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historic structure report
ARCHITECTURAL DATA
may 1976

HARPERS FERRY
JOHN BROWN'S FORT



NATIONAL HISTORICAL PARK / MARYLAND - W. VIRGINIA

HISTORIC STRUCTURE REPORT

JOHN BROWN'S FORT

ARCHITECTURAL DATA

HARPERS FERRY NATIONAL HISTORICAL PARK

MARYLAND - W. VIRGINIA

by

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

May 1976

PREFACE

This report is based not only on field investigation but also on the wealth of information acquired by Archie Franzen, Park Architect at Harpers Ferry National Historical Park, during his many years of study on the "fort," and on data provided in the historical data report on the structure completed by Park Historian Charlotte Fairbairn and entitled John Brown's Fort Armory Engine and Guard House--1848-1961, August 15, 1961.

To date there has been no attempt to investigate the original site.

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INTRODUCTION

John Brown's Fort, originally built as part of the government's armory and arsenal, lies in the lower town of Harpers Ferry, West Virginia, at the junction of the Potomac and Shenandoah rivers. Harpers Ferry had been chosen as the site for the nation's new armory by President George Washington, who had long been interested in the development of the area. From about 1801 until the Civil War brought about its destruction, the armory was one of the nation's two major centers for arms production. John Brown's Fort was built in 1848 as the armory's engine/guard house and served that purpose until the early morning hours of October 17, 1859, when it became Brown's base for his ill-fated attempt to liberate the slaves in Virginia. John Brown believed that with the capture of the armory's arsenal he would have enough weapons to support a slave revolt. With the failure of this dream and the advent of the Civil War, the engine/guard house became a shrine to the freedom of the black man and to his champion John Brown. The fort, sitting on its original site for almost thirty years, gained national interest and in 1893 was dismantled and moved for display to the Columbian Exposition in Chicago, where, however, it proved to be of little interest and a financial disaster. Kate Field, a Washington, D.C., correspondent, became interested in the fort and its symbolic importance to the negro movement for equality. Because the original site was unavailable, she negotiated its relocation to five acres of land on the Murphy farm on the outskirts of Harpers Ferry, West Virginia. During the next fifteen years the fort became a local attraction for students from Storer College in Harpers Ferry. In 1910 the alumni of the school decided that "John Brown's Fort" should be moved to the college campus to serve as a museum. Again the building was dismantled and rebuilt. After the National Park Service acquired the campus, the building was moved intact in 1968 to a spot near its original location in the lower town of Harpers Ferry. It was finally situated approximately one hundred feet from its original construction site, where it will receive a partial restoration prior to its eventual move and reconstruction on the original site.

The fort received HABS coverage in 1936 when photos were taken. In 1958 measured drawings were made under the direction of Resident Architect Archie W. Franzen and Professor Blair F. Reeves and drawings were produced by students Henry R. Baker, Mary M. Buchele, Seymour R. Feolichstein, Russell V. Keune, and George L. Wrenn. (See Appendices A and B for drawings and photos.) The fort is on the National Register as part of Harpers Ferry National Historical Park.

I. ADMINISTRATIVE DATA

A. Name of Structure

John Brown's Fort (Building #63), i located in the lower town of Harper's Ferry National Historical Park, Maryland-West Virginia. The significance of the "fort" lies in the fact that John Brown used it as his military base during his attack on Harpers Ferry in 1859.

B. Proposed Use of Structure and Justification for Such Use

The fort has been submitted to the List of Classified Structures as being of First Order of Significance. The proposed level of treatment is partial restoration on the present site.

The park proposes that the building be the focal point for interpretation of John Brown's raid on Harpers Ferry. The interior will be refurnished as it may have appeared during the historic event and will be operated as a museum-type exhibit.

The fort structure is part of Development/Study Package Proposal No. 113, development of which will be in accordance with both the Mission 66 master plan for the park and the new master plan draft revised in August 1971.

C. Cooperative Agreement, if Any, Executed or Proposed for Operating Structure

There are no cooperative agreements in effect. Management of the structure will be by Harpers Ferry National Historical Park.

D. Description of Proposed Construction Activity

Partial restoration of the building will consist of the restoration or replacement of the wood components, i.e., the windows, doors, roof, and cupola.

II. ARCHITECTURAL DATA

A. Historic Appearance of the Structure

The engine/guard house of the armory was designed and constructed under the supervision of Major Symington in 1848. The new building was part of a project to rebuild and improve the armory and replace an earlier wood structure on the site that served the same purpose. There is no record of any change to the building from the time of its construction to the period of John Brown's raid.

The engine/guard house suffered minor damage during the fighting of October 17, 1859, consisting mainly of rifle holes that penetrated the brick walls of the engine room and a wooden door that was broken in by U. S. Marines. Photographs taken during the Civil War show that this damage had been repaired.

During the Civil War the fort was subjected to vandalism by both Union and Confederate soldiers, resulting in damage to items such as the bell and cupola railings. To reduce this destruction, iron plates were bolted to the exterior of the doors. Photographs show clearly that the two entrances to the engine room were fitted with these iron plates but it is impossible to discern if the guardroom entrance also had them, because it is boarded up in the photographs. The fort remained basically in this condition until after the war when it was used as a residence to prevent further vandalism.

In 1891 the building was sold to the John Brown Fort Company, formed by a group of prominent citizens who intended to exhibit the building at the Columbian Exposition in Chicago. It was then dismantled and the sections shipped in carefully designed crates via the B & O Railroad to Chicago where it was reconstructed under the direction of Mr. George O. Garnsey, an eminent Chicago architect.

The fort was opened to the public in the summer of 1893 but was a failure financially and attendance-wise. With the closing of the exhibit the future of the structure became uncertain, and it was almost reduced to serving as a stable. It was finally decided, however, that it should be moved back to Harpers Ferry or, if this were infeasible, to a local park in Chicago. While the Grand Army was deliberating on the sponsorship of such a venture, Kate Field, a Washington, D.C., newswoman dedicated to furthering interest in the John Brown story, became involved in the problem and resolved to rescue the building from obscurity. Because the original site was unavailable and other locations within Harpers Ferry were considered undesirable, in 1895

Kate Field signed a contract with Alexander Murphy and

his wife, who agreed to deed five acres of their farm overlooking the Shenandoah near Harpers Ferry for the purpose of reconstructing the Fort for the exchange of one dollar.

The B & O Railroad agreed to transport the building free of charge. The fort remained on Murphy land until 1910 when the trustees of Storer College bought the building from Mr. Murphy for $900 and had it moved to the college campus.

The college operated the fort as a museum until the school closed in 1960. In the process of this rebuilding, many of the original details and even the overall dimensions were changed. The present structure in the lower town is the product of this rebuilding, and differences can be noted between the original appearance, indicated in photographs, and the existing one. Besides the fact that the fort was reversed in its rebuilding at the Murphy farm and erected on a crawlspace built of local stone, its dimensions were changed from the 24 x 35½-foot structure built by Major Symington to 22'-3" x 34'-3". Smaller details, such as the type of arch over the opening, were changed and perhaps also at this time the doorway between the guardroom and engine room was constructed.

In 1968 the National Park Service, after acquiring the college campus, decided to move the fort to the lower town area of Harpers Ferry. This time, under the direction of Architect Archie W. Franzen, the building was moved intact to its present site in the lower town where it awaits the move to its original site and complete restoration/ reconstruction.

B. Comparative Data

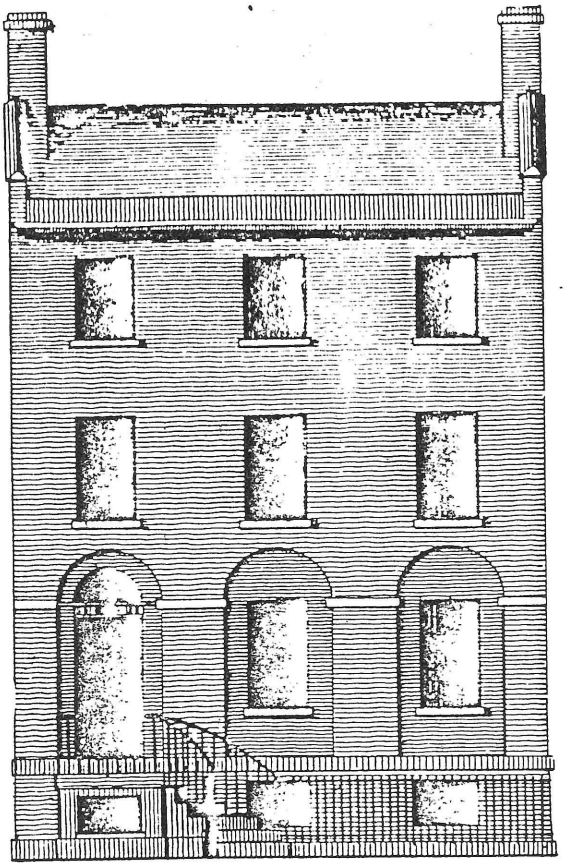
At the time the engine/guard house was constructed on the armory grounds, the form and architectural details used were long outdated and represented the provincialism of its designer, Major Symington. The building was similar in design to other recently constructed armory buildings but, in general, had a plainer facade broken by recessed panels set within relieving arches that rested on capped pilasters. This design was commonly used for functional industrial buildings of the period, having originated in residential architecture half a century before. Illustration 1 from Asher Benjamin is typical of the architectural style that may have indirectly influenced the design of the armory.

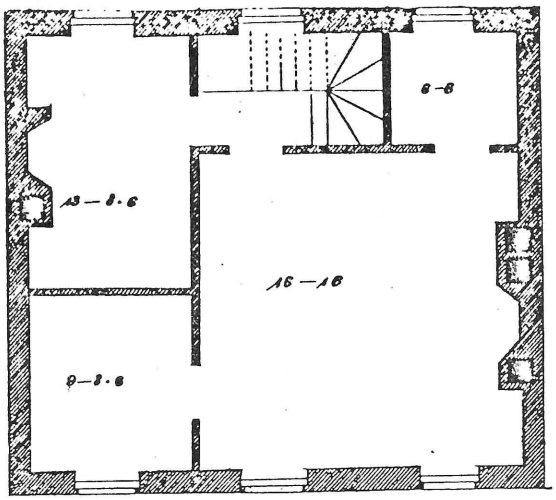
This section is not intended to present a comprehensive history of the development of federal military architecture or specifically of the evolution of the design of the armory engine/guard house. It is clear, however, that the final form of the building was the product of many forces and that any true understanding of John Brown's Fort will require a comparative history.

HISTORICAL PHOTOGRAPHS

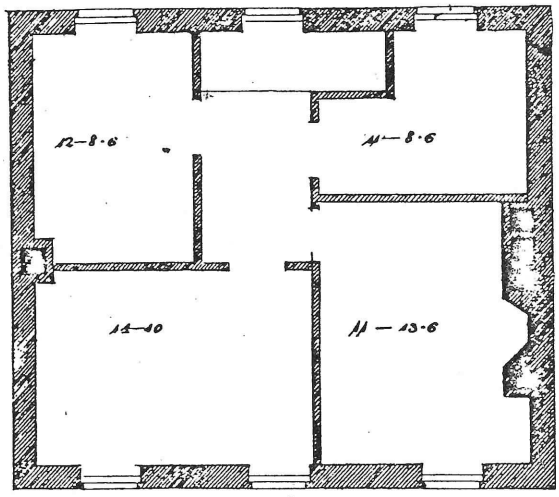
Illustration 1.

The first-floor elevation of this house designed by Asher Benjamin shows that many of the details and forms found on buildings at the Harpers Ferry armory had their origin in domestic architecture.

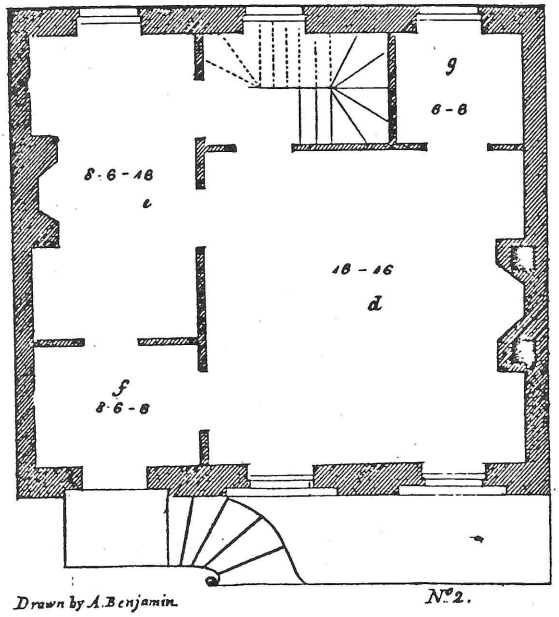




N°3

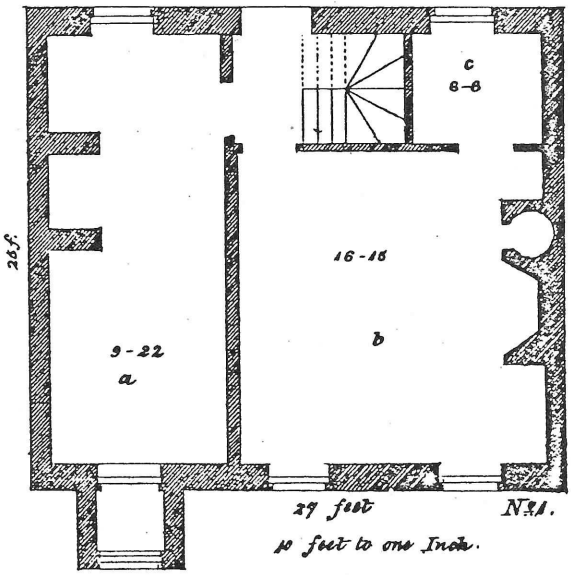


N° 4.



Drawn by A. Benjamin.

N°2.



29 feet

10 feet to one Inch.

N°1.

Engd by Gilbert Fen.

Illustration 2.

A remarkable photograph, probably by Mathew Brady, showing the musket factory (armory) buildings being used as the quartermaster depot, 1864-65. John Brown's Fort was in use as a powder magazine. Note the missing gate of the armory wall and the empty cupola from which the bell has been removed.

Harpers Ferry National Historical Park,
Negative No. 27.

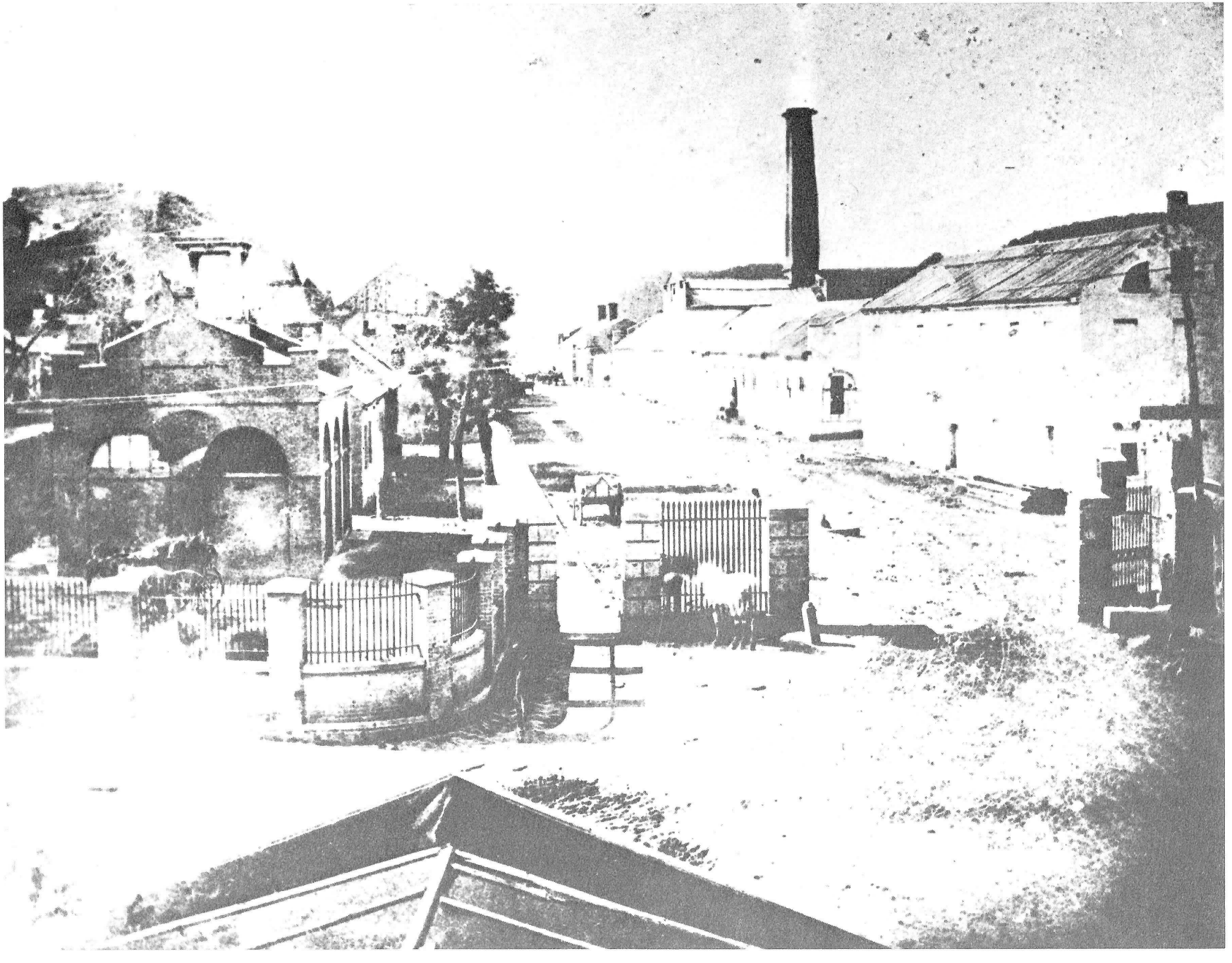


Illustration 3.

Display advertising was least tasteful during the Victorian Period. Large letters reading "John Brown's Fort" were painted over the three engine house doorways. "--NT FOR THE TEETH" is lettered on the north side of the armory entrance pillars. Photo taken in 1882.

Harpers Ferry National Historical Park,
Negative No. 379.

