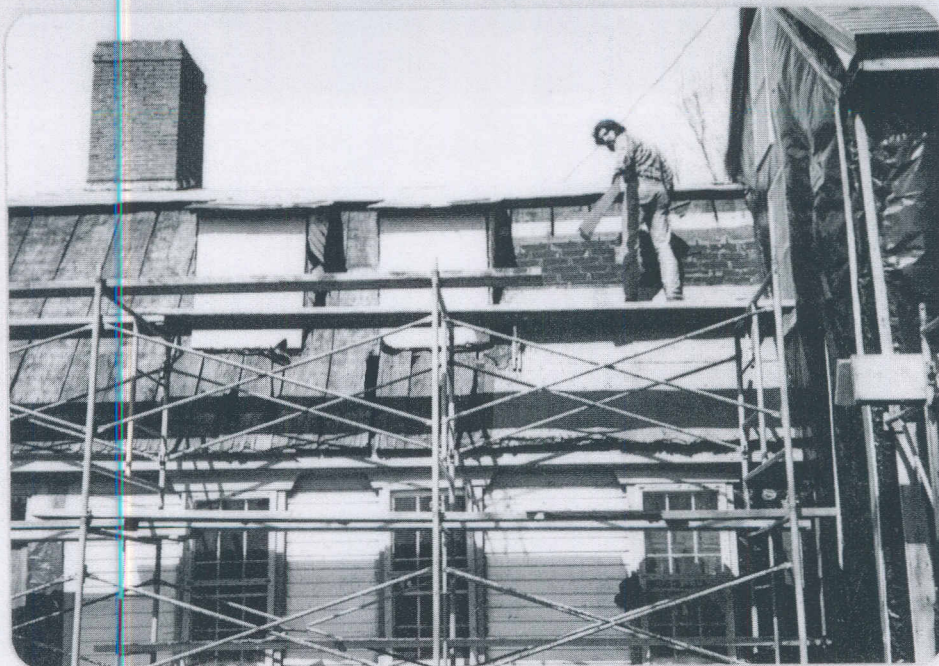
New splice in end of foundation sill at the northeast corner of the shed addition. Stone underpinning was relaid along the east wall of the shed at the same time.

Photo: NPS, M. Fortin, September 1980



East wall of the shed addition showing splices made to the original foundation sill and masons work in relaying the stone underpinning.

Photo: NPS, M. Fortin, September 1980



Donald McKeever shown stripping asphalt roofing from south roof of the c. 1783 gambrel addition. The two dormer window openings and three first floor window openings retain their original window frames.

Photo: NPS, M. Fortin, March 1981



By early winter of 1981, the roofs had been shingled, exterior window and door frames installed and work on the shed addition nearly completed. View at rear of Hartwell Tavern.

Photo: NPS, M. Fortin, February 1981



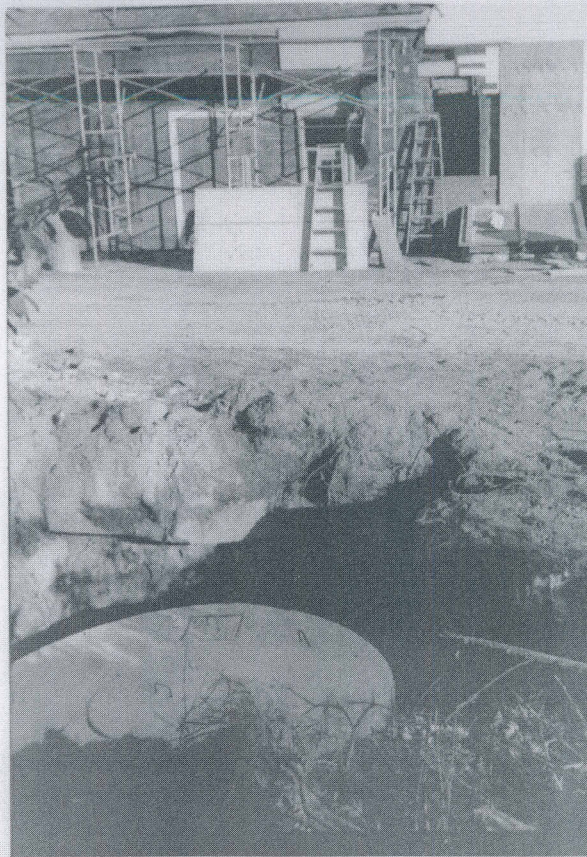
South wall of the Hartwell Tavern after the reproduction (1733) window frames and fronticepiece for the central doorway had been installed. The temporary tent structure seen on the roof provided protection to the brick mason while the central chimney was being built.

Photo: NPS, M. Fortin, March 1981



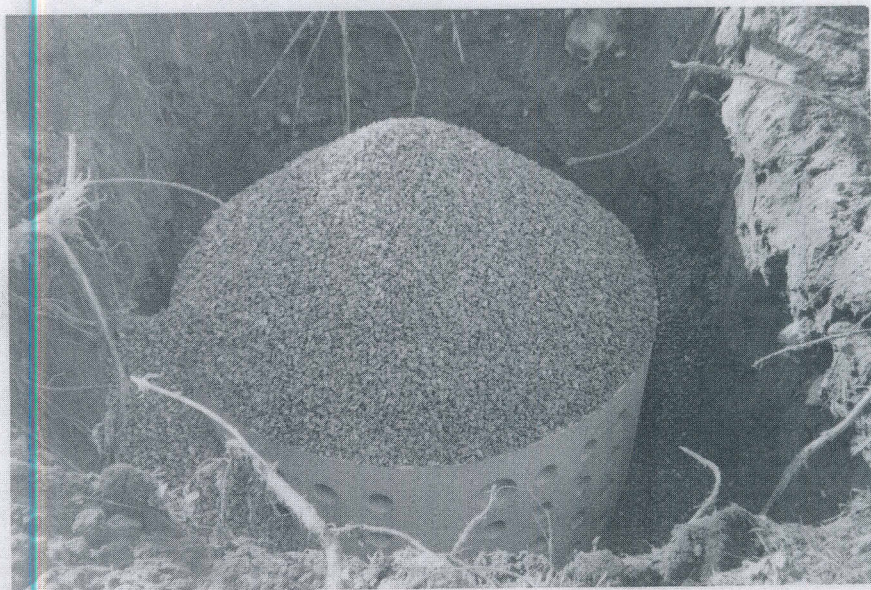
East wall of the kitchen lean-to showing the recently installed door frame and door along with a new adjoining window frame. These members represent one of several architectural styles in use during the first half of the 19th century.

Photo: NPS, M. Fortin, February 1981



Location of the concrete leaching pit on the west side of the gambrel addition.

Photo: NPS, M. Fortin, October 1980



Concrete leaching pit with reinforced concrete top, being covered with gravel. A second leaching pit was placed on the east side of the Tavern as well.