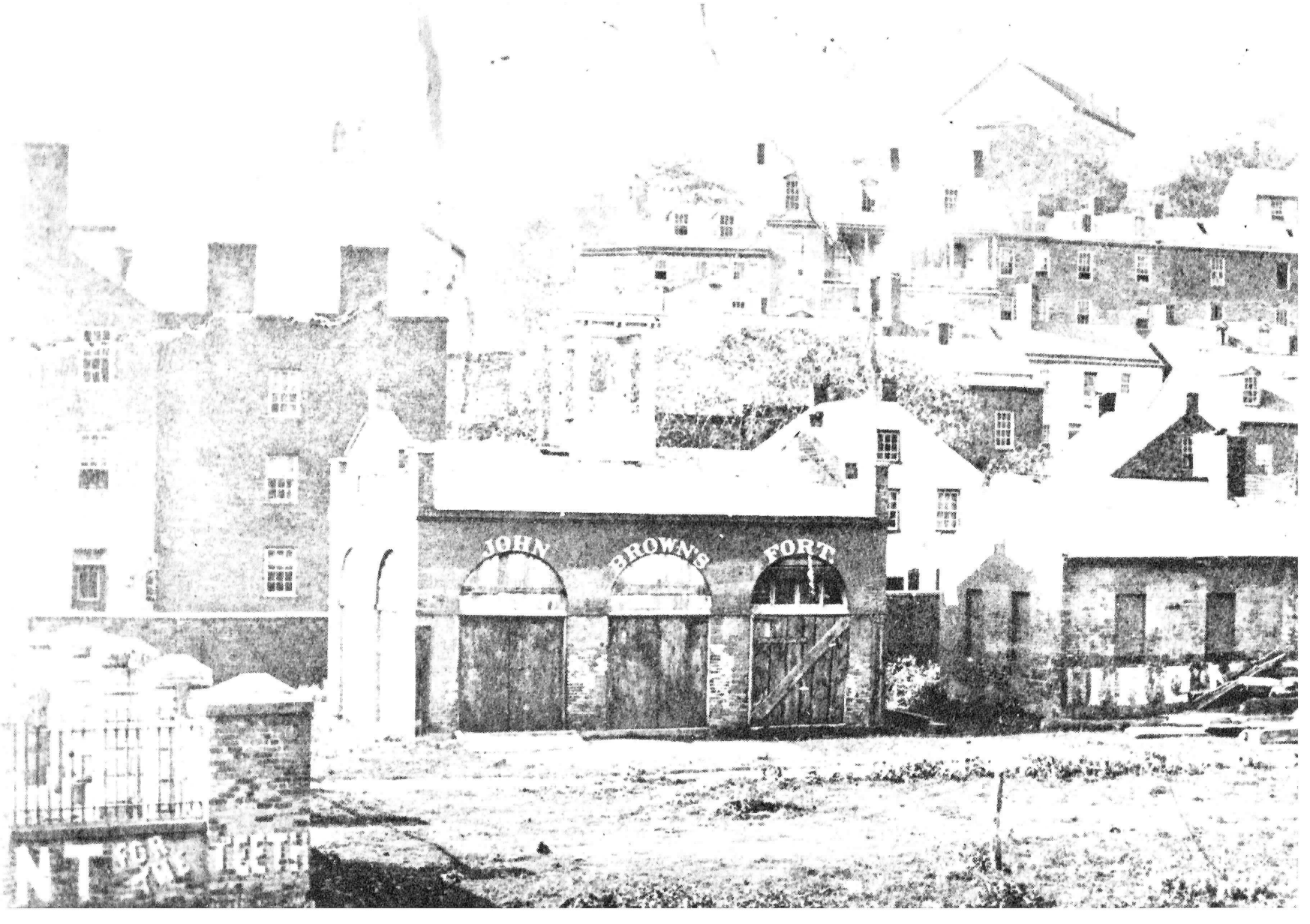
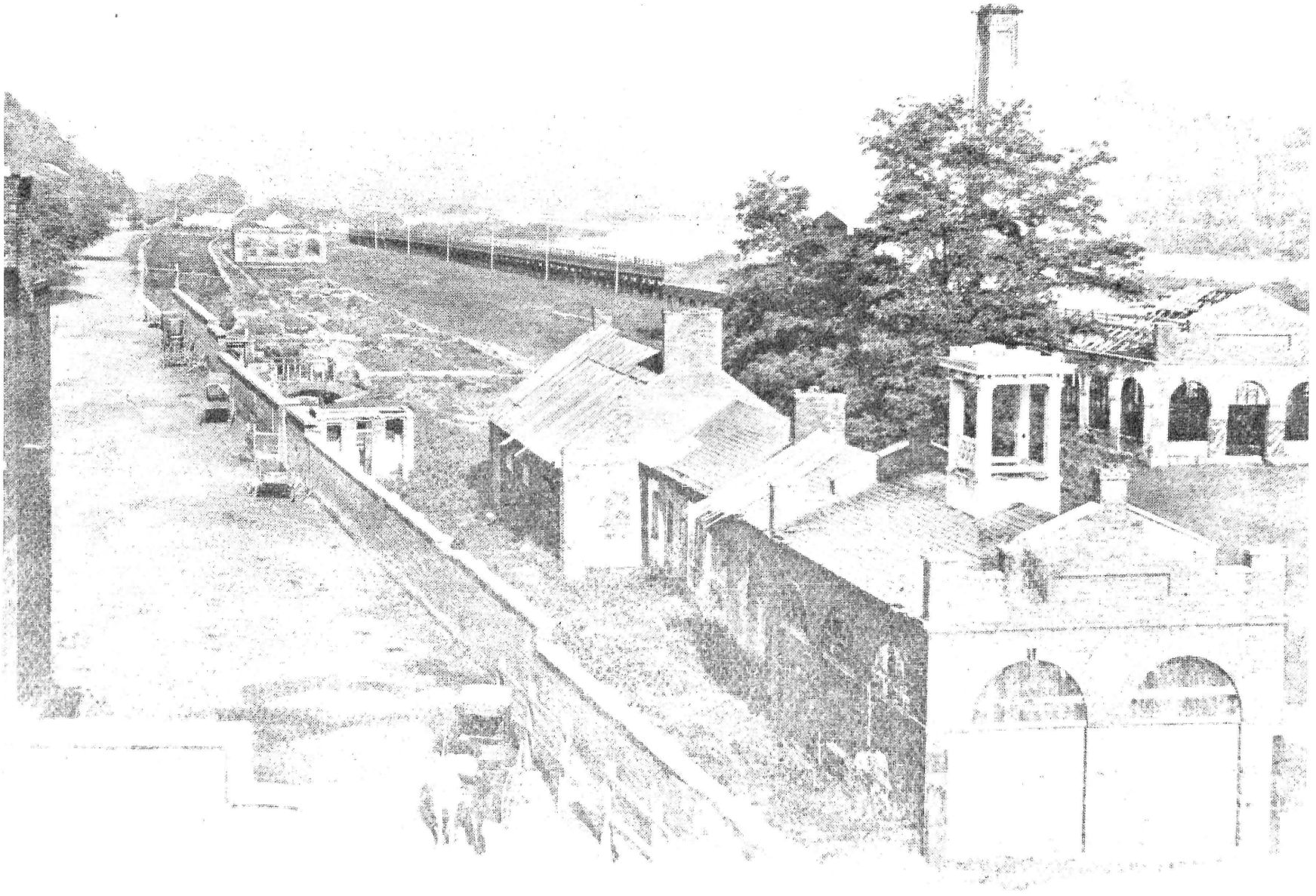

JOHN BROWN'S FORT

Illustration 4.

An excellent view, taken in 1886, that shows John Brown's Fort as one of five buildings still standing out of the original twenty armory structures.

Harpers Ferry National Historical Park, Negative No. 539.



JOHN BROWN'S FORT AND THE OLD ARSENAL BEFORE THEY WERE REMOVED.

Illustration 5.

John Brown's Fort, 1886-89. Note that the stolen iron door has been replaced by rough boards, the broken windows are sealed, the belfrey is empty, and the office building demolished. Cannon are on display to enhance visitor interest and there is a large-lettered sign, "JOHN BROWN'S FORT," over the doorways.

From Thomas Featherstonhaugh Collection,
Library of Congress.

Harpers Ferry National Historical Park,
Negative No. 190.


JOHN
BROWN'S
FORT.

Illustration 6.

"PILLS FOR TORPID LIVER" was splashed across the armory walls at the time of this 1889 photograph of the fort. Note the iron railings missing from the armory wall and the missing gates. These were installed by Mr. Alexander Murphy of Harpers Ferry to protect his coal yard. The original railings and gates are still owned by the Murphy heirs and are being preserved at the Buena Vista Farm near Harpers Ferry. The large white diamond marked "G" was undoubtedly also an advertising trademark.

Harpers Ferry National Historical Park,
Negative No. 59.

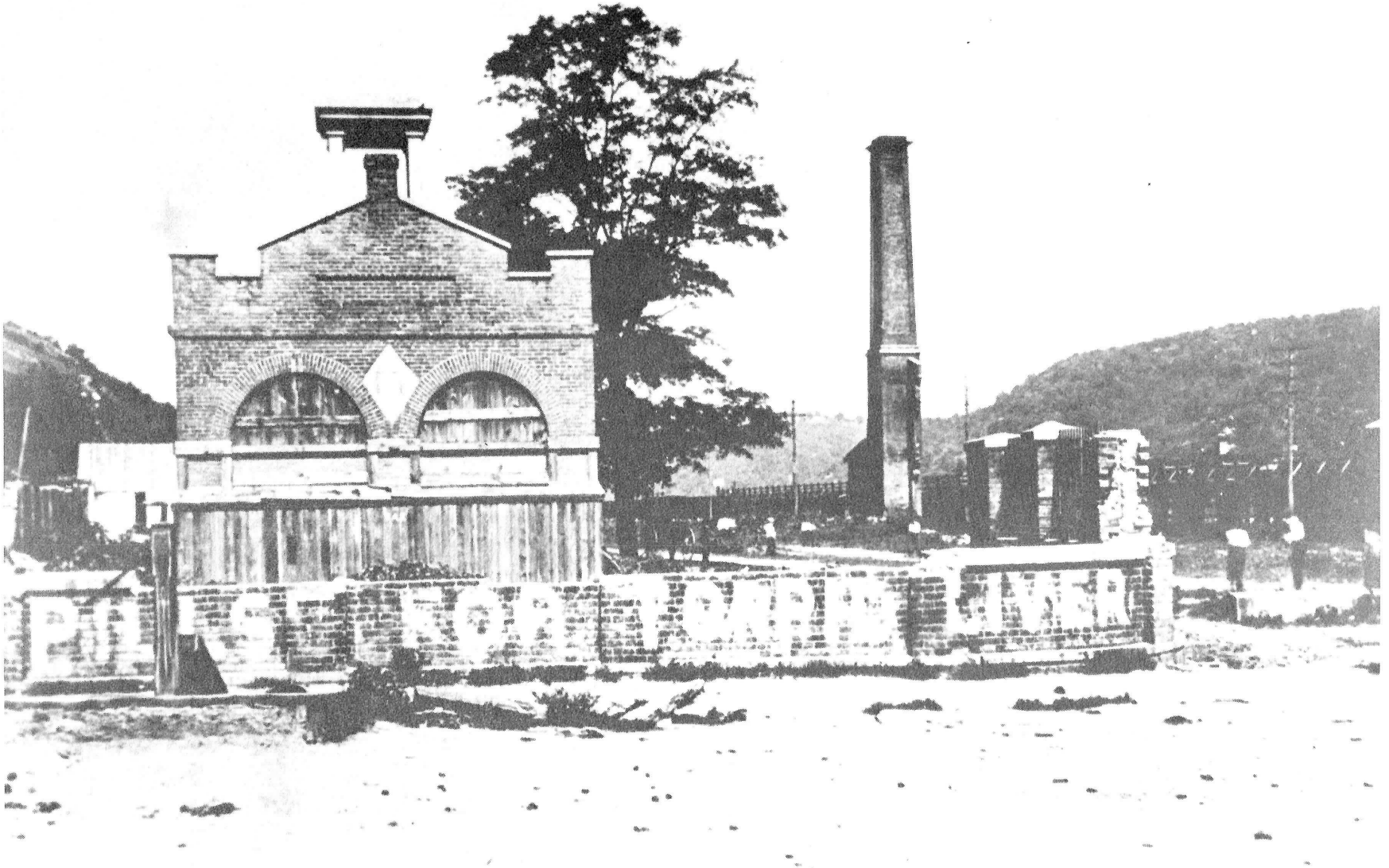


Illustration 7.

The Johnstown Flood of 1889 almost submerged the engine house doors.

Harpers Ferry National Historical Park, Negative No. 100.

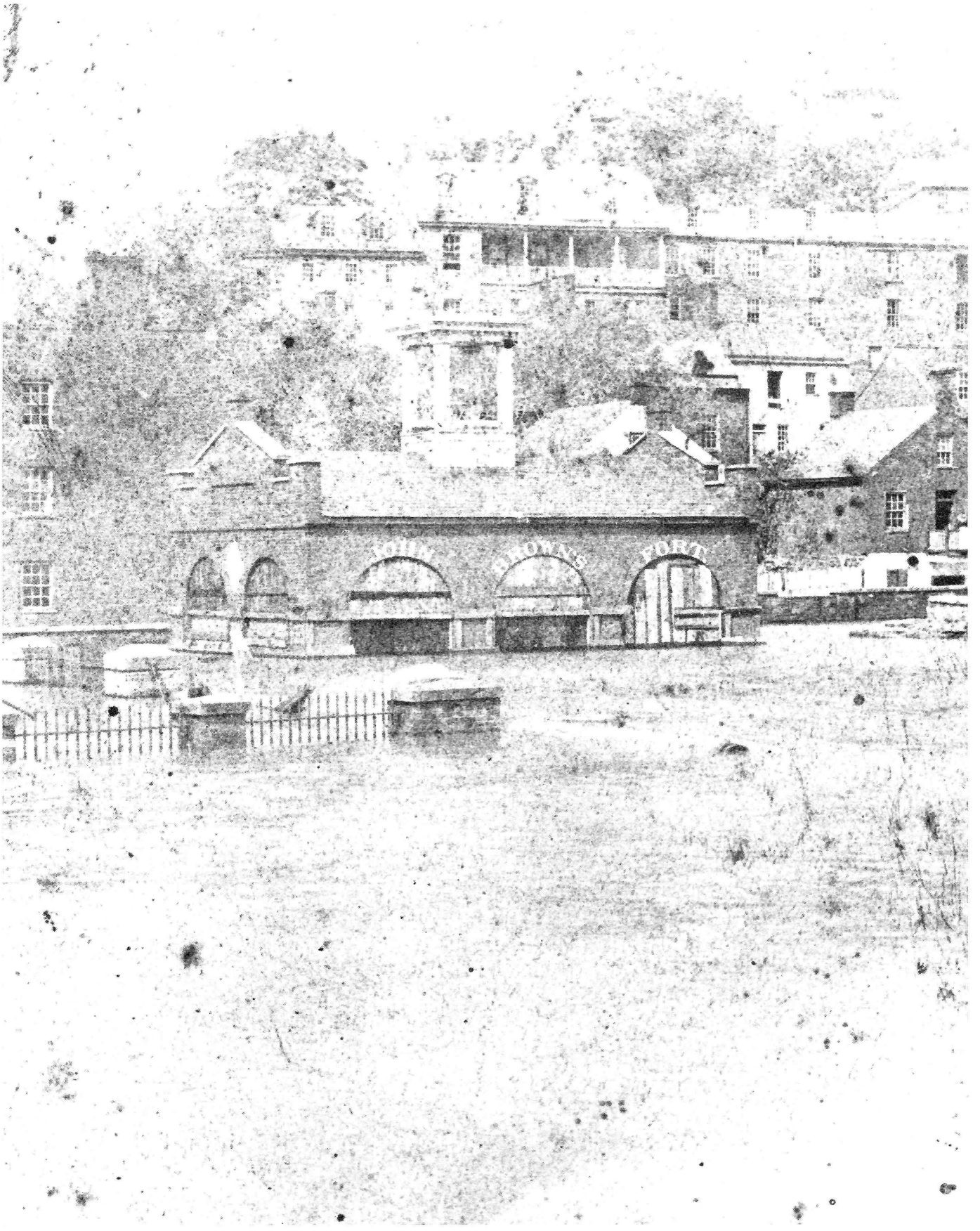

JOHN BROWN'S FORT

Illustration 8.

A Storer College group in front of the John Brown Fort on Buena Vista Farm, 1896.

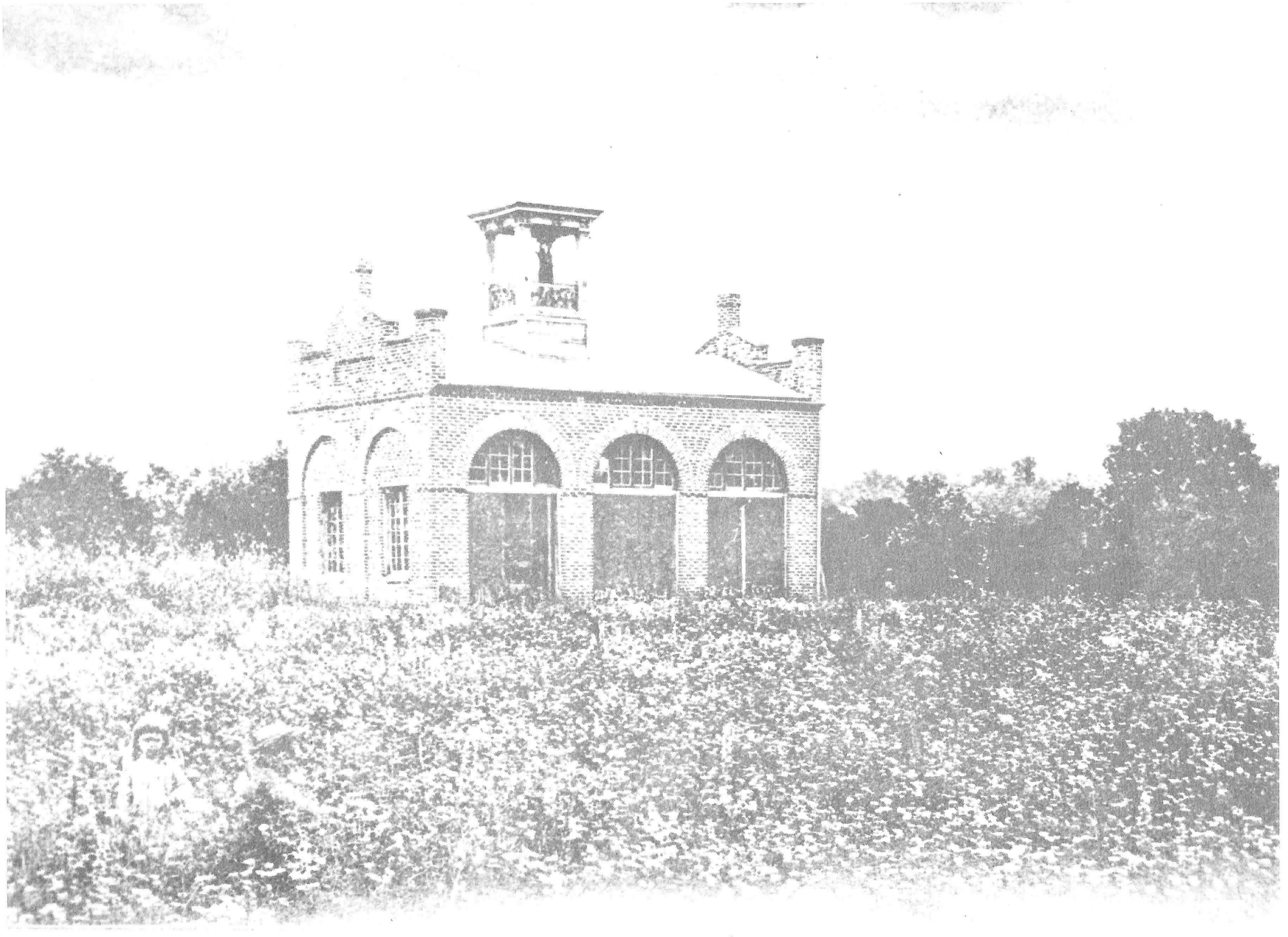
Harpers Ferry National Historical Park, Negative No. 599.



Illustration 9.

The fort on the Buena Vista Farm owned by Alexander Murphy. Note the change in position of the wooden door, which was formerly to the right of the entrance facade.

Harpers Ferry National Historical Park, Negative No. 77.



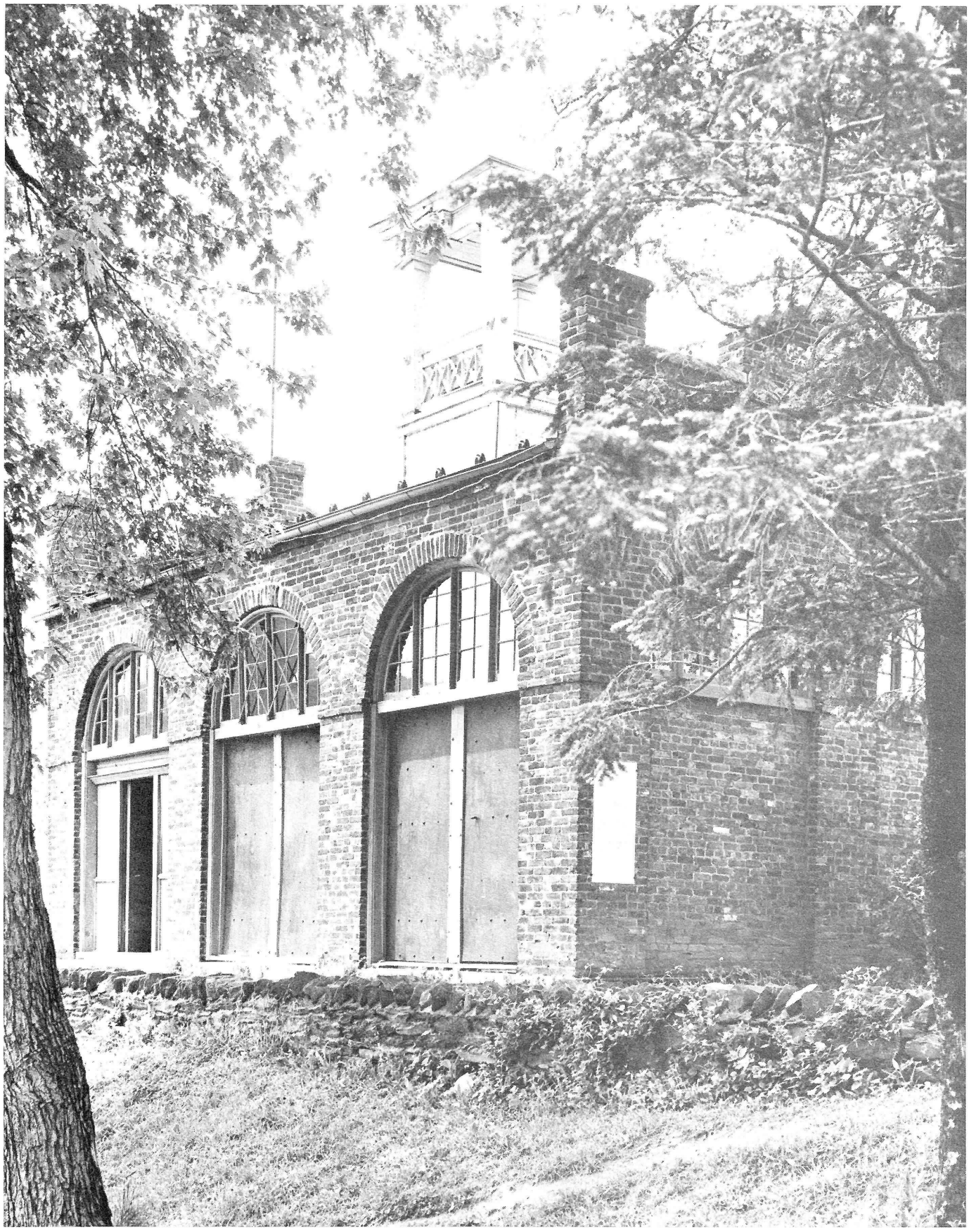
JOHN BROWN'S FORT AS IT NOW STANDS IN THE GROUNDS OF THE SHENANDOAH RIVER, A FEW MILES FROM HARPER'S FERRY

Illustration 10.

John Brown's Fort at Storer College.

Photograph by Jack Boucher, 1961.

Harpers Ferry National Historical Park,
Negative No. 1621.



C. Original Construction Documents

No construction drawings for John Brown's Fort are known to exist. The only construction documents for the buildings that have surfaced to date have been the specifications submitted by Supt. Major John Symington to the War Department on November 29, 1844. These read as follows:

147	yards excavation @18¢	$ 26.46
67	perches masonry laid w. cement	134.00
2600	hard bricks laid @10¢	260.00
160	feet cut stone water table & cornice @60¢	96.00
2000	feet lumber @1.50	30.00
100	lbs. iron for hanging doors	12.00
600	feet slating @10¢	60.00
36	days carpenter work @1.50	54.00
8	days painting @1.45	11.60
50	lbs. nails @4-1.2¢	2.12
480	feet paving @5¢	28.80
Oil & paint		4.50
		$719.48

This list was updated at the completion of the guard/engine house when Superintendent Symington reported to the War Department that the building was completed at a cost of $1,540.

D. Existing Conditions

1. Site Development

The fort at present is an independent structure not located on its original site within the destroyed armory. The present location, approximately 100 feet away, is the site of the old arsenal ruins. Gravel walks and the street to "the point" provide access to the structure. The post and split log fences enclosing the old arsenal yard near the fort are a modern necessity that have no historical relationship with the fort either at the present or the original site. The only plantings in the area are the grass yard and a few scattered trees. At present there are no utilities servicing the fort, but both water and electricity can be gotten from nearby Shenandoah Street, approximately 75 feet away.

2. Exterior

a) Foundations

Original foundations may or may not still be located under the present B & O right of way. They are more than likely of the shale

stone used in foundation construction throughout Harpers Ferry. The fort presently rests on a 12" block wall, approximately 4'-6" deep, that rests on an 8" concrete slab built by the Park Service when the fort was moved to its present location.

b) Wall Structure

The exterior 13" brick walls rest on a 12" high dressed original granite base or water table. Several of the cracks now in the base are the result of the many moves. The present brick walls date from the fort's rebuilding on the Storer College campus in 1910. The reconstruction, which supposedly used most of the original building material, is of inferior workmanship and incorporates numerous inaccuracies. The present walls have many incorrect details and may be smaller than the original building. Although they follow the basic original form, the entire building is reversed.

The walls are comprised of either three-arch or two-arch arcades (depending on the length of the elevations) that provide openings for the entrances and windows. Entrance doors occupy the three arches of the main front elevation, with semicircular windows set within the intrados of the arches and the remaining lower portions enclosed by brick panels set back from pilasters. The casement windows in the side (end) wall of the guardroom are also set within recessed brick panels in the two arches of the wall arcades. These masonry openings lack jack arches.

The pilasters formed by the arcades are capped by a two-course corbelled cap that supports the arches and spandrel areas. The original semicircular arches were one and a half bricks high and composed of alternating combinations of header-stretcher voussoirs. These arches have been rebuilt and now consist of soldier course arches of varying numbers of bricks and radii.

The end walls extend up above the slate roof and form crenelated gable walls that are capped with dressed stone. The present caps consist of both red sandstone and dressed granite. The granite caps are similar to the original, if they are not the original, whereas the red sandstone caps are from the ruins of the wall that once surrounded the armory. The northeast section of the present guardroom site (end) elevation is leaning out of plumb from bad workmanship; if any cracks were generated from this condition, they have been eradicated by recent repointing.

In 1973 the walls were repointed by the National Park Service with soft lime mortar, but the joints were not properly tooled. The nature of the workmanship of the last reconstruction made proper repointing difficult. Originally both the exterior and interior walls had finished joints instead of the present unfinished interior joints.

Illustration 11.

Existing front elevation. All doors are of new construction; the semicircular windows and doors are historic. Only the cupola base, now clad in sheet tin, remains of the wood cupola.

Illustration 12.

Existing side and rear elevations. The semi-circular windows are covered up by plywood while awaiting restoration by the park staff.



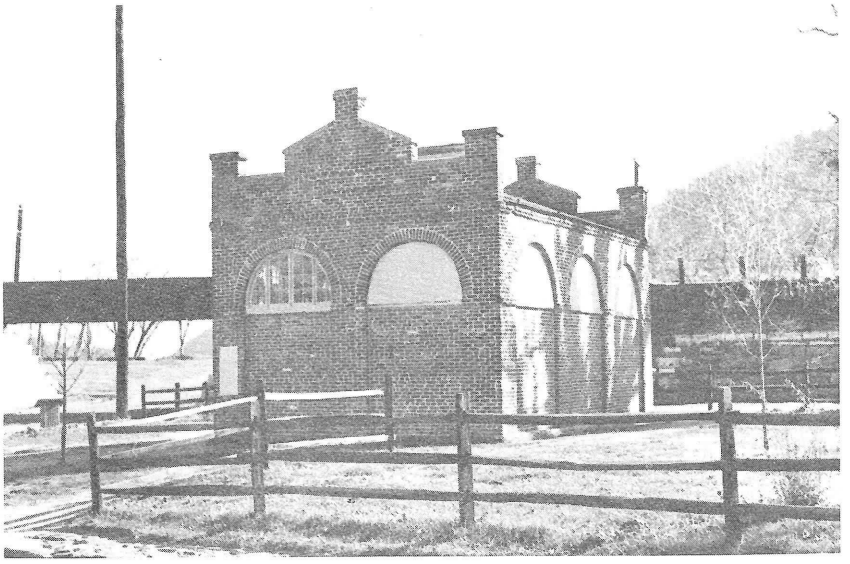


Illustration 13.

Existing side elevation. The casement windows of the guard room are covered with plywood while awaiting restoration by the park staff.

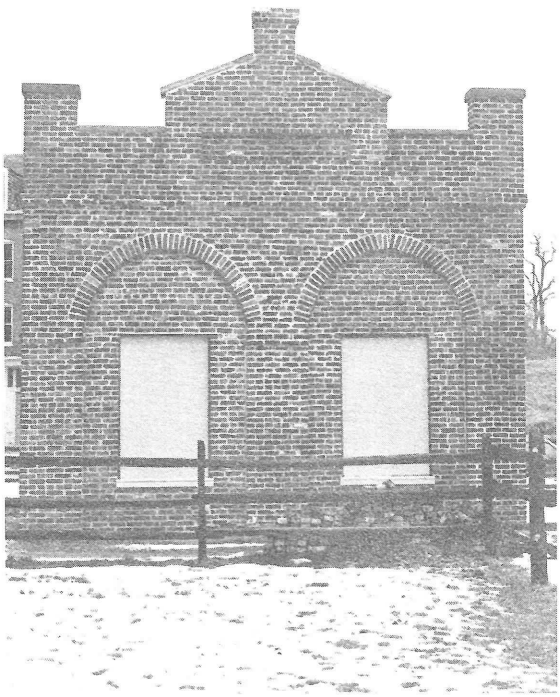
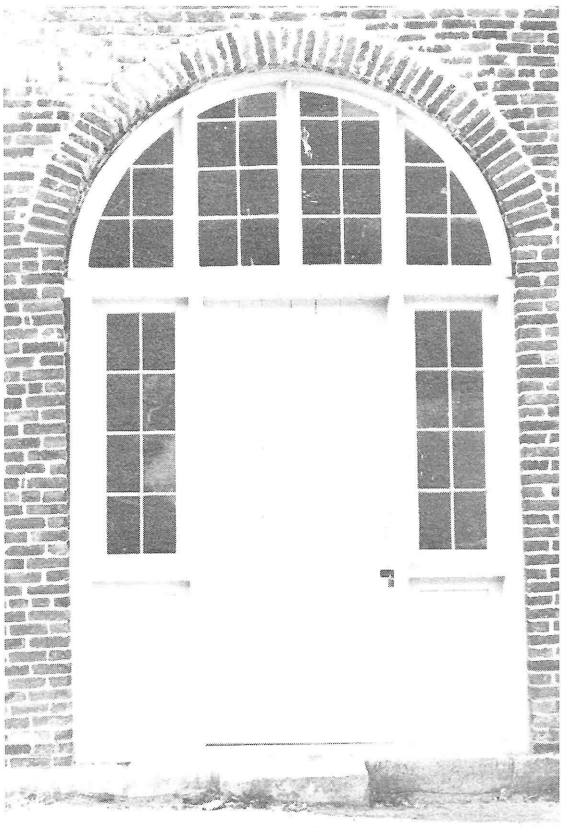


Illustration 14.

Existing guardroom entrance. The door, side lights, and frames have been newly constructed by the park. The semicircular window is historic. The original side lights contained ten lights each instead of eight.

Illustration 15.

Detail of guardroom entrance. The brick mold for the door frame is required to seal the new door frame.





c) Guardroom Entrance

The original configuration of the guardroom entrance can be seen in early photographs of the fort, though it has changed through the years. The early photographs show that originally there was a single double-sheave door flanked by side lights and surmounted by a semi-circular window with fixed sash. (See Sheet 8 and the photographs and description of the existing window conditions.) There are no photographs that show the entrance used at the Chicago Exposition of 1893. Photographs taken of the fort at the Murphy Farm show the entrance as double panel doors with no side lights but still surmounted by a semicircular window. Photographs of the fort on the Storer College campus show that the entrance was then a single panel door with side panels replacing the side lights but again with the surmounting semicircular window. This entrance was removed and replaced with the present door by the Park Service after moving the fort to its present site. The existing entrance is of a new material and similar to the original; the semicircular window is original and did not require replacement. The existing door is a double-sheave door hung on modern 5" butt hinges. The existing eight-light side lights are incorrect in design: the original side lights were of ten lights each with the glass measuring 8" x 10" (see Sheet 8).

d) Engine Room Entrances

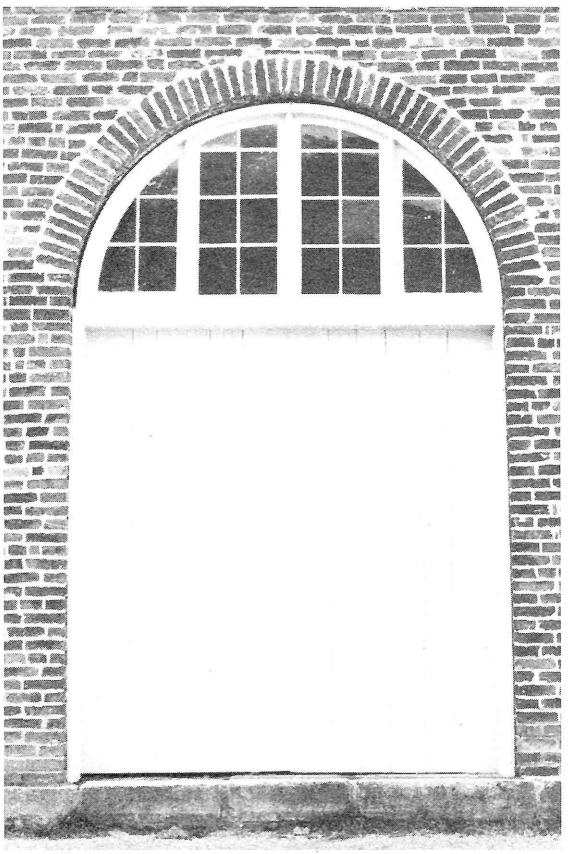
The remaining two front bays and their doors provide entrance to the engine room. Original material and early photographs show that both entrances were of the same design and construction and were each set within a wood frame surmounted by semicircular windows. The present door frames are modern and correct in design but lack a brick mold to match that around the semicircular windows. As in the guardroom, each door was hung on a pair of W.I. hinges bolted to the doors (see guardroom entrance description). Early photographs taken during the Civil War show sheets of iron bolted to the exterior of the door for protection from scavengers. These iron plates survived all the moves and are still bolted to the original wood doors, which were removed by the Park Service and put in storage when the fort was moved to its present site. The were replaced by the existing doors, which are close copies of the original. The W.I. sheets and original strap hinges were not reused. At present only one door has hardware, permitting it to work, but these are crude modern strap hinges.

e) Windows

Tow types of windows were used in the fort: casement windows, found in the guardroom, and fixed sash, semicircular windows, which were set within the arches of the north, south, and west elevations.

Illustration 16.

Engine room entrance after replacement by the park.