Photo: NPS, M. Fortin, October 1980



Original floor boards in the Kitchen lean-to. The six finish floor boards seen in the upper left hand corner are original to a small room once located here. The remaining boards are from the original sub-floor of ca. 1830. Kitchen hearth dates from c. 1830 and was taken up and relaid in 1981.

Photo: NPS, M. Fortin, February 1980



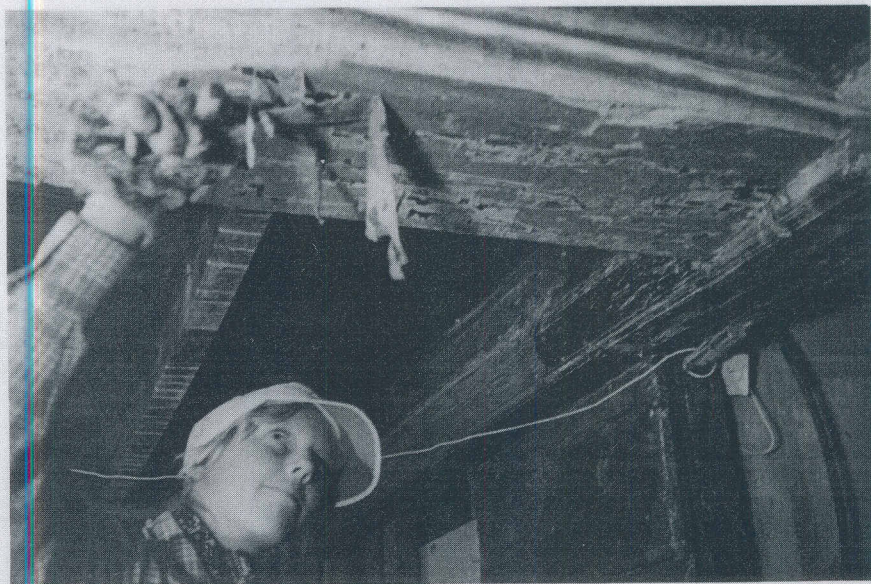
R. Boucher shown rebuilding the fireback and jambs for the fireplace in the Kitchen of the lean-to.

Photo: Ann Ahearn, March 1981



Kathy Thompson removing paint from a cupboard door in the West Parlor. In order to give the public the effect of an unpainted tavern room in 1775, paint was removed from later additions to the West Parlor, such as this cupboard door added in ca. 1830.

Photo: NPS, M. Fortin, June 1980



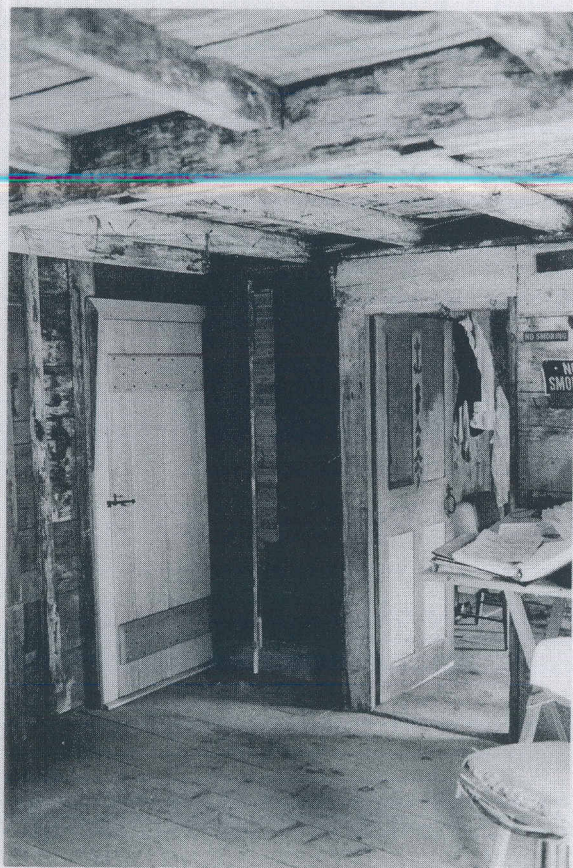
Carol Berry removing paint from the summer beam in the West Parlor. Paint dates after c. 1783 but more likely after 1830.

Photo: NPS, M. Fortin, June 1980



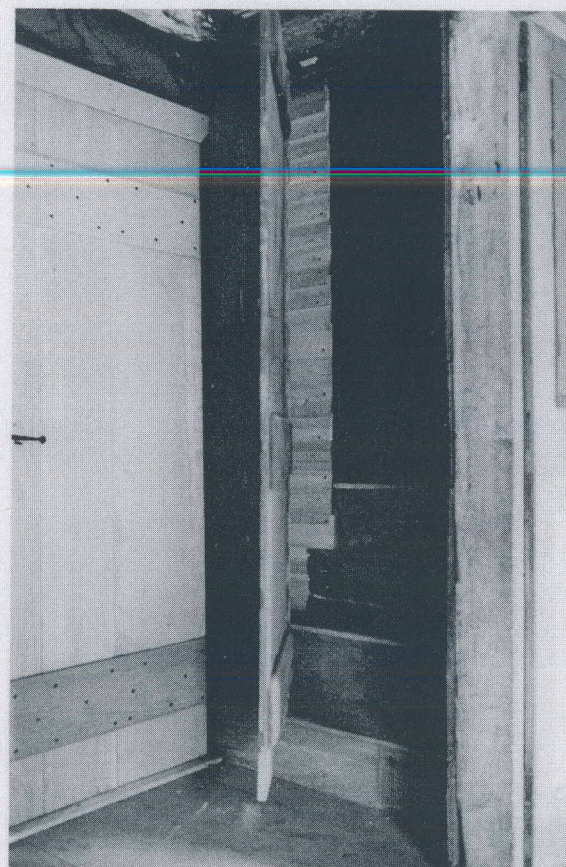
Interior view of the shed during rehabilitation work on the floors and stairway. View looking south with gambrel addition beyond.