The casement windows each measure 4'-0" x 6'-4" and have two twelve-light casements that swing inwards. At present the frames and sash are in need of repair and require extensive reworking. (See hardware for window hinges.) The semicircular windows, which set within arches having a 4' radius, are divided into four equal parts by mullions perpendicular to the windowsill. There are four fixed sash per window. The present semicircular frames seem to be original with few components replaced. (See full-sized details on Sheet 9.) Most of the semicircular windows are in good condition, though some sash have been removed to storage awaiting maintenance. Some of the wood sills have rotted and will require repair. The glass size used throughout the fort originally was 8" x 10". The odd-sized panes now found in the side lights of the guardroom entrance were installed by the Park Service and are incorrect.

f) Roof and Roof Framing

The present slate roof is supported by four king post trusses equally spaced. The lower cords of the truss are set into the outer brick masonry walls, which provide the bearing. The common rafters are nailed to a ridge purlin and to purlins that bisect the upper cords of the truss. The roof sheathing is 1" random-width boards that provide the base for a slate roof. At present the roof, which is not watertight, is in an advanced state of rot, causing extensive water damage to the entire wood roof system, and much of the sheathing may need to be replaced. The exact members that will require replacement upon removal of the roof is unknown, but little of the slate could or should be reused because it is 65 or more years old. At present there are several areas where the sheathing is completely rotted through and the sky can be seen. Most of the rafters can be reused, but many are being exposed to the weather, and their reuse could be questionable. All but two of the purlins should be able to be reused. At present there are two purlins over the guardroom area, which consist of two two-by-fours spiked together whereas the original ones were solid four-by-sixes. All four trusses suffer from rot and structural failure and will require replacement or repairing of components before the roof can be restored.

g) Gutters and Downspouts

In Major Symington's report to the Secretary of War on November 14, 1848, he mentions the completion of the building and that it had "copper gutters and downspouts."[1] However, presently there are no gutters or

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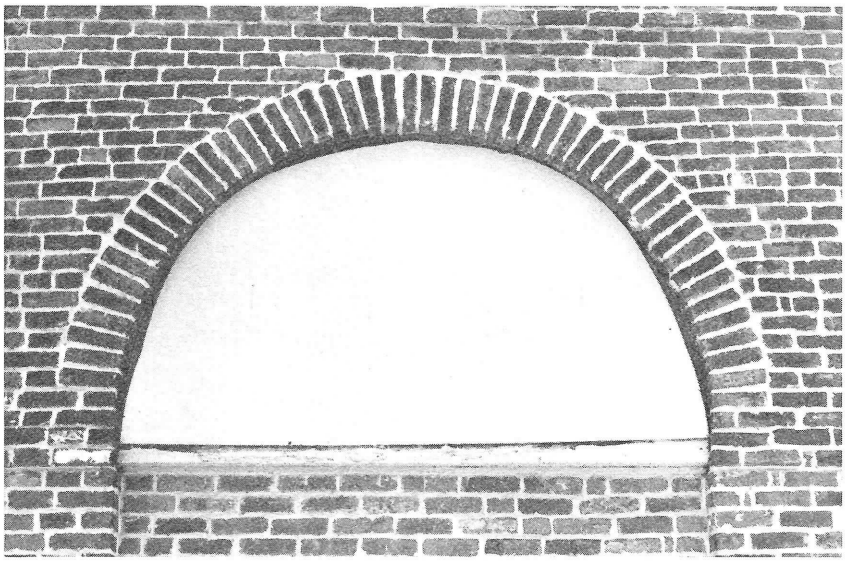
1. "Report of Major Symington to Secretary of War March for year ending June 30, 1848." HFNHP microfilm reel 20, vol. 1, p. 36.

Illustration 17.

Existing exterior: semicircular window covered with plywood for protection.

Illustration 18.

Existing interior: semicircular window. Sash removed by park to be restored.



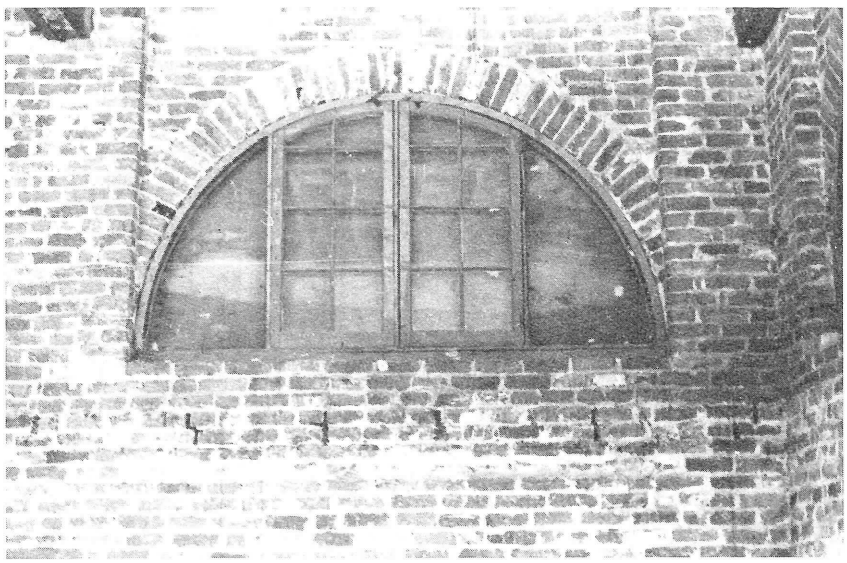
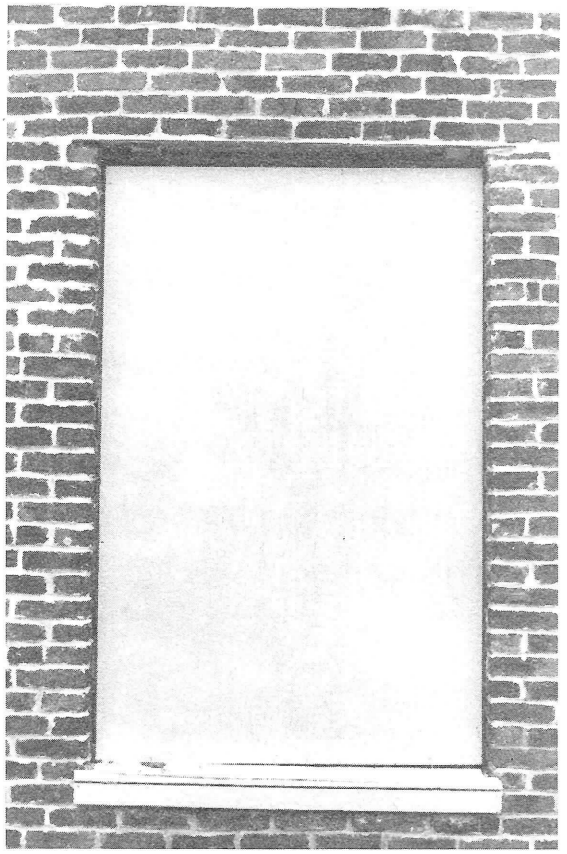


Illustration 19.

Existing exterior: casement window covered with plywood for protection.

Illustration 20.

Existing interior: casement window. All hardware not original.



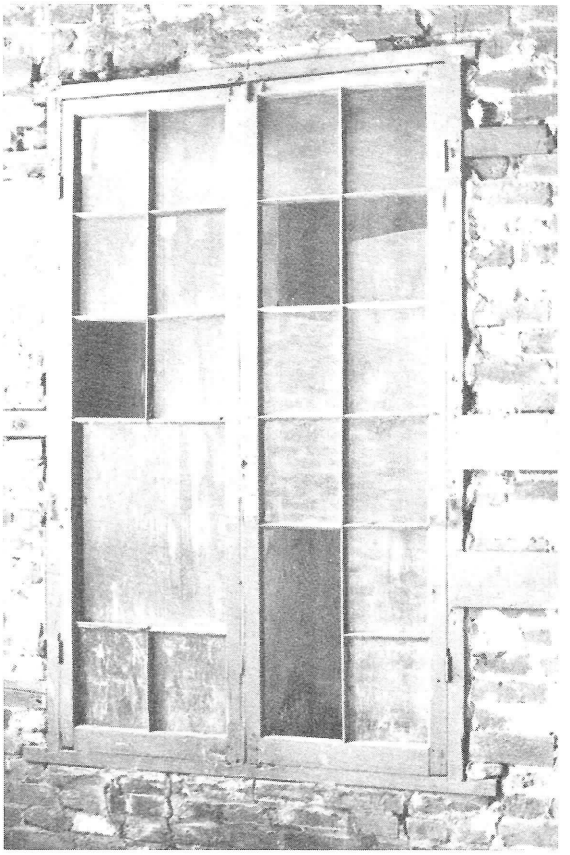


Illustration 21.

Original exterior: semicircular window with sash restored by National Park Service. Sill in advanced stage of rotting.

Illustration 22.

Exterior commemorative stone.



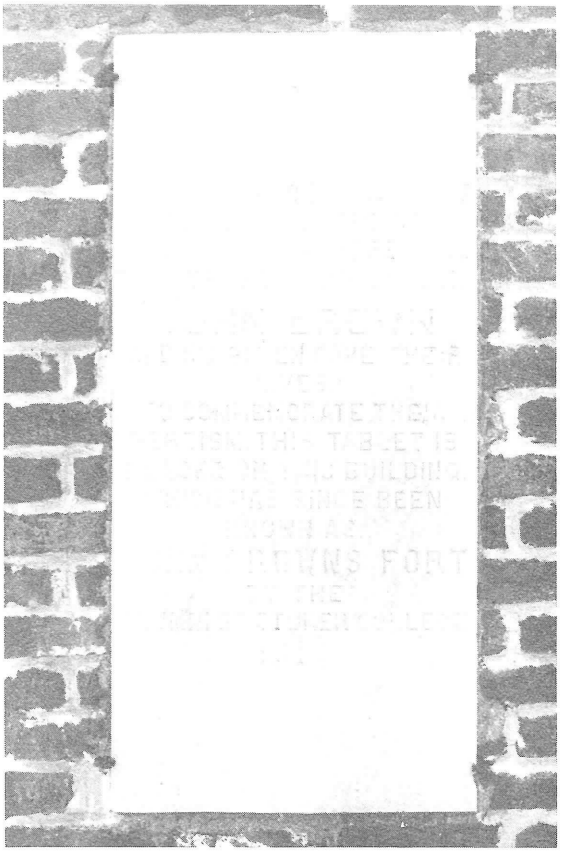
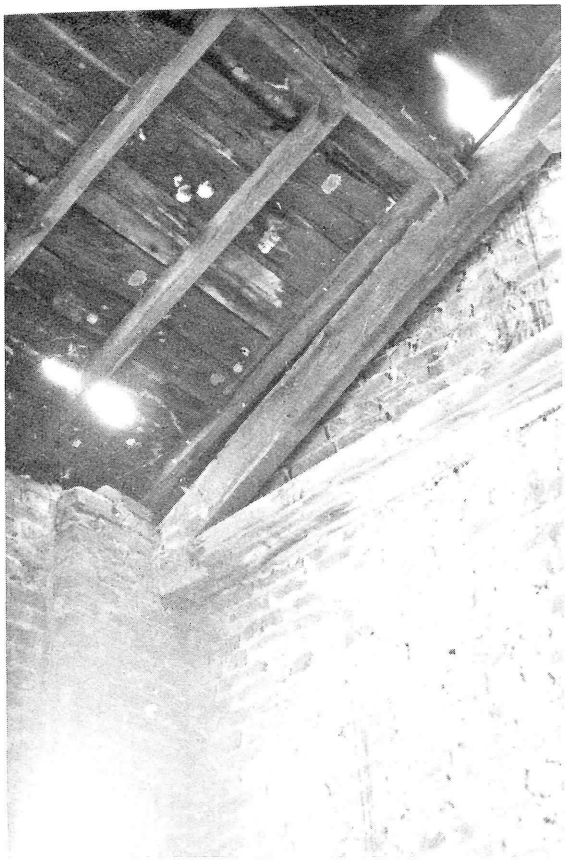


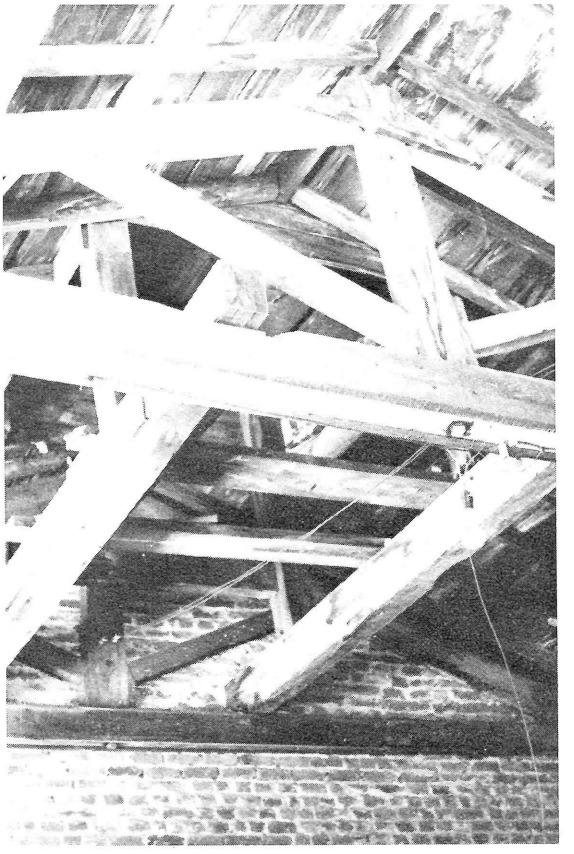
Illustration 23.

Roof framing showing rotting trusses and roof sheathing and holes in roof.

Illustration 24.

Cupola base framing resting on roof trusses.





evidence of what the original gutters and downspouts looked like or how they were installed. All known photographs taken of the structure during the Civil War fail to show any such items, leading to the conclusion that they may have been vandalized due to the scarcity of materials created by the war.

h) Cornice

The present cornice is fairly indicative of the original one that shows up quite clearly in photographs taken of the fort on its original site. The original is a three-course brick corbelled projection that extends the length of the entrance and back sides of the fort (see Illustration 12). The bottom course corbells out approximately 1" as do the remaining top two courses; the slate on the roof overhangs the cornice.

i) Cupola

Photographs taken during the Civil War show the building with a cupola, which, because of several dismantlings and severe rot, has been removed down to its base. However, most of the removed members were retained and give clear evidence of the original dimensions and details. The structural system is framed post and plates held together with mortise and tenon joints and covered with a skin sheathing. The cupola is an open belfry, resting on a base, with wood railings and a low hip roof with a crowning parapet. It originally provided mounting for a bell to be used by the armory in case of fire. The original bell and carriage became victims of the Civil War when they were carried off by Union soldiers.

3. Interior

a) Floor

The existing floor, installed by the Park Service at the last moving of the building, is brick set in sand and fine gravel in a basket weave pattern. The original building estimate[2] noted brick paving for the

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2. This document called for whitewash with the interior trim painted white.

fort, but fails to state the pattern in which the floor was laid. The normal practice for that time and area would have been for the brick to be set in sand in a number of patterns.[3]

b) Wall Partitions

There is only one partition and this is an 8-1/2" brick wall between the guardroom and the engine room. The interior walls were exposed brick with tooled joints. They were never plastered, but were whitewashed with the interior trim painted an off-white.

c) Ceiling

There is no ceiling; the framing of the roof system and base of the cupola is visible. Restoration of the roof system and the reconstruction of the cupola should be effected in such a manner that they can be viewed by the visitor without any repair work showing.

d) Doorways

At the present there is a doorway cut into the brick wall between the guardroom and the engine room. This doorway is not original and may have been inserted in the wall when the fort was rebuilt on the Storer College campus in 1910, because the present frame dates from this time. Because this opening is not original it should be closed in order to reestablish the room relationships that existed at the time of John Brown's raid.

e) Trim--Architectural Features

There is no interior trim or any other unusual interior features, for this was strictly a utilitarian building.

f) Fireplaces and Mantels

There were none in the building.

g) Stairway

At present there is only one stairway, which is located in the base (the only remaining portion) of the cupola. The stairs are not original and are built with wire nails. There is no evidence indicating any original stairs.

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3. These patterns would have included running bond, basket weave, and others.

h) Hardware

The original portions of the cupola are held together by cut nails postdating the late 1830s.

(1) Doors

Original strap hinges for the doors now exist but are in storage with the original doors. The hinges are machine worked W.I., are in good shape, and should be reused on the present new doors. At this time new butt hinges are being used on the guardroom entrance, which should be removed and replaced with the original strap hinges. The doors in the engine room will require four pairs of the original W.I. strap hinges. There is no evidence remaining of original door hasps or door bolts. Photos taken during the Civil War show hasps on top of the sheet iron that was bolted to the doors for their protection during the war.

(2) Windows

Originally the casement windows of the guardroom had one pair of 3" butt hinges per casement. However, at present there is an assortment of miscellaneous hinges, none of which are original. New 3" cast-iron butt hinges should be used in the restoration. There is no evidence of how the casement window were originally held shut. The twentieth-century stamped metal latches now being used should be removed and period locks or latches added instead.

There is no evidence indicating that any hardware was ever used on the semicircular windows found both in the engine room and guardroom. Now some of the sash do have 20th-century butt hinges, but these were likely added when the building was used as a museum by Storer College. Orginally the sashes would have been fixed because their main purpose was to provide natural light for the rooms. The casement windows in the guardroom would have provided the required ventilation.

i) Paint

All windows, doors, and their respective frames were painted an off-white with the interior brick walls being whitewashed.[4] The exposed roof framing was unpainted. Symington remarked of the musket

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4. Charles W. Snell, The Musket Factory Buildings and Grounds, Harpers Ferry Armory, 1859-1860 (N.P.S., April 27, 1959), p. 8.

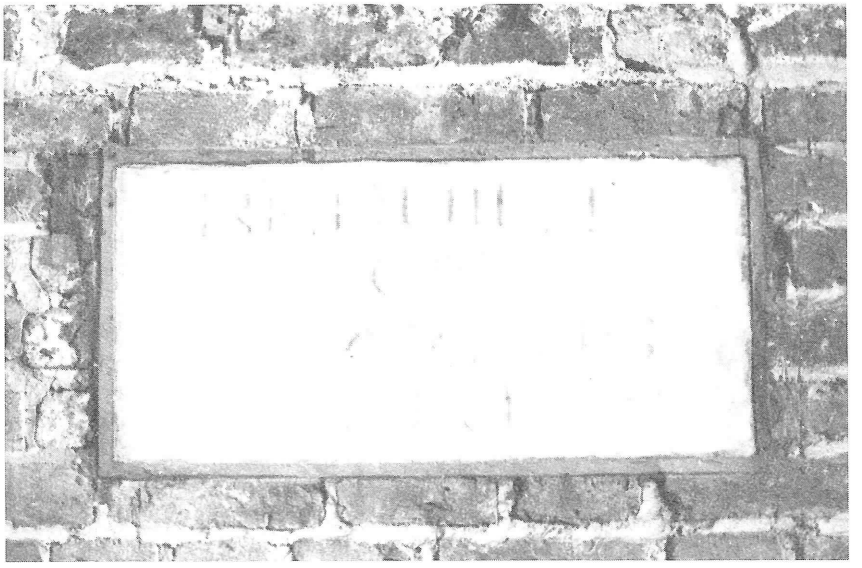
Illustration 25.