Photo: Ann Ahearn, March 1981



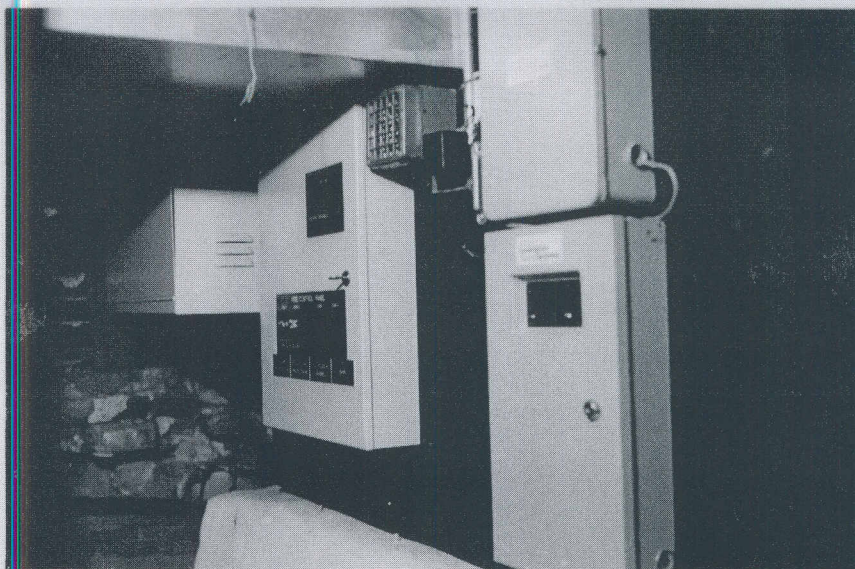
Shed addition of c. 1830 after rehabilitation work on interior was completed in 1982.

Photo: F. Szarka, August, 1983



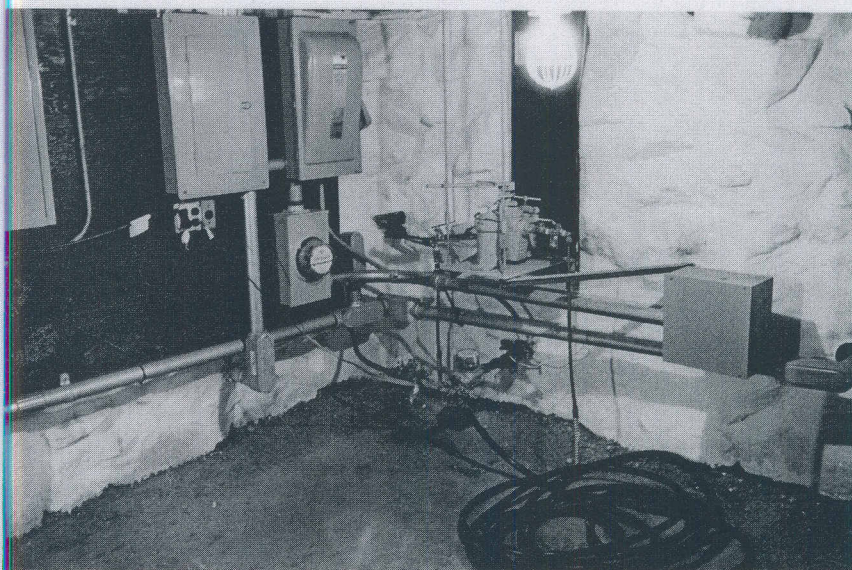
Shed addition of c. 1830 showing new exterior door and rehabilitated stairway to gambrel chamber.

Photo: F. Szarka, August, 1983



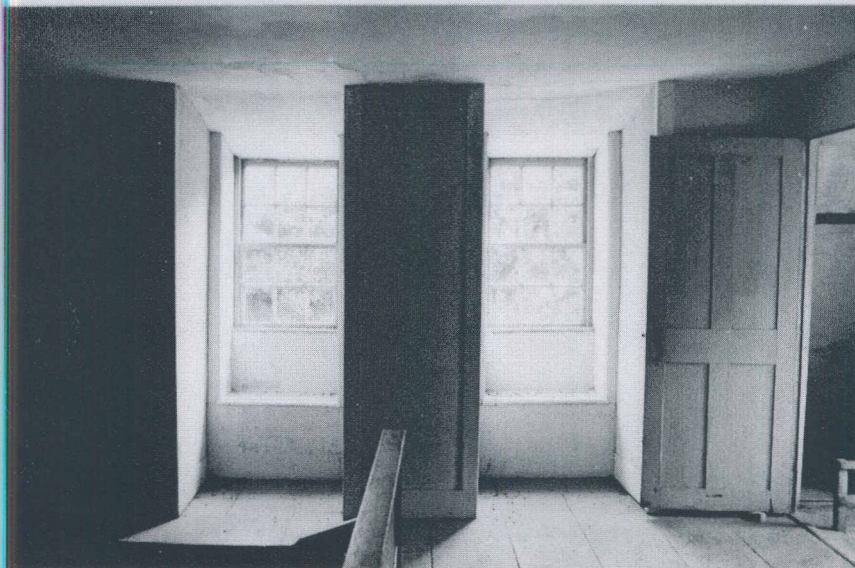
Fire detection and intrusion alarm panel boxes
mounted in closet off East Parlor, first floor.

Photo: F. Szarka, August, 1983



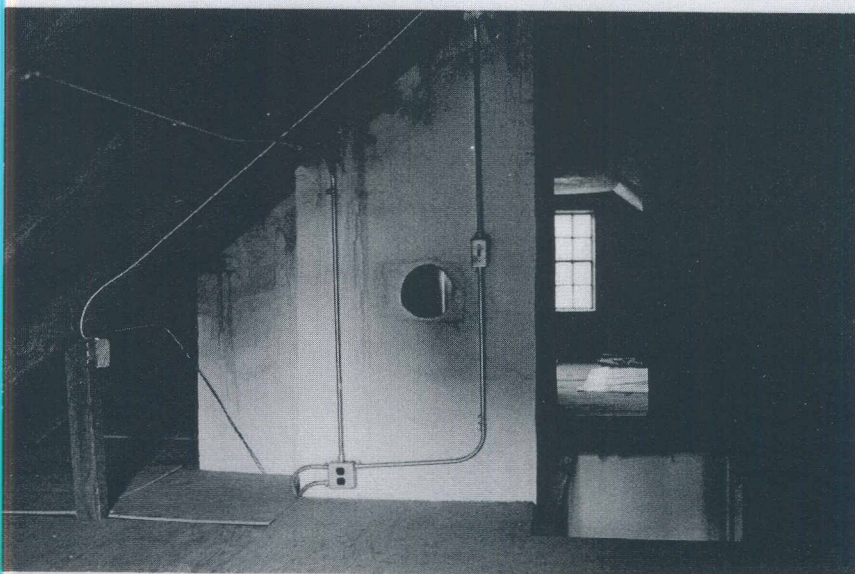
Panel board containing electrical and telephone
distribution elements. Fuel oil filter and water
meter to the right.