Interior date stone commemorating the reconstruction of the building at the Murphy farm by Kate Field in 1895.

Illustration 26.

Interior date stone commemorating the reconstruction of the building on the Storer College campus in 1910.


RESTORED
BY
1895



factory in general in 1850: "our buildings . . . are all of the same general character, having large arched openings with small piers between requiring much labor and plumbing and laying the arches. The inside face of the walls are pointed and plumbed like the outside, to receive a coat of wash instead of plaster. . . ."[5]

j) Utilities

At present no utilities service the interior of the building.

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5. Major Symington to Lt. Col. George Talcott, Ordinance Office, March 30, 1850, HFNHP, microfilm reel 24, vol. 2, p. 118.

IV. RECOMMENDATIONS

A. General

Initially a complete restoration of the fort on its present site was contemplated, but because the structure has been moved and reconstructed several times, little of its original integrity remains to afford that opportunity. In addition, because the Park Service lacked access to the original site and any archeological remains, a complete restoration of the fort to its correct size on its correct location was impossible. For this reason, it was generally felt that a partial restoration of the missing and derelict wood components would be the most reasonable solution.

The present building would best be preserved as a shrine, because it was only used as an armory for approximately 11 years, was utilized less than two days as a fort by John Brown and his men, and for the last 116 years has served as a shrine to John Brown and his ill-fated attempt to free the slaves. The story of the fort's many moves and reconstructions is as interesting as the narration of the famous event of 1859. Perpetuation as a shrine would permit an explanation of the many changes to the structure and of the existing features of the fort that are not correct or original and that will not be corrected during partial restoration. This alternative does not preclude a full restoration in the future.

B. Partial Restoration

1. Site Development

The earliest photographs taken during the Civil War show the original site of the engine/guard house within the armory compound as a bleak area. For this reason the present site should require no additional modification except to raise the grade in front of the building entrances in order to facilitate easier access and egress for wheeled vehicles.

2. Exterior

a) Foundations

The present foundations will require no additional work.

b) Brick Walls

The present walls should not require work during this partial restoration, except for the four corner capstones. The present red

sandstone caps should be removed and replaced with dressed stone caps of the correct size that match the existing stone water table. In addition, work could be done on the present northeast corner of the fort above the arched entrance to the guardroom, where rebuilding would bring this section back into plumb to fit tighter around the window and door frame.

c) Guardroom Entrance

The present door and window frames will be retained as they are with the exception of the addition of a brick mold to close up the air spaces between the frame and masonry opening. The existing side lights will be replaced with ones of proper design (see Sheet 8). The present hardware will be replaced with the original wrought-iron strap hinges now in storage. The door will also require a wrought-iron hasp similar to those found at Fort McHenry in Baltimore.

d) Engine Room Entrances

The existing doors and their frames will be retained. The modern butt hinges will be removed and replaced with the original wrought-iron strap hinges in storage. The doors will require wrought-iron hasp and slide bolts of proper design.

e) Windows

(1) Semicircular

The missing sash that the park has in storage should be repaired and reinstalled. All sash should be fixed and all modern hardware removed, but no historic hardware will be required. Several of the wood sills are rotted and should be replaced or patched as needed (see Sheet 6 for sills to be replaced).

(2) Casement

These will require extensive replacement and restoration in detail (see Sheet 9). All modern hardware should be removed and replaced with the proper historic items (see section on hardware).

f) Roof and Roof Framing

The existing slate roof covering, the flashing, and the wood structural framing will have to be removed and disassembled in order to facilitate the replacement and restoration of the roof. In the course of this process, the remaining framing of the cupola will also be removed.

The trusses that may have been cut down during one of the previous moves will require replacement of various structural components due to rot. The replacement parts should be copies of the original because they will be open to view and because this will simplify integration with the original components still in good condition. The purlins should be able to be reused with the exception of the two in the guardroom consisting of two two-by-sixes nailed together. They should be replaced with solid four-by-six timbers. Most of the present roof rafters should be reusable, but several will require replacement due to water rot. The exact number will be determined upon inspection at the time of dismantling. This also holds true for the roof sheathing, for about 30% of it is rotted and will require replacement as will the slate roof, which is rotted beyond reuse. A new one should be installed using Buckingham slate.

All new flashing should be copper to match that of the new gutters and downspouts.

g) Cornice

The existing cornice will not require any additional work.

h) Gutters and Downspouts

Because there is a lack of information as to design and installation techniques, the design of the new gutters and downspouts will have to be based on local precedents. Both will be reproduced from copper (see documentary information). The brackets for hanging the gutters will be designed after those now being used elsewhere in the park on restored buildings. The gutters will be semicircular with a diameter of 5" and the downspouts will be 4" round. Because documentation and archeological investigation are lacking regarding drainage for runoff water, the downspouts should empty onto stone splashes similar to those now used at the Master Armorer's Quarters.

i) Cupola

The cupola will require complete reconstruction, for most of the existing original fabric is rotted beyond reuse. Only the two bottom tie braces can and should be reused. The existing base should be dismantled and removed at the same time the roof framing is being restored. All new replacement members should be reproduced to emulate the original. (See Sheet 10 for the design of the cupola, which is based on existing remains.) The only two areas open to conjecture are the crowning parapet on the cupola roof, which is based on photographs taken during the Civil War, and the cupola deck. Because of several dismantlings and the inclusion of a deck hatch, the original framing in

this area has been destroyed. However, if based on the remaining original tie beams that supported the deck joists and on early photographs, the reconstruction of the deck will be fairly accurate.

j) Paint

All exterior wood surfaces are to be painted an off-white, matching the original color, to equal Munsell #2.5y-9/2.

3. Interior

a) Floor

The present brick floor should be retained with some minor re-laying done as required and surface joints should be repacked with local gray sand.

b) Walls

Interior brick joints should be raked and repointed with a lime mortar and all joints should be properly tooled. All interior walls will be whitewashed except for the existing commemorative wall tablets, which are to be left in place.

c) Roof and Roof Framing

The existing slate will have to be removed and the complete roof framing system will require dismantling and replacement of all rotted portions. Because the roof framing will be open for the public to see, care must be taken in restoration to emulate original techniques and details. New flashing and slate should be used.

d) Doorway

Because the existing doorway from the guardroom to the engine room is not original, it should be closed up in order to reestablish the room relationships that existed at the time of John Brown's raid. The door frame and nailing blocks are to be removed and the opening bricked up so that the brickwork continues the brick coursing and matches adjacent brick and mortar surfaces.

e) Architectural Features

There is no interior trim or other unusual feature that will require restoration.

f) Heating

The proper interpretation of the guardroom requires the installation of a cast-iron heating stove. There is no physical, photographic, or documentary evidence supporting such an assumption, but with so many rebuildings evidence of a flue in the end wall could have been eradicated. Possible the stove could be vented through the rear semicircular window. This would require only removal of a glass pane and its replacement with a tin sheet cut out to receive the stovepipe.

g) Stairway

The existing set of steps now in the cupola base should be removed.

h) Hardware

All existing window and door hardware should be removed. The casement windows in the guardroom will require a pair of 3" C.I. butt hinges per sash and each sash will have a pair of wrought-iron catches to lock the sash. The semicircular window sash are to be fixed.

The original wrought-iron strap hinges that the park has stored will be reused on the existing doors: one pair of door hinges and ten strap hinges will be required. Because the doors swing inward, the W.I. hasp will be mounted on the exterior of the doors. The interior of one side will have wrought-iron slide bolts to hold the door shut at the head and sill.

i) Paint

All interior brick walls are to be whitewashed, and all interior woodwork, with the exception of the roof framing, is to be painted an off-white to equal Munsell #2.5y-9/2.

j) Utilities

Interpretation purposes will require providing an electrical supply with outlets located so that space heaters can be installed during the winter months. The service should be such that it can withstand flood damage.

k) Security Systems

There is little that can be done about the flooding of the fort at its present site. The B & O right of way and surrounding buildings provide a break from onrushing waters but do nothing to

prevent inundation from river water. The park policy of removing all exhibit material above the floodwaters is at present the only course of action.

After flooding, a thorough washing and airing of the building will reduce extensive damage.

A smoke detection system tied into either the local fire station or the ranger station should be installed.

V. ALTERNATIVE RECOMMENDATIONS

The limitations imposed by not having access to the original site precludes a full restoration/reconstruction. The partial restoration outlined in this report is the most practical approach to meet the present needs of the park.

VI. SUMMARY OF EFFECT ON THE HISTORIC AND CULTURAL ENVIRONMENT

In accordance with Section 106 of the National Historic Preservation Act of 1966, and pursuant to the Advisory Council Procedures for the Protection and Enhancement of the Cultural Environment, we have applied the criteria for effect and adverse effect. We find there will be an effect, and that the effect will not be adverse. The proposed partial restoration will replace unsound material and restore or reconstruct missing wood components, resulting in no loss of integrity to the significance of the fort as a shrine to John Brown and his attempt to free the slaves. The proposed partial restoration does not preclude complete restoration on the original site should this be determined appropriate in the future.

FORM NO. 10-802
(11-71)

Page ___ of ___
for this package

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

PACKAGE ESTIMATING DETAIL

Prepared by A. Williams, August 28, 1975

REGION	PARK
	Harpers Ferry NHP
PACKAGE NUMBER	**PACKAGE TITLE**
	Partial Restoration of John Brown's Fort

(If more space is needed, use plain paper and attach)

ITEM	QUANTITY	COST
1. Mobilization	LS	$ 1,000
2. Demolition	LS	5,900
3. Masonry	LS	5,900
4. Carpentry & Cupola	LS	14,600
5. Alarm system	LS	2,000
6. Doors and windows	LS	14,000
7. Hardware installation	LS	1,000
8. Whitewash & painting	LS	3,000
9. Sheet metal & gutters & downspouts	LS	1,200
10. Roofing	LS	2,400
11. Electrical system	LS	5,000
12. Miscellaneous materials & services	LS	4,000
Total		$60,000

REMAINING PORTION FOR DEVELOPMENT PROJECTS ONLY:

SUMMARY OF CONSTRUCTION ESTIMATES		CLASS OF ESTIMATE: A ☐ Working Drawings; B ☐ Preliminary Plans; C ☐ Similar Facilities		
STANDARD PERCENTAGE (____ %)	% OF NET	TOTALS FROM ABOVE	B & U	R & T
NPS Layout and Supervision				
FHA Layout and Supervision				
Follow-through maintenance and as built drawings				
Contingencies				
Other				
		Net Construction		
TOTAL ADD ON (if other than standard percentage)		Working Drawings and Specifications (PP)		

ESTIMATES APPROVED *(Signature)*	*(title)*	*(date)*

GPO 921-293

VII. RECOMMENDATIONS FOR FURTHER STUDY

An updating or review of the history on the fort should be completed prior to any additional investigations. Before a complete restoration/ reconstruction of the fort can be completed on its original site, an extensive archeological investigation of that area will be required. An update of architectural assessments will be required after the completion of archeological investigations of the site.

VIII. RECOMMENDATIONS FOR INTERIM MAINTENANCE PROCEDURES

Prior to undertaking partial restoration of the building, certain maintenance actions should be taken to reduce further damage to the fort. They should be limited to the following areas so that maintenance efforts will not preclude optimum restoration of the building in the future.

The fort suffers from not being weathertight, primarily because the slate roof is falling apart from age. The several large holes should be patched with slate that will be compatible with adjacent slate. If minor patching is required, a tar mastic will be acceptable. No attempt should be made to replace the present roof because the roof framing will require replacement of many of its components. Roof runoff water should be diverted from the building foundations. Temporary or historic rain gutters and downspouts could be used.

The present effort to restore all window sash may be continued as funds permit. However, the work should be in strict compliance with the historic structure report drawings for the proposed restoration. Removal of the plywood covering on the windows will permit sun to enter the building and help reduce the dampness in the fort. In addition, when weather permits, the building should be aired out to permit drying of the interior.

The present effort to install modern strap hinges to render the door operational should be discontinued because their use may require repairing or replacing the new materials used to replace the historic door frames and doors.

All exterior woodwork, new gutters, and the present tin base of the cupola should be painted periodically as required to maintain all surfaces prior to restoration.

APPENDICES

Appendix A

HABS Drawings

1958

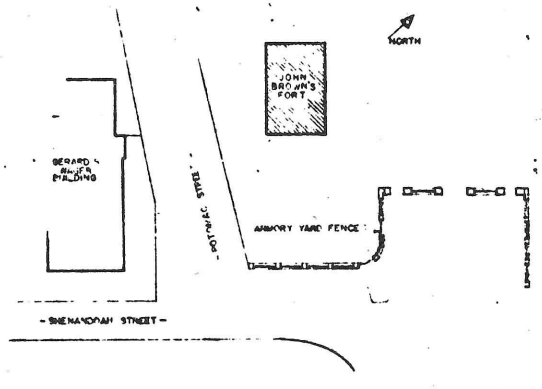
These show how the fort was rebuilt as a museum on the Storer College campus.

"BROWN'S FORT"-THE ARMORY FIRE ENGINE HOUSE

HARPERS FERRY NATIONAL MONUMENT

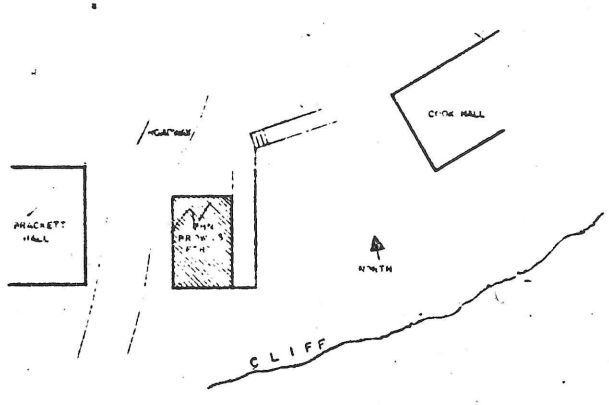
HARPERS FERRY, WEST VIRGINIA

THIS STRUCTURE WAS BUILT IN 1848 TO HOUSE THE FIRE ENGINE OF THE U.S. ARMORY. IN 1859 ABOLITIONIST JOHN BROWN AND HIS FOLLOWERS SURRENDERED THEMSELVES TO ROBERT E. LEE AND A COMPANY OF U.S. MARINES AFTER AN UNSUCCESSFUL ATTEMPT TO CAPTURE THE ARSENAL. THE BUILDING WAS SUBSEQUENTLY MOVED TO THE WORLD'S COLUMBIAN EXPOSITION IN CHICAGO (1893) AND THEN TO THE MURPHY FARM IN THE SHENANDOAH VALLEY ABOVE HARPERS FERRY. IN 1909 THE BUILDING WAS ACQUIRED BY STORER COLLEGE AND RELOCATED ON THAT CAMPUS. THE AGE OF THE VARIOUS PARTS OF THE BUILDING CANNOT BE AUTHENTICATED.



LOCATION 1859

HISTORIC LOCATION WITHIN ARMORY YARD



LOCATION 1958

PRESENT LOCATION ON STORER COLLEGE CAMPUS

UNITED STATES NATIONAL PARK SERVICE

CONRAD L. WIRTH
THE DIRECTOR, NATIONAL PARK SERVICE

THOMAS C. VINT
CHIEF OF DESIGN & CONSTRUCTION

DICK SUTTON
CHIEF ARCHITECT, D&C

EDWARD S. ZIMMER
CHIEF OF EASTERN OFFICE, D&C

CHARLES E. PETERSON
SUPERVISING ARCHITECT, HISTORIC STRUCTURES

THIS PROJECT WAS FINANCED FROM FUNDS OF THE "MISSION 66" PROGRAM OF THE NATIONAL PARK SERVICE.