Photo: F. Szarka, August, 1983



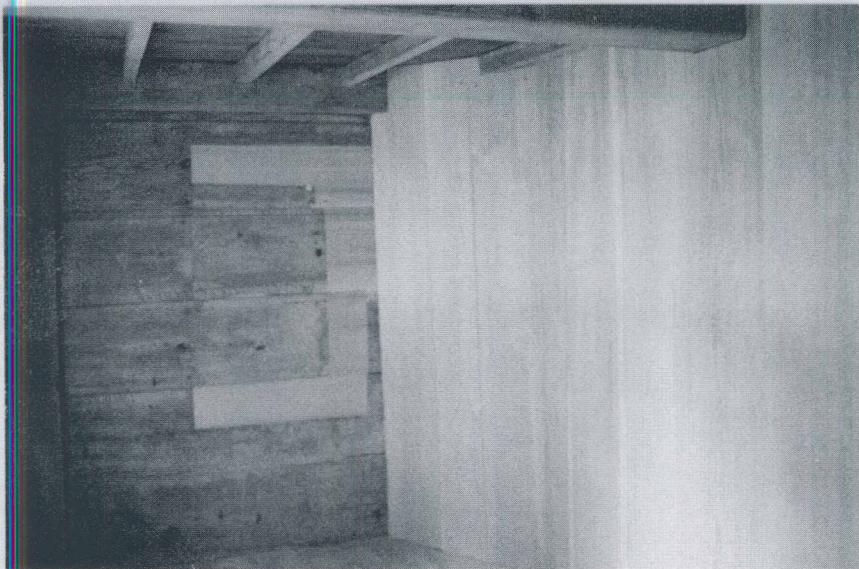
Chamber in gambrel addition of c. 1783, looking at south wall with new window sash and stops. Remaining parts of the room are original in this view.

Photo: F. Szarka, August, 1983



The central chimney in the 1733 house was reconstructed above the attic floor in 1982. Opening in chimney flue is for ventilation of the attic.

Photo: F. Szarka, August, 1983



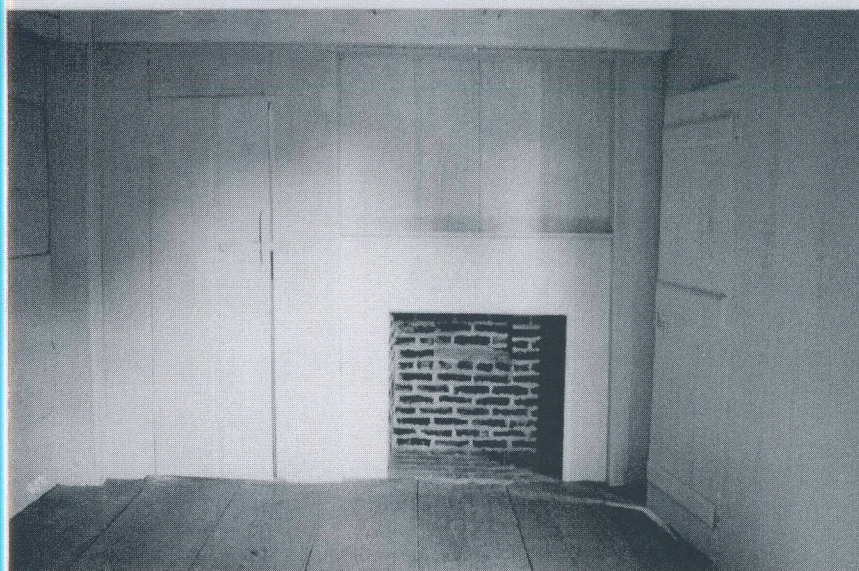
West Chamber of 1733 house thought to be divided into two rooms in c. 1757. View of south room, looking west at repaired wainscoting.

Photo: F. Szarka, August, 1983



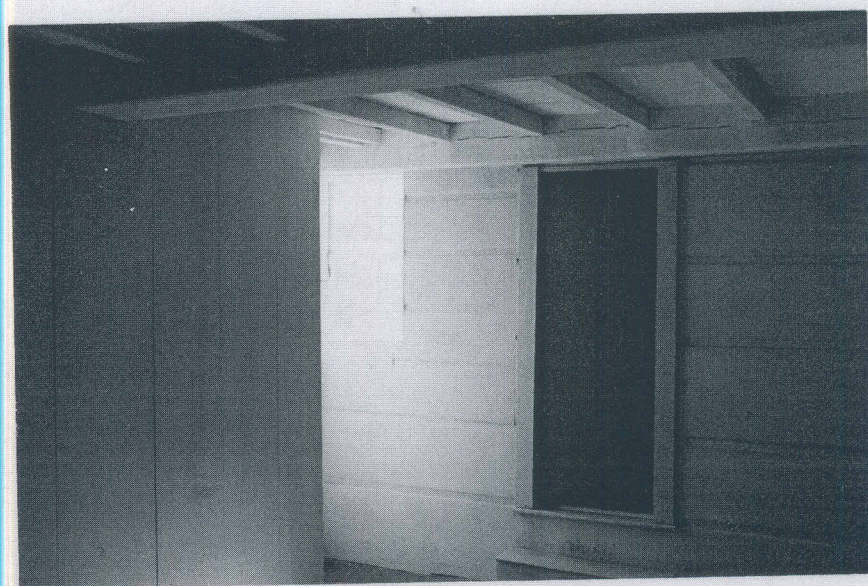
South room of West Chamber, looking east. Board and batten door to hallway was returned to its original location and restored to its original width.

Photo: F. Szarka, August, 1983



North room of divided West Chamber, 1733, looking at restored fireplace surround including mantel shelf, jamb and head boards and feathered edge molded boards above mantel shelf.

Photo: F. Szarka, August, 1983



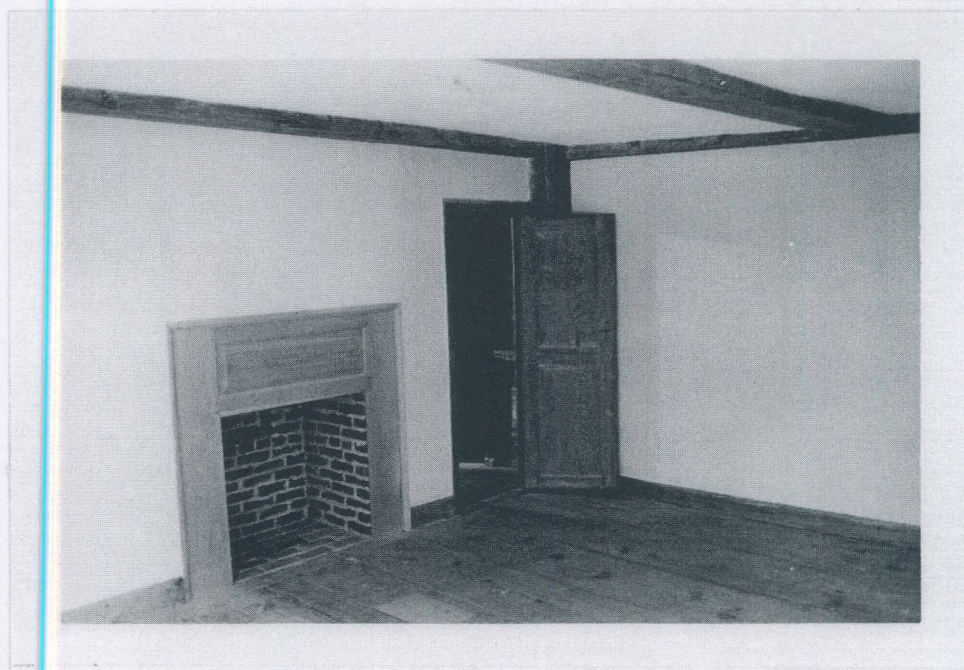
North room of divided West Chamber, 1733, looking at west wall. Partition (of c. 1757) is at left, window (of c. 1783) at center and door (of c. 1830) into gambrel addition.

Photo: F. Szarka, August, 1983



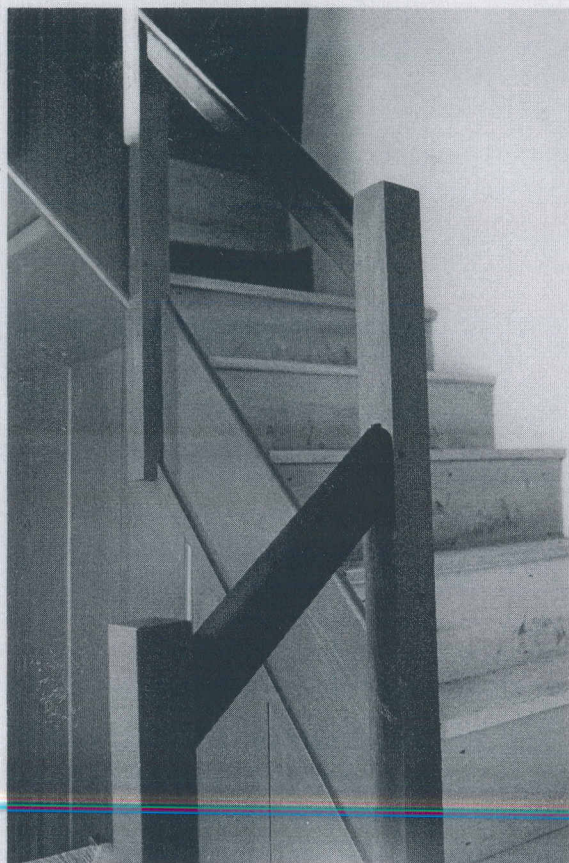
Southwest corner of the East Chamber with an original two paneled door and thumb latch. Mantelpiece is a reconstruction.

Photo: F. Szarka, August, 1983



Northwest corner of the East Chamber with an original closet door. Plaster walls and ceiling and floor boards are original to 1733.

Photo: F. Szarka, August, 1983



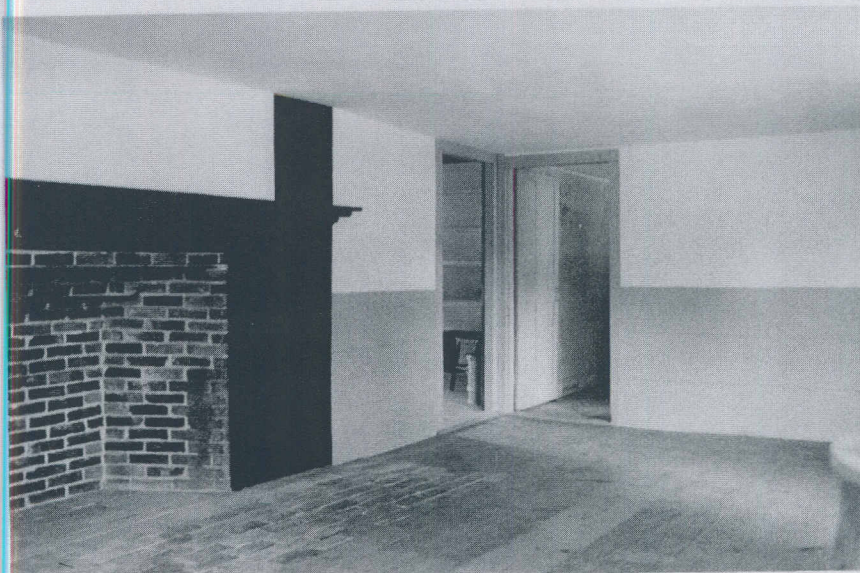
Reconstructed stairway on first floor, 1733. All pieces are new except the handrails which are original.

Photo: F. Szarka, August, 1983



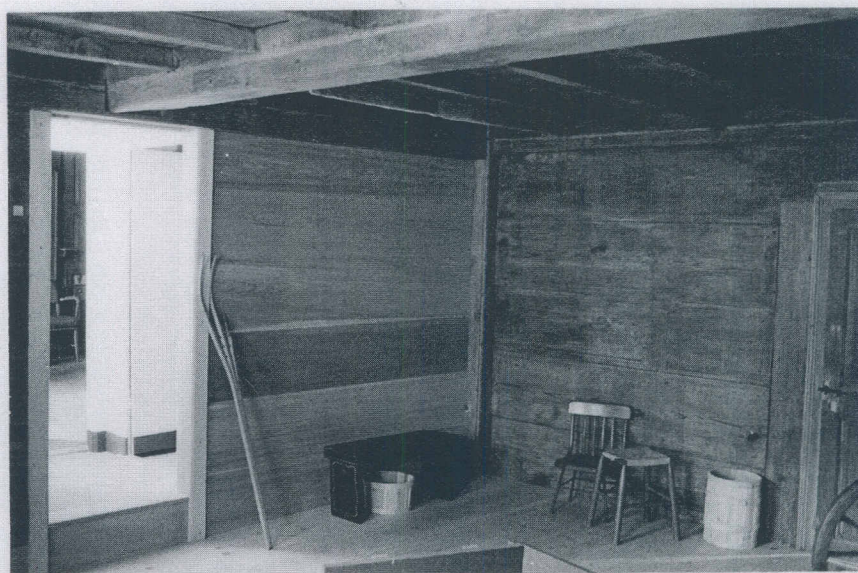
Reconstructed stairway to attic, 1733, as seen from the second floor.