MEASURED AND DRAWN JULY 1958 UNDER THE SUPERVISION OF RESIDENT ARCHITECT A.W. FRANZEN, NPS. AND PROFESSOR F. BLAIR REEVES, UNIV. OF FLORIDA
BY HENRY R. BAKER UNIV. OF MICHIGAN
MARY M. BUCHELE UNIV. OF MICHIGAN
SEYMOUR R. FROLICHSTEIN UNIV. OF ILLINOIS
RUSSELL V. KEUNE UNIV. OF ILLINOIS
GEORGE L. WRENN HARVARD

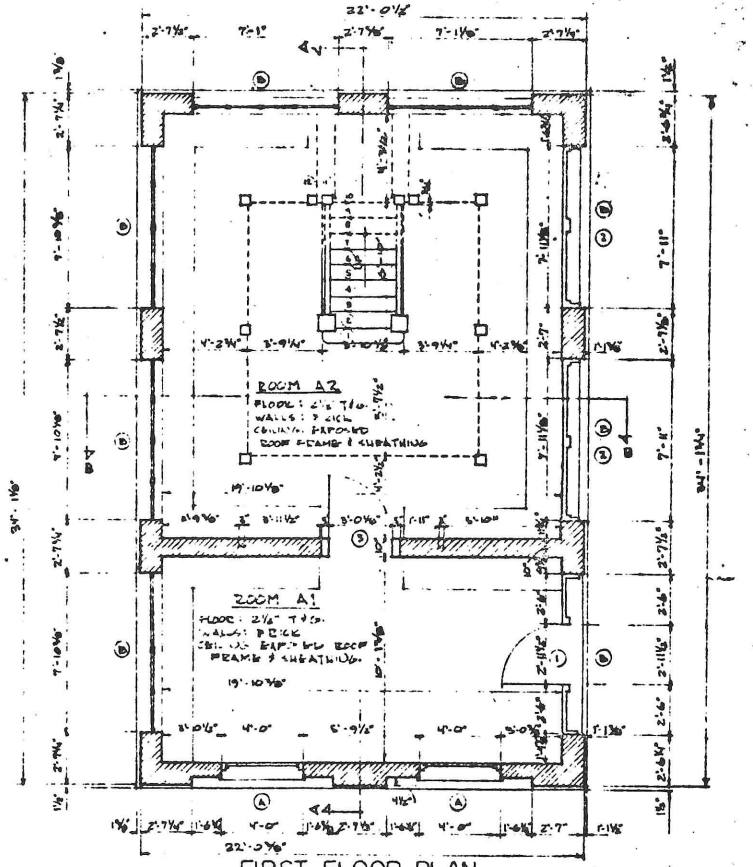
SCALE 1"=30'-0"

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

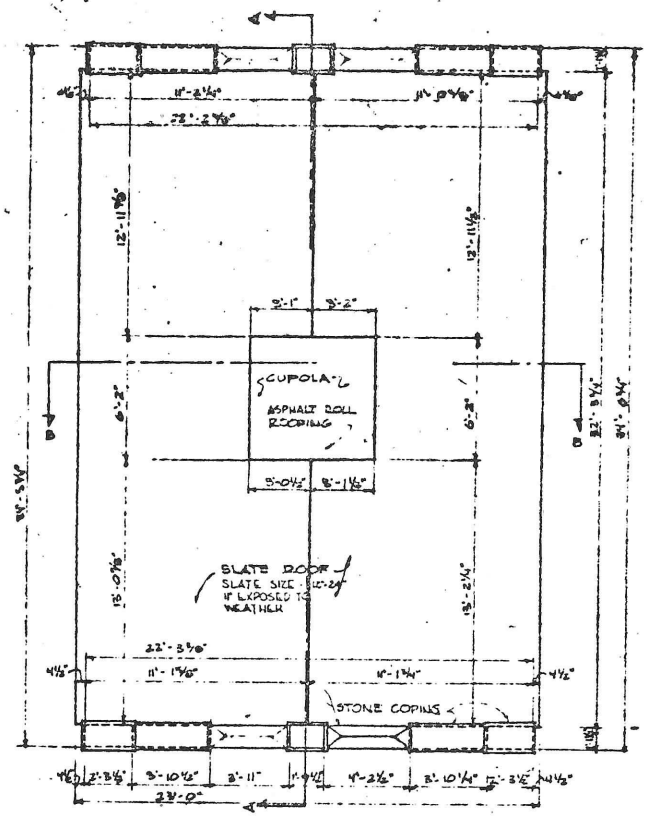
NAME OF STRUCTURE: "BROWN'S FORT"- THE ARMORY FIRE ENGINE HOUSE
HARPERS FERRY — JEFFERSON COUNTY — WEST VIRGINIA

SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 1 OF 8 SHEETS

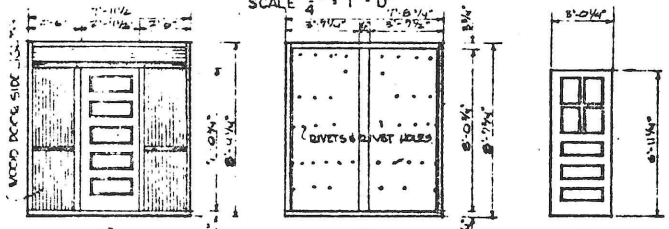


FIRST FLOOR PLAN
SCALE 1/4" = 1'-0"

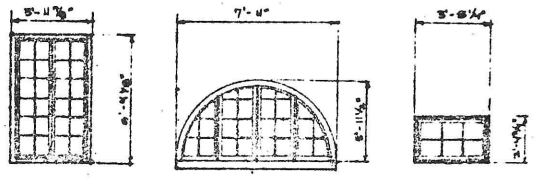


ROOF PLAN
SCALE 1/4" = 1'-0"

NORTH



DOOR SCHEDULE SCALE 1/4" = 1'-0"



WINDOW SCHEDULE
SCALE 1/4" = 1'-0"

BASEMENT WINDOW

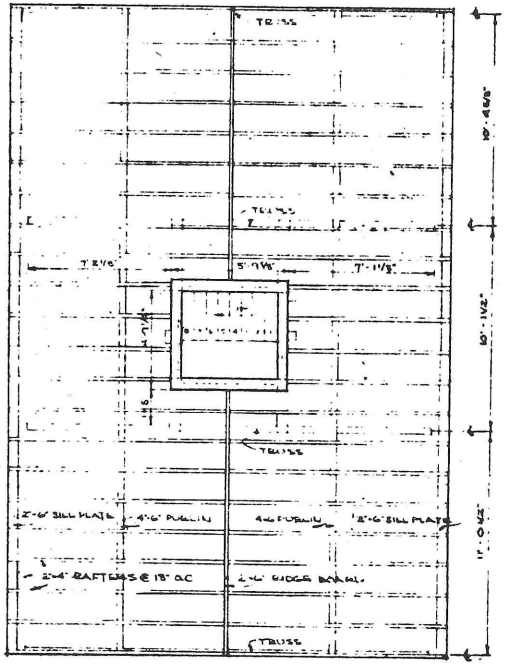
G.L. WRENN, S.R. FROLICHSTEIN, R.V. KEUNE, M.M. BUCHELE, DEL.

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE
"BROWN'S FORT" - THE ARMORY FIRE ENGINE HOUSE
HARPERS FERRY JEFFERSON COUNTY WEST VIRGINIA

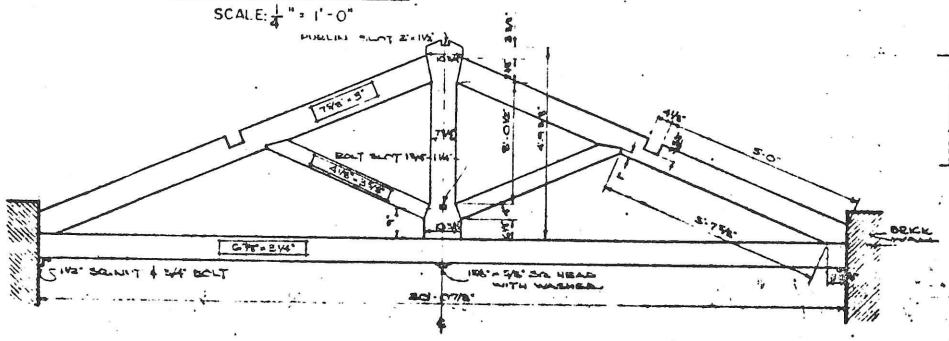
SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY
SHEET 2 OF 8 SHEETS



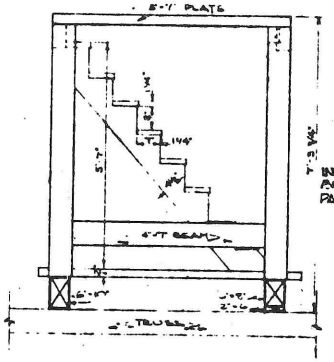
ROOF FRAMING PLAN

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



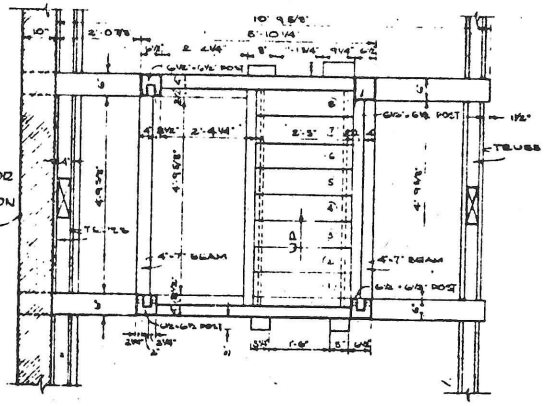
TRUSS DETAIL

SCALE: $\frac{1}{2}$" = 1'-0"



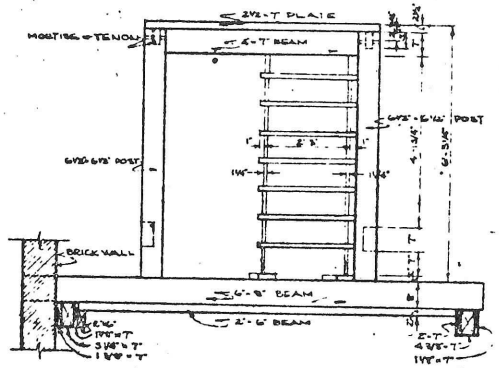
ELEVATION

SCALE $\frac{1}{2}$" = 1'-0"



PLAN

SCALE $\frac{1}{2}$" = 1'-0"



ELEVATION

CUPOLA FRAMING DETAILS

SCALE $\frac{1}{2}$" = 1'-0"

R. V. KEUNE, S.R. FROLICHSTEIN, DEL.

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BOARD OF PLANS AND DESIGN

NAME OF STRUCTURE

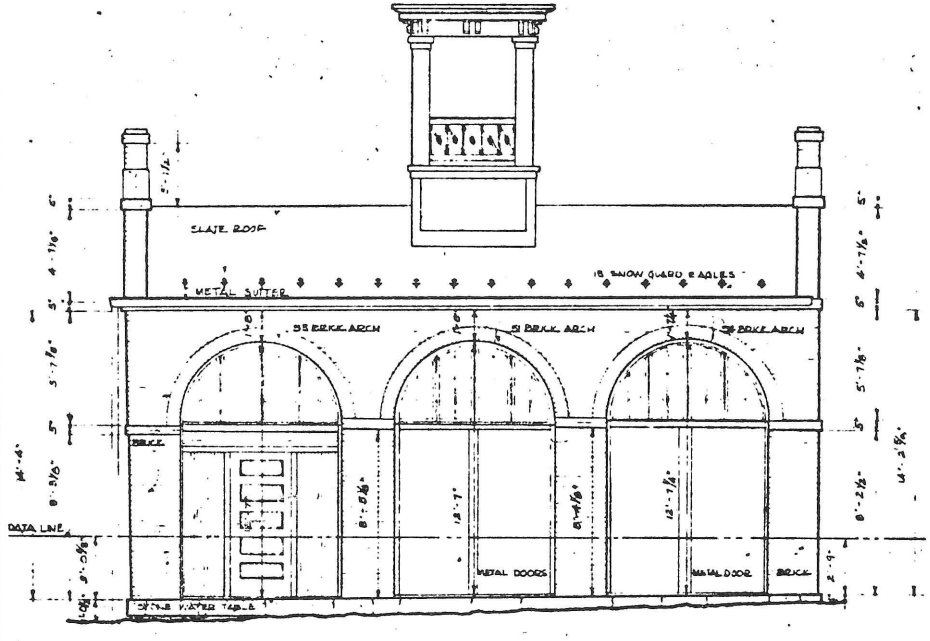
"BROWN'S FORT," OR THE ARMORY FIRE ENGINE HOUSE

HARPERS FERRY — JEFFERSON COUNTY — WEST VIRGINIA

SHEET NO.

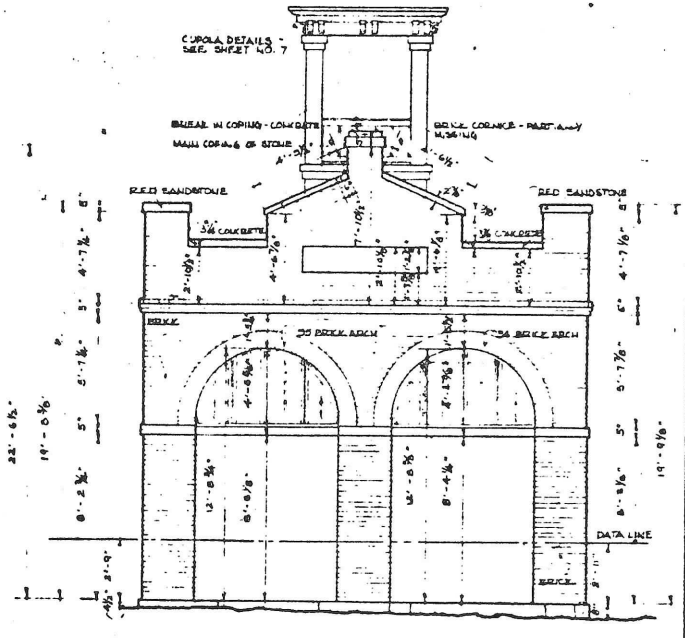
HISTORIC AMERICAN BUILDINGS SURVEY

SHEET 3 OF 8 SHEETS



EAST ELEVATION

SCALE 1/4" = 1' - 0"

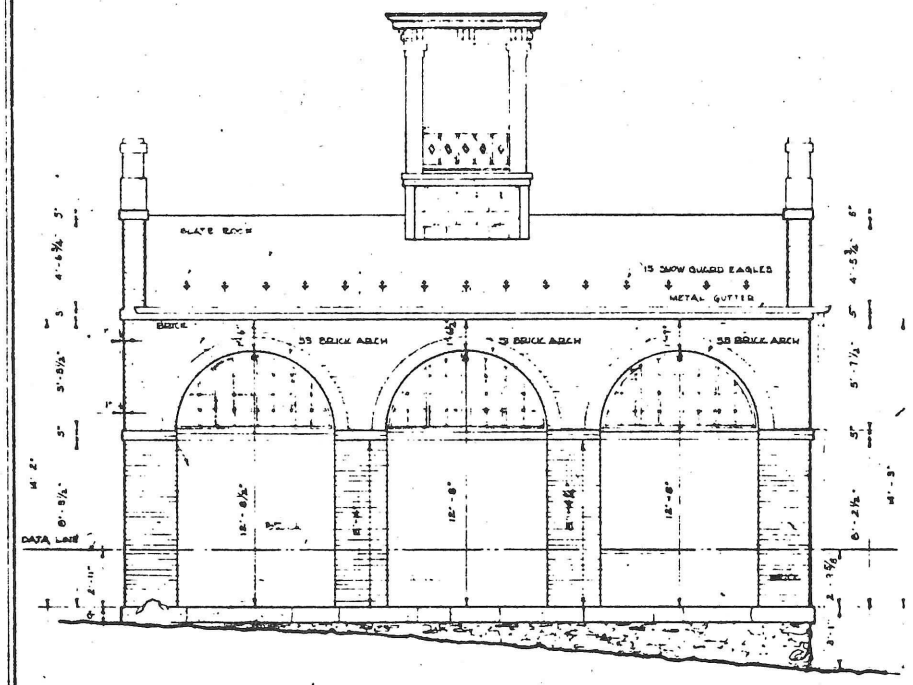


NORTH ELEVATION

SCALE 1/4" = 1' - 0"

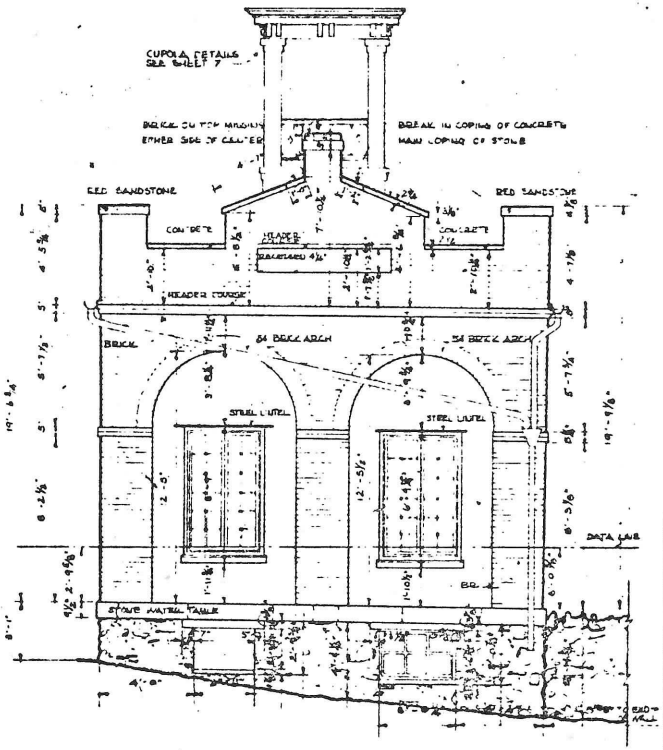
G.L. WRENN, S.R. FROLICHSTEIN, M.M. BUCHELE, DEL.

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN	NAME OF STRUCTURE "BROWN'S FORT" - THE ARMORY FIRE ENGINE HOUSE HARPERS FERRY JEFFERSON COUNTY WEST VIRGINIA	SURVEY NO.	HISTORIC AMERICAN BUILDINGS SURVEY SHEET 4 OF 8 SHEETS



WEST ELEVATION

SCALE 1/4" = 1' - 0"



SOUTH ELEVATION

SCALE 1/4" = 1' - 0"

S.R. FROLICHSTEIN, M.M. BUCHELE, DEL.

CM

FT.

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

HAER STRUCTURE

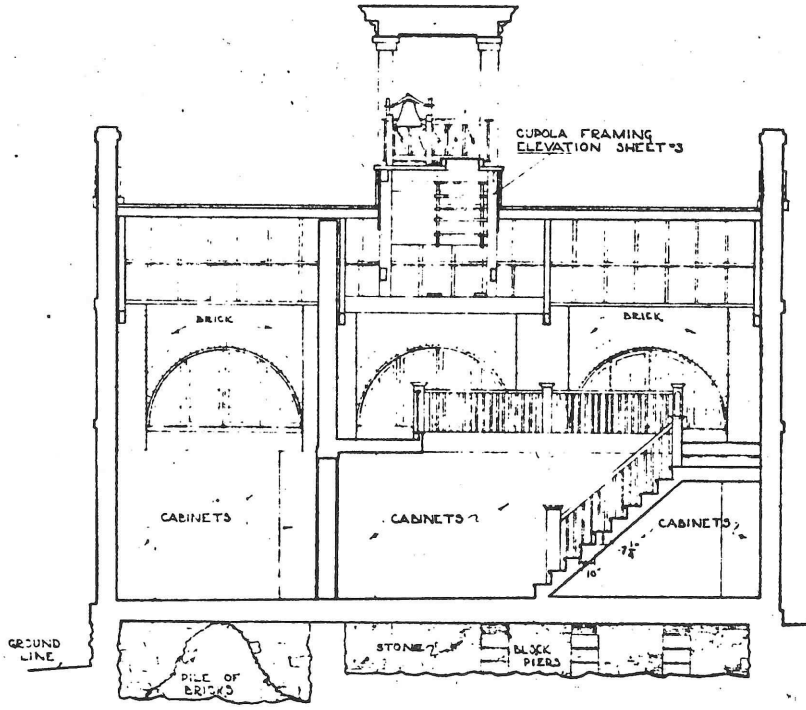
"BROWN'S FORT" - THE ARMORY FIRE ENGINE HOUSE

HARPERS FERRY JEFFERSON COUNTY WEST VIRGINIA

SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY

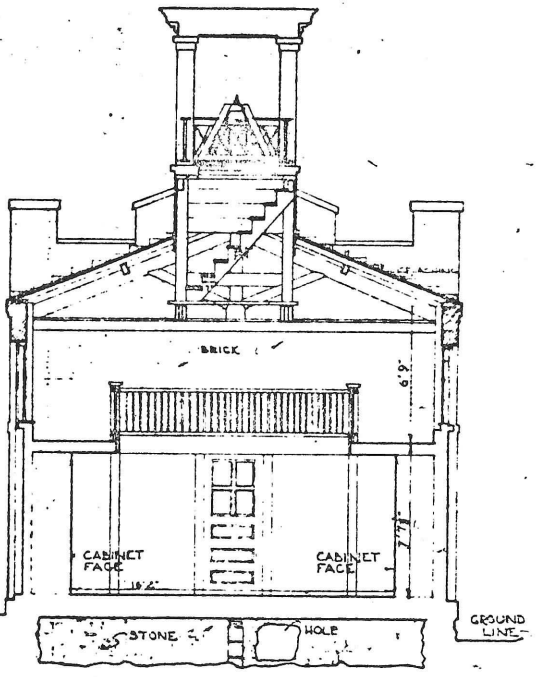
SHEET 5 OF 8 SHEETS



NOTE:
STAIRS BALCONY & CABINETS LATER ADDITION FOR CONVERTING TO A MUSEUM.