Photo: F. Szarka, August, 1983



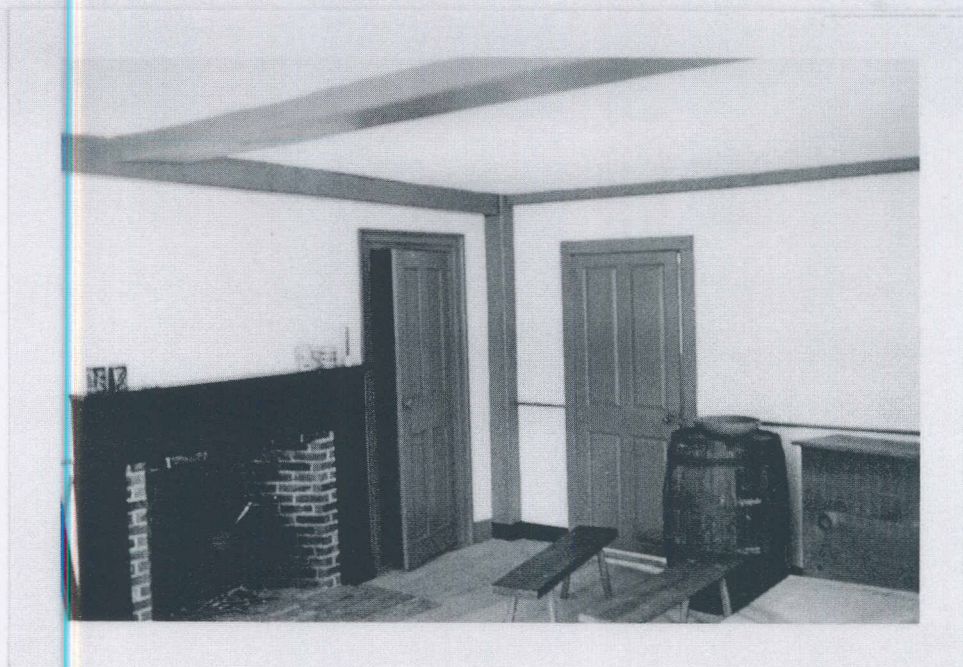
Kitchen in lean-to built about 1830. Fireplace was reconstructed in 1982. Plaster walls and ceiling and floor boards were installed in 1982. Mantel is original to c. 1830.

Photo: F. Szarka, August, 1983



West Parlor, 1733 house, after restoration of wall boards on west wall in 1982. Doorway to Kitchen lean-to, dating from c. 1830 was left intact.

Photo: F. Szarka, August, 1983



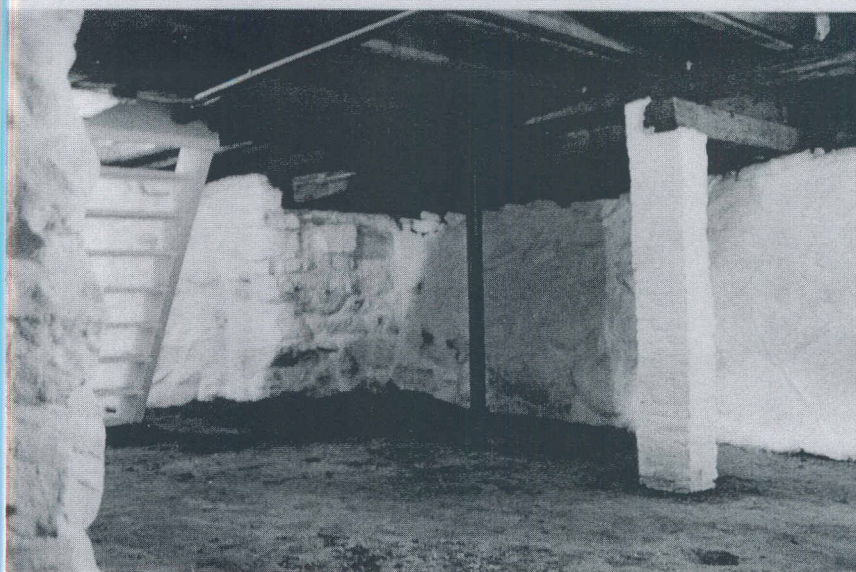
East Parlor, looking at northwest corner of the room with c. 1830 mantelpiece; c. 1830 closet door and doorway to Kitchen lean-to.

Photo: F. Szarka, August, 1983



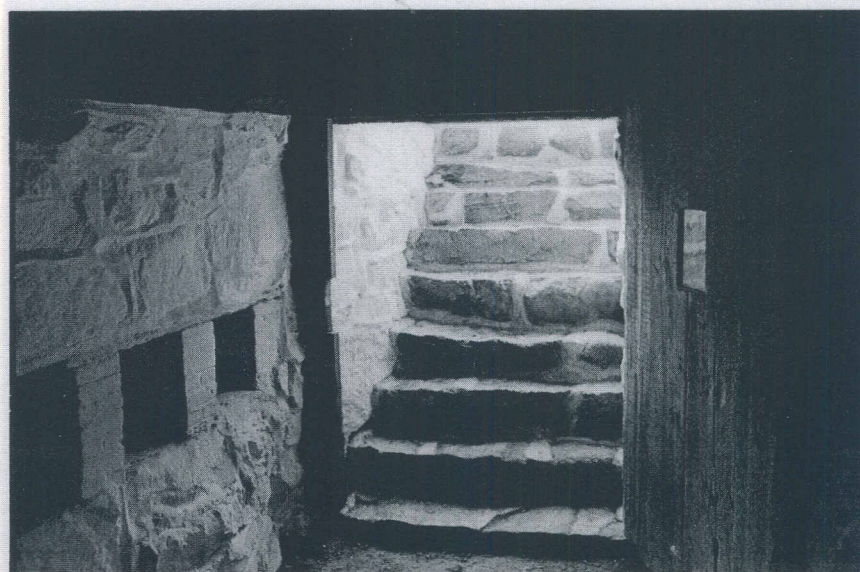
East Parlor, showing reconstructed window frames and sash representing the 1733 period of construction. Plaster walls and ceiling are original.

Photo: F. Szarka, August, 1983



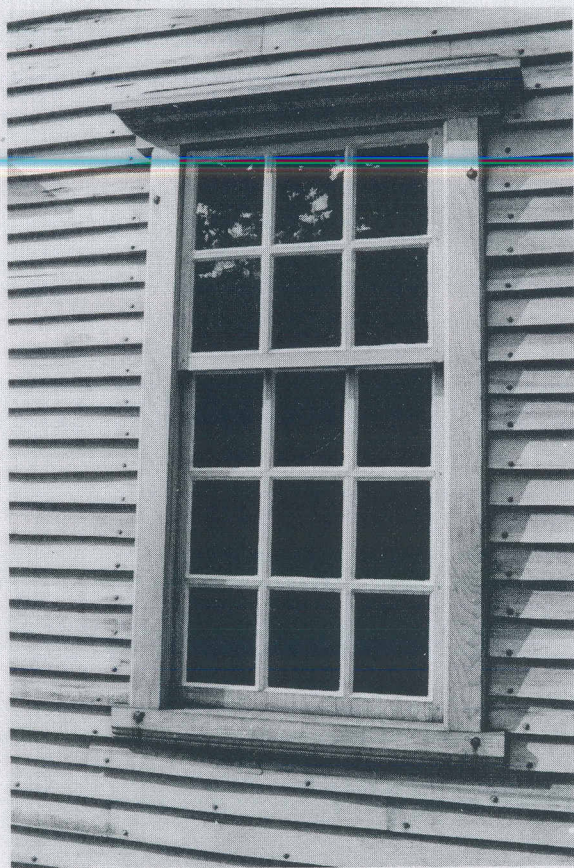
Cellar area under gambrel addition of c. 1783 after rehabilitation work was completed. Cross beam held by brick pier is a replacement.