SECTION A A

SCALE: ¼" = 1'-0"

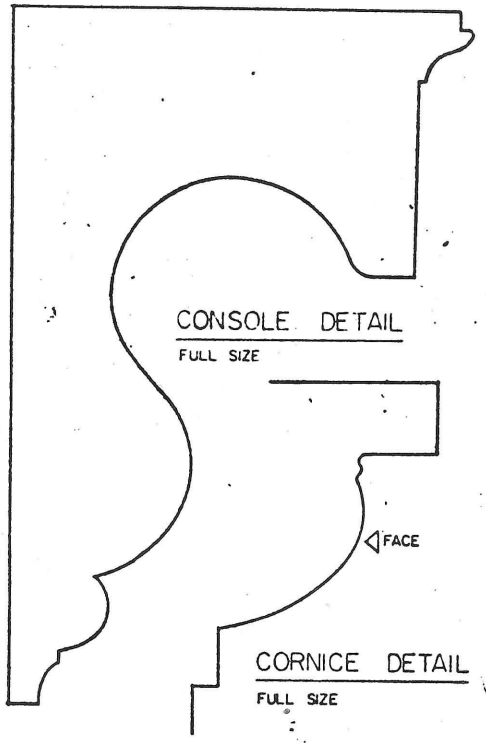


SECTION B B

SCALE: ¼" = 1'-0"

H. R. BAKER, M.M. BUCHELE DEL.

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN	NAME OF STRUCTURE "BROWN'S FORT" - THE ARMORY FIRE ENGINE HOUSE HARPERS FERRY JEFFERSON COUNTY WEST VIRGINIA	SURVEY NO.	HISTORIC AMERICAN BUILDINGS SURVEY SHEET 6 OF 8 SHEETS	

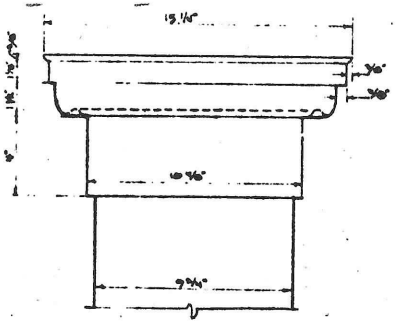


CONSOLE DETAIL

FULL SIZE

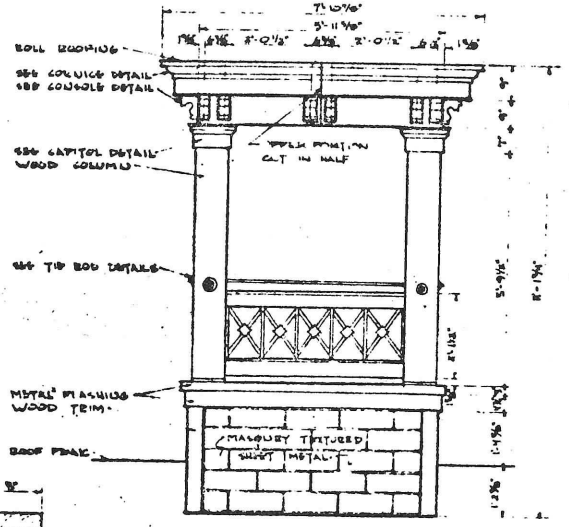
CORNICE DETAIL

FULL SIZE



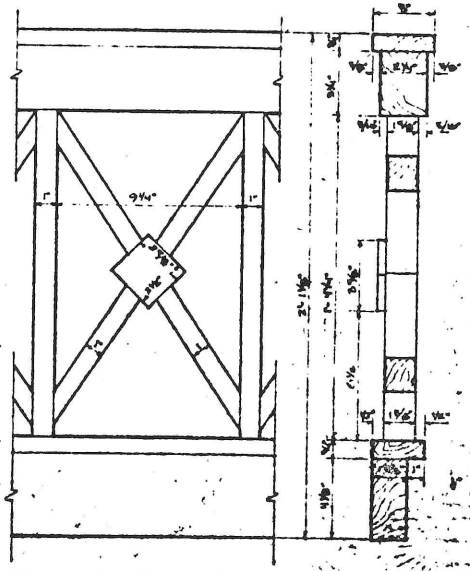
CAPITAL DETAIL

SCALE 3" = 1'-0"



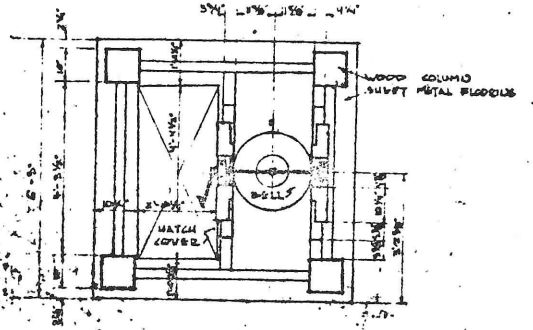
WEST ELEVATION

SCALE 1/2" = 1'-0"



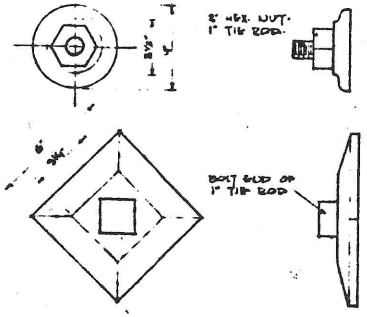
RAILING DETAILS

SCALE 3" = 1'-0"



CUPOLA PLAN

SCALE 1/2" = 1'-0"



TYPICAL TIE ROD WASHERS

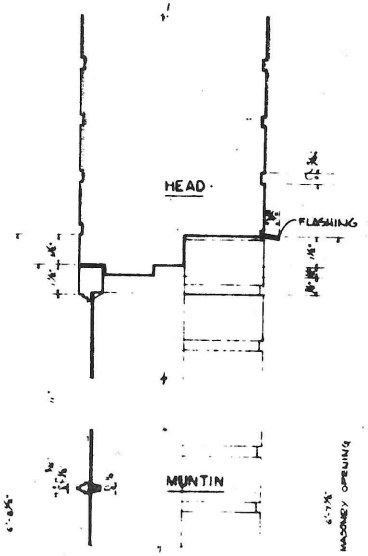
SCALE 3" = 1'-0"

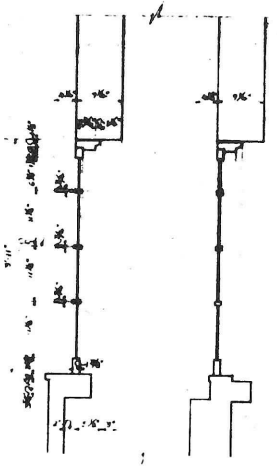
G.L. WRENN, R.V. KEUNE, S.R. FROLICHSTEIN, DEL.

"BROWN'S FORT" THE ARMORY FIRE ENGINE HOUSE

HISTORIC AMERICAN BUILDINGS SURVEY

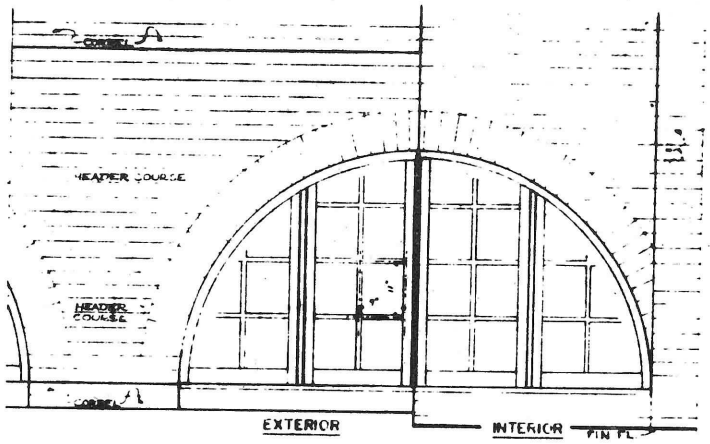
SHEET 7 OF 8 SHEETS





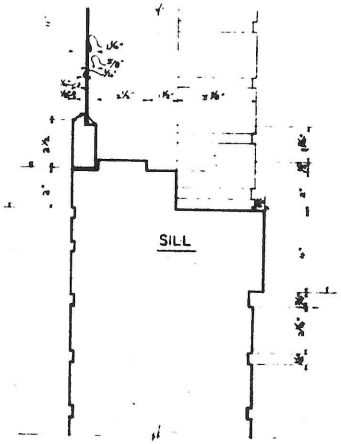
SECTION WINDOW B

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



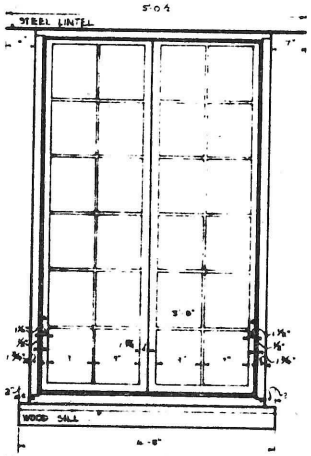
ELEVATION WINDOW B

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



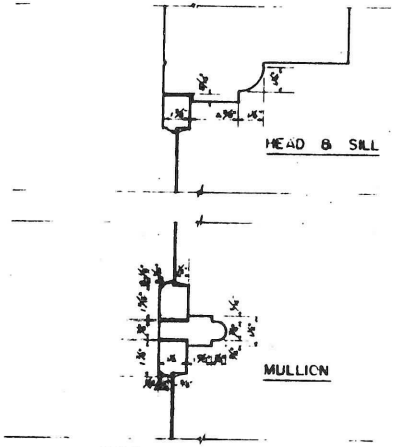
DETAILS WINDOW A

SCALE 3" = 1' - 0"

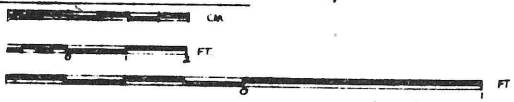


ELEVATION WINDOW A

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



DETAILS WINDOW B SCALE $\frac{3}{4}$" = 1' - 0"



G.L. WRENN, H.R. BAKER, DFL.