Photo: F. Szarka, August, 1983



Cellar bulkhead at west wall of gambrel addition. Lower four steps were relaid. Door dating from early 1900's was left intact.

Photo: F. Szarka, August, 1983



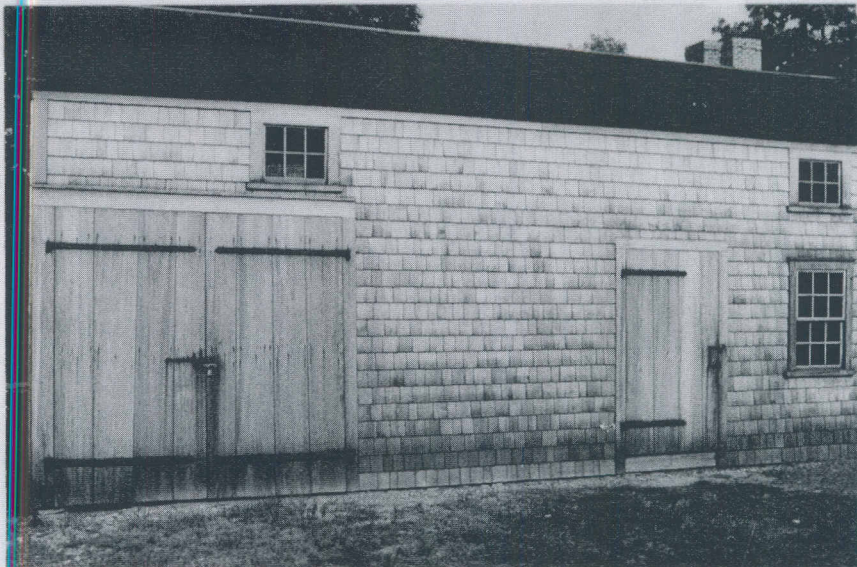
Reconstructed window frame and sash
from 1733 period.

Photo: F. Szarka, August, 1983



Reconstructed window frame and sash
c. 1830 period.

Photo: F. Szarka, August, 1983



West wall of shed after restoration to the c. 1865 period was completed.

Photo: F. Szarka, August, 1983



Window frame representing the 1865 period when the first exterior changes were made to shed of c. 1830.

Photo: F. Szarka, August, 1983



View of Hartwell Tavern looking northeast at restored exterior completed in 1981-82. Window frames and doorway in south wall of c. 1783 gambrel addition are original.

Photo: F. Szarka, August, 1983



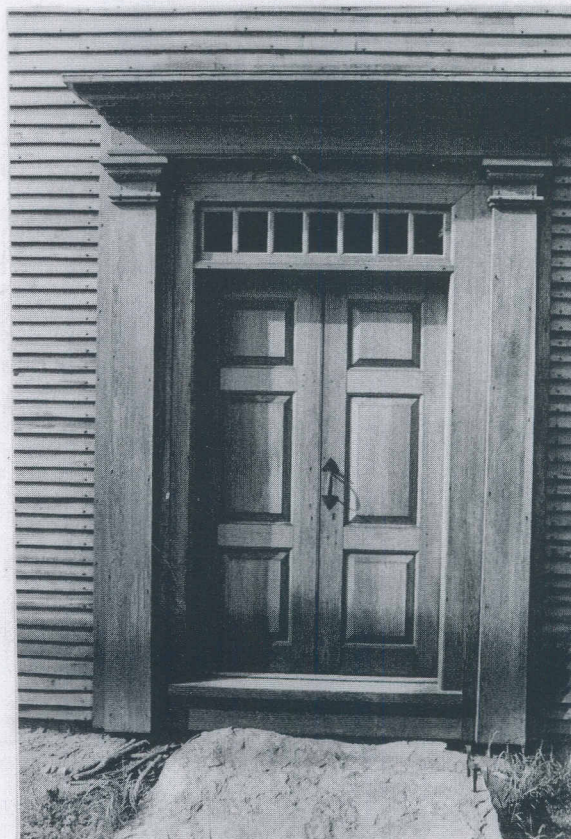
View looking southwest at Kitchen lean-to c. 1830, gambrel addition of c. 1783 and shed addition of c. 1830.

Photo: F. Szarka, August, 1983



Exterior view of 1733 house as restored in 1981-82.
All woodwork replaced was reproduced from white pine.

Photo: F. Szarka, August, 1983



Fronticepiece reproduced for front
entrance to 1733 house.

Photo: F. Szarka, August, 1983

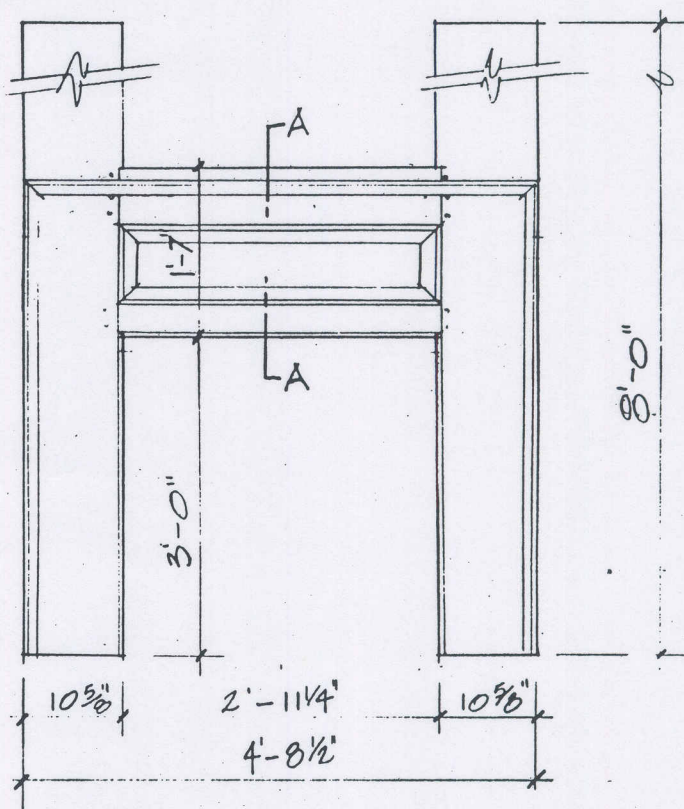
RESTORATION OF THE HARTWELL TAVERN MILLWORK DRAWINGS - REVISION

MINUTE MAN NATIONAL HISTORICAL PARK
NATIONAL PARK SERVICE - NORTH ATLANTIC REGION
REVISED 9-21-79 BY L.A. SORLI

DRAWING NO. D-1105/1 SHEET NO. 26; E. CHAMBER CHIMNEY BREAST

DESCRIPTION OF REVISION:

ITEM 1 ON SCHEDULE, SHEET 26, CONSISTING OF 5 1 x 6s
JOINED TOGETHER SHU, HAVE DIMENSIONS CHANGED AS
SHOWN BELOW:

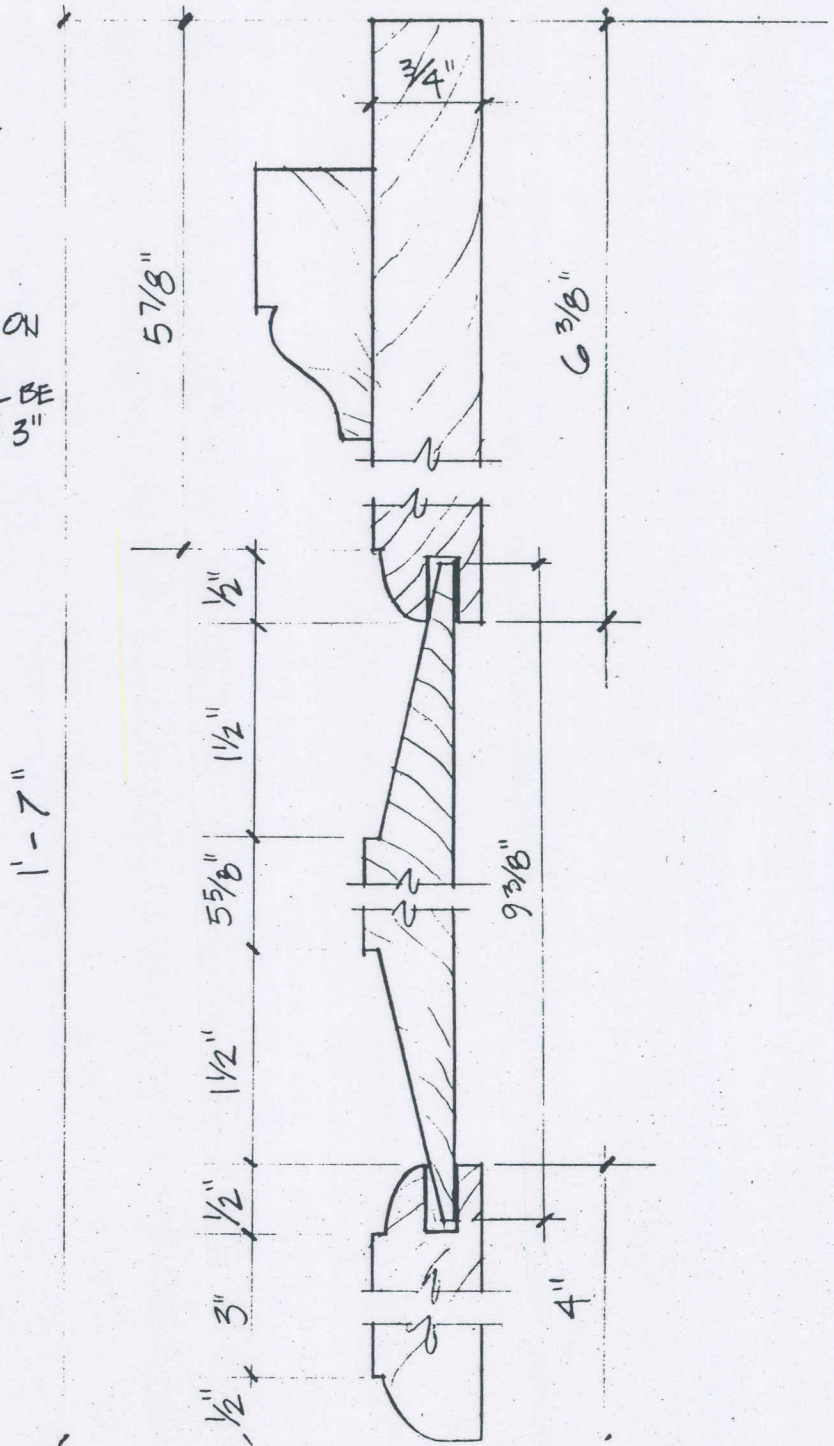


SHEET 1 OF 3

SECTION A-A
FULL SIZE

REVISION OF EAST
CHAMBER CHIMNEY
BREAST.

ON DETAIL (B) JOINT ON
ORIGINAL SHEET 26,
BOTTOM TENON SHALL BE
CHANGED FROM 4" TO 3"
& TOP TENON FROM
6 5/8" TO 5 7/8".



RESTORATION OF THE HARTWELL TAVERN MILLWORK DRAWINGS - REVISION

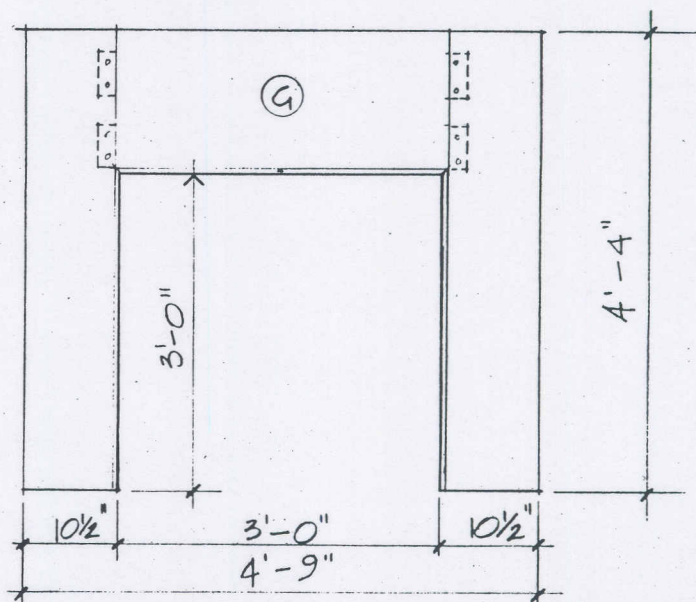
MINUTE MAN NATIONAL HISTORICAL PARK
NATIONAL PARK SERVICE - NORTH ATLANTIC REGION
REVISED 9-21-79 BY L.A. SORLI

DRAWING NO. D-1105/1 SHEET NO. 27 W. CHAMBER CHIMNEY
BREAST

DESCRIPTION OF REVISION:

ITEM "G" CONSISTING OF THREE
BOARDS SHALL HAVE DIMENSIONS
CHANGED AS SHOWN BELOW.
MOULDED EDGES & MORTICE & TENON
JOINTS SHALL REMAIN AS SHOWN ON
ORIGINAL DRAWING.

SCALE: $\frac{3}{4}" = 1'-0"$



SHEET 3 OF 3