UNDER DIRECTION OF UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE, BRANCH OF PLANS AND DESIGN

NAME OF STRUCTURE

"BROWN'S FORT" - THE ARMORY FIRE ENGINE HOUSE

HARPERS FERRY JEFFERSON COUNTY WEST VIRGINIA

SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY

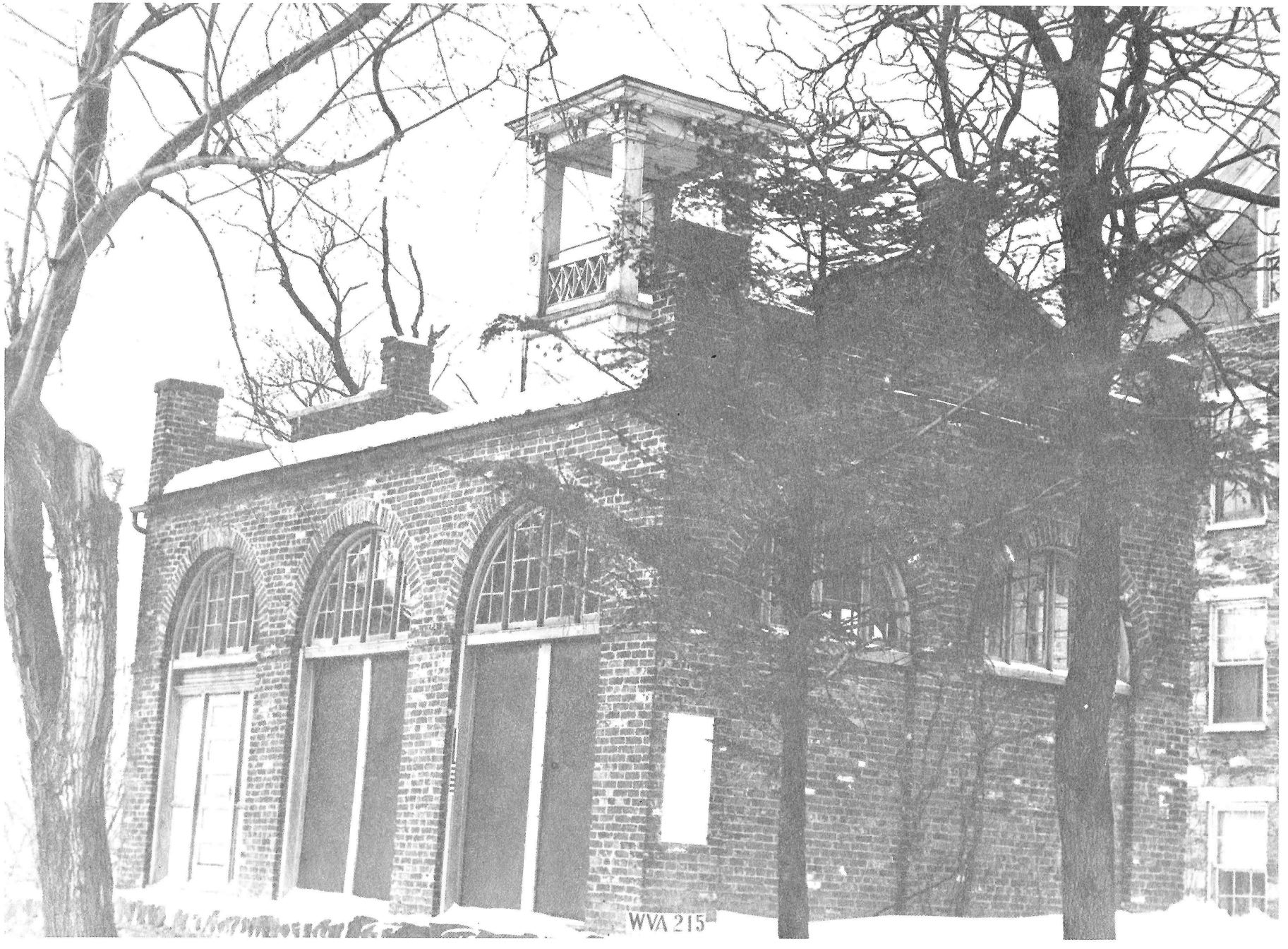
SHEET 6 OF 7 SHEETS

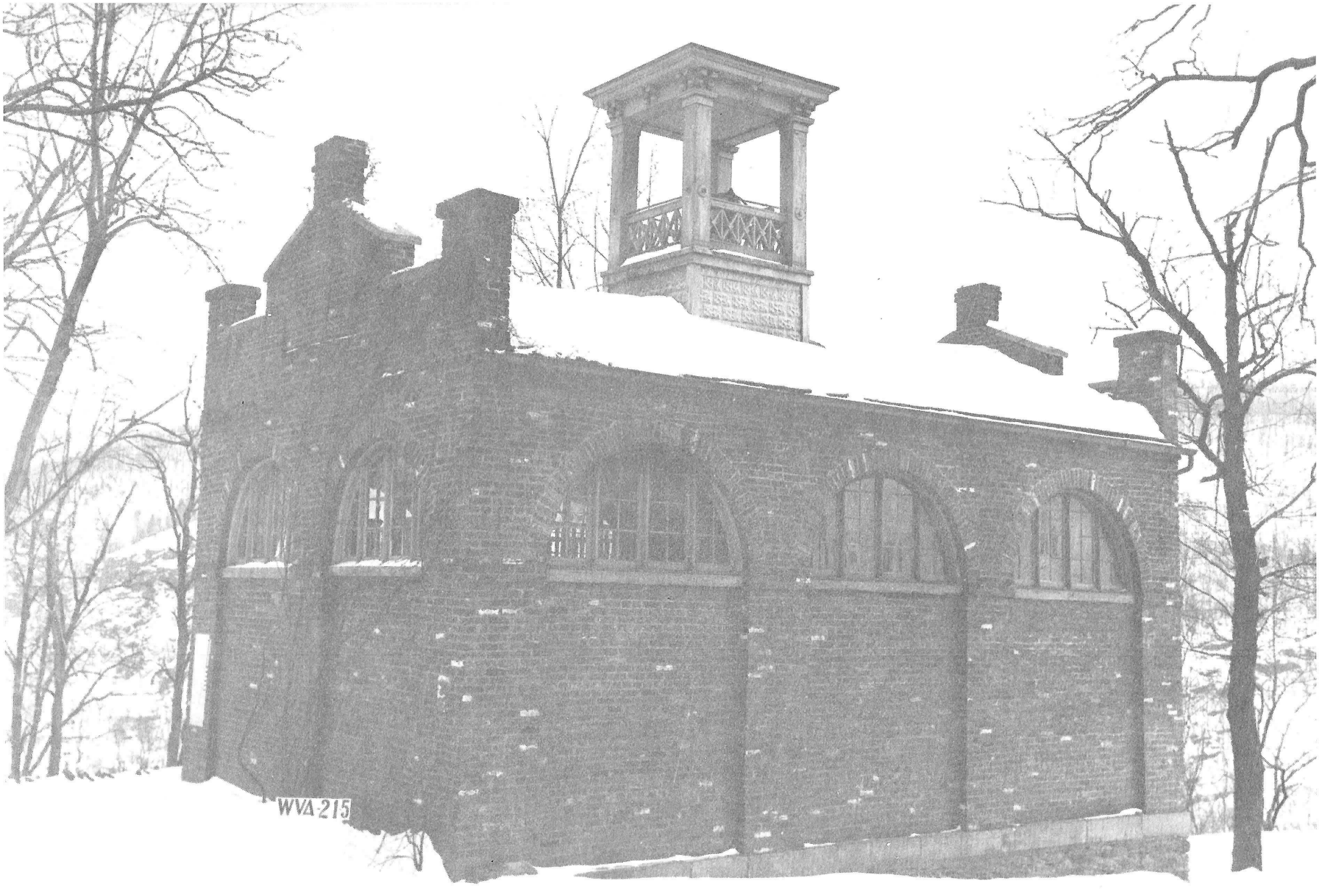
Appendix B

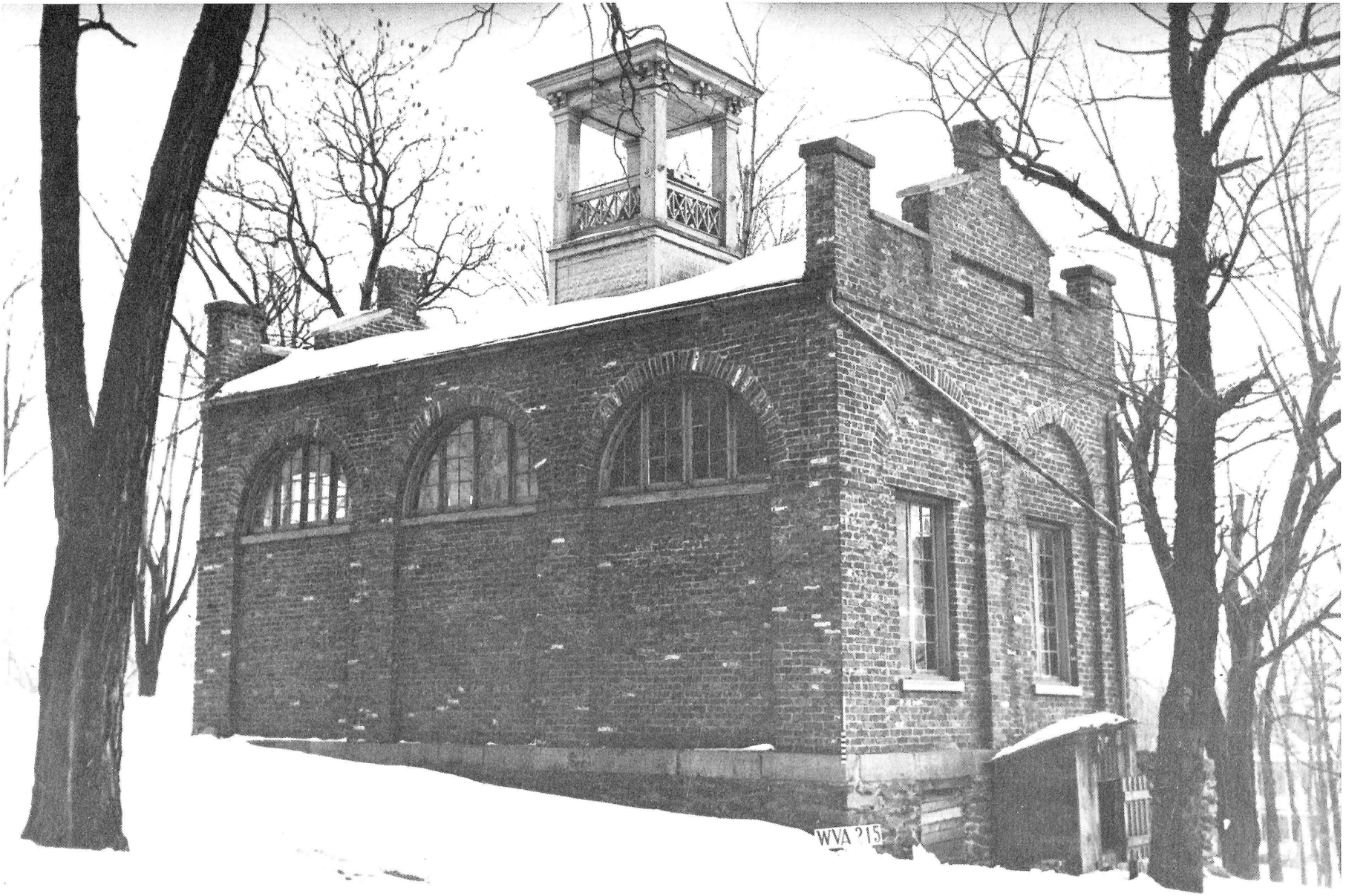
HABS Photographs

1936

Photos taken on the Storer College campus.


WVA 215


WVA-215


WVA 215

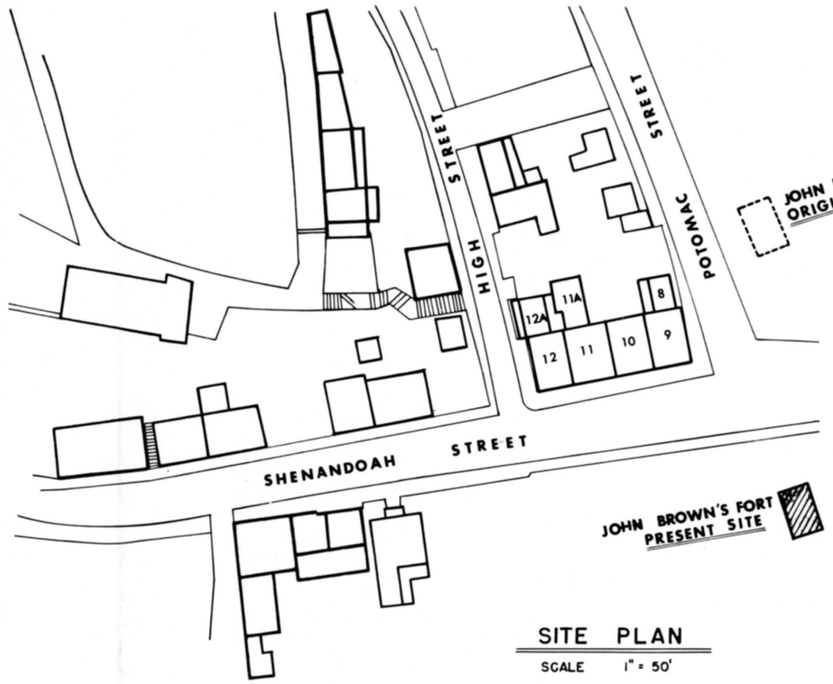



Contribute to
STORER
COLLEGE
In Memory of
JOHN BROWN

Appendix C

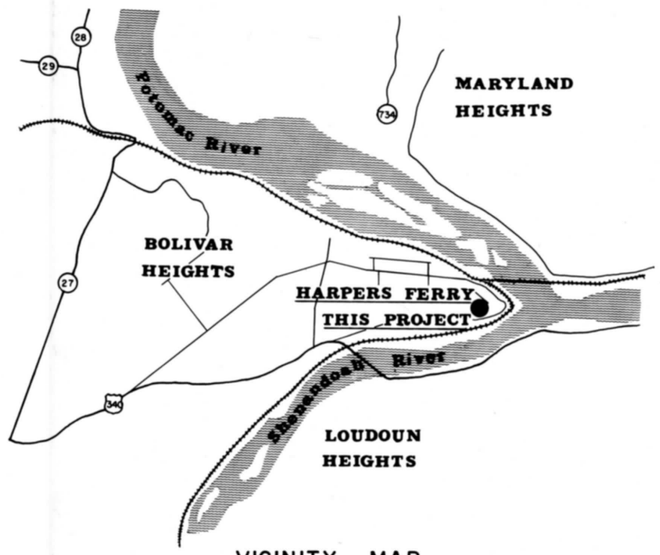
Restoration Drawings
(12 sheets)

1975



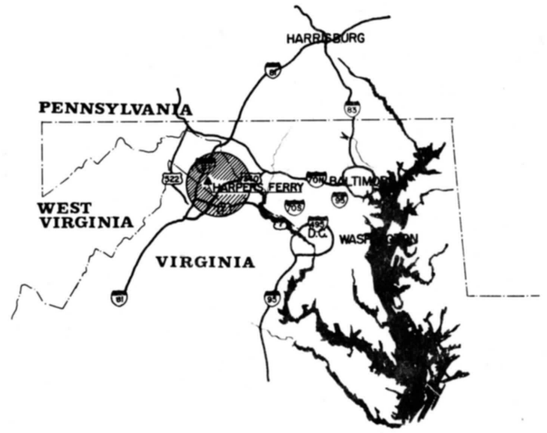
SITE PLAN

SCALE 1" = 50'



VICINITY MAP

SCALE 1" = 800'



LOCATION MAP

SCALE 1" = 33.5 mi.

INDEX

1	COVER SHEET		
2	PLANS AND SECTIONS	—	EXISTING
3	EXTERIOR ELEVATIONS	—	EXISTING
4	ROOF FRAMING	—	EXISTING
5	PLANS AND SECTIONS	—	PARTIAL RESTORATION
6	EXTERIOR ELEVATIONS	—	" "
7	ROOF FRAMING	—	" "
8	ENTRANCE DETAILS	—	" "
9	WINDOW DETAILS	—	" "
10	CUPOLA	—	" "
11	CUPOLA CORNICE	—	" "
12	HARDWARE	—	" "

Historic Structures Report Drawings

Harpers Ferry N. H. P.

BASIC DATA

HISTORIC PRESERVATION TEAM

UNITED STATES DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE DENVER SERVICE CENTER

PREPARED BARLOW

DESIGNED BARLOW

DRAWN

CHECKED

3-75 DATE

TITLE OF DRAWING: JOHN BROWN'S FORT

LOCATION WITHIN PARK: LOWER TOWN

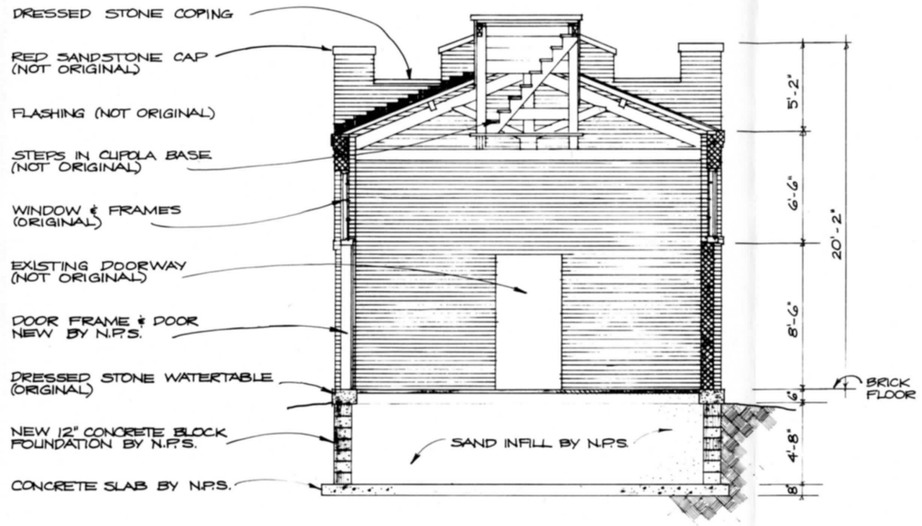
NAME OF PARK: HARPERS FERRY N.H.P.

N.C.P. REGION | JEFFERSON COUNTY | W. VIRGINIA STATE

DRAWING NO. 385 28,001

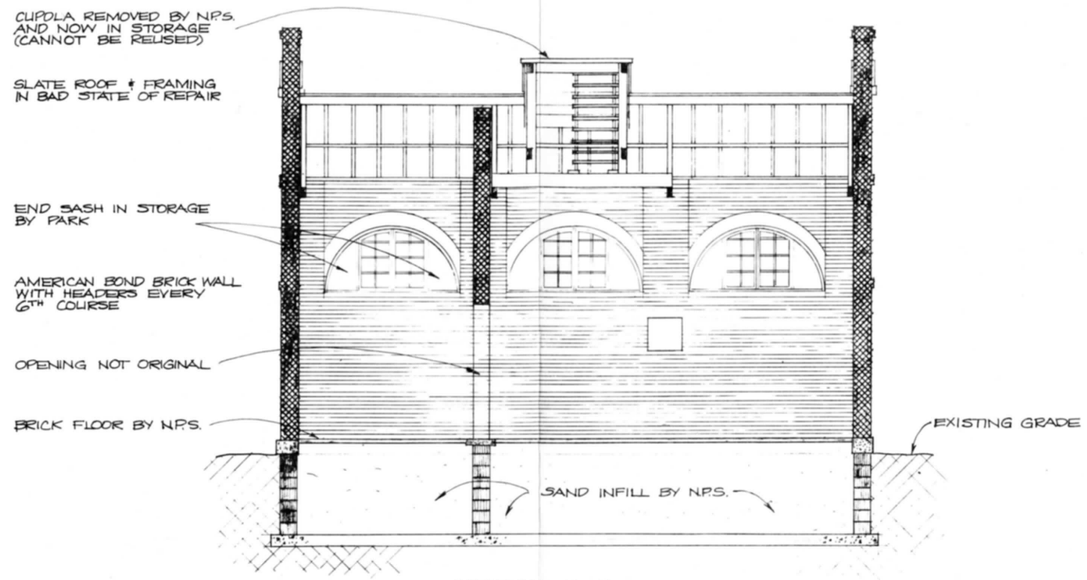
PCIP PKG 10

SHEET 1 OF 12



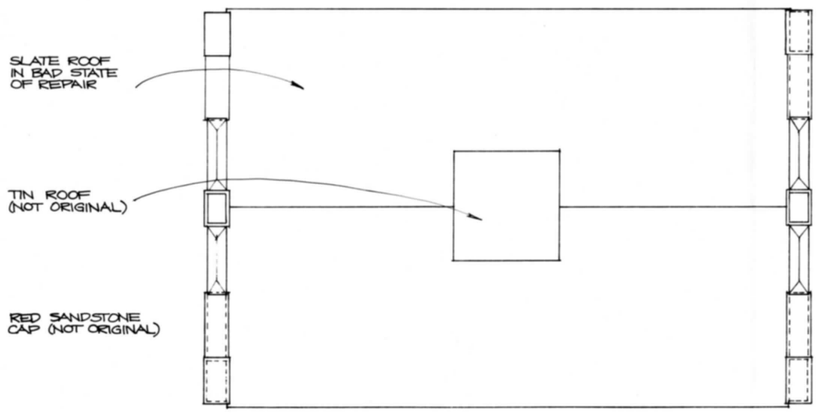
SECTION A - A

SCALE: 1/4" = 1'-0"



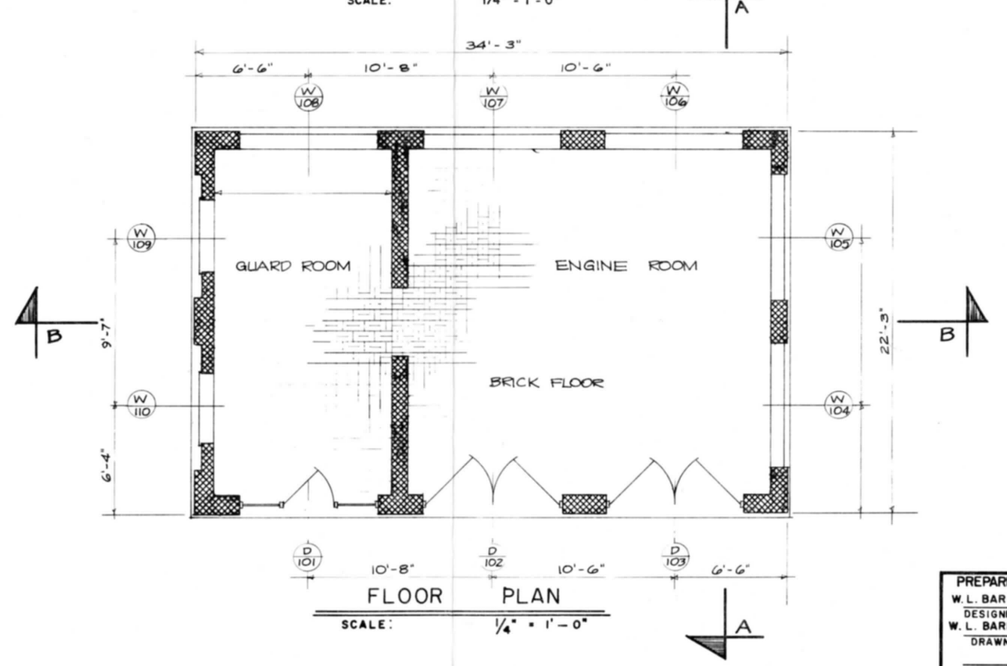
SECTION B - B

SCALE: 1/4" = 1'-0"



ROOF PLAN

SCALE: 1/4" = 1'-0"



FLOOR PLAN

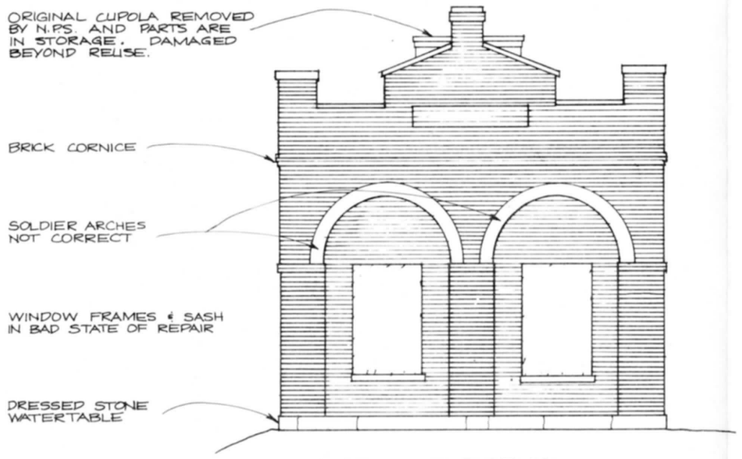
SCALE: 1/4" = 1'-0"

EXISTING CONDITIONS

PLANS & SECTIONS — JOHN BROWN'S FORT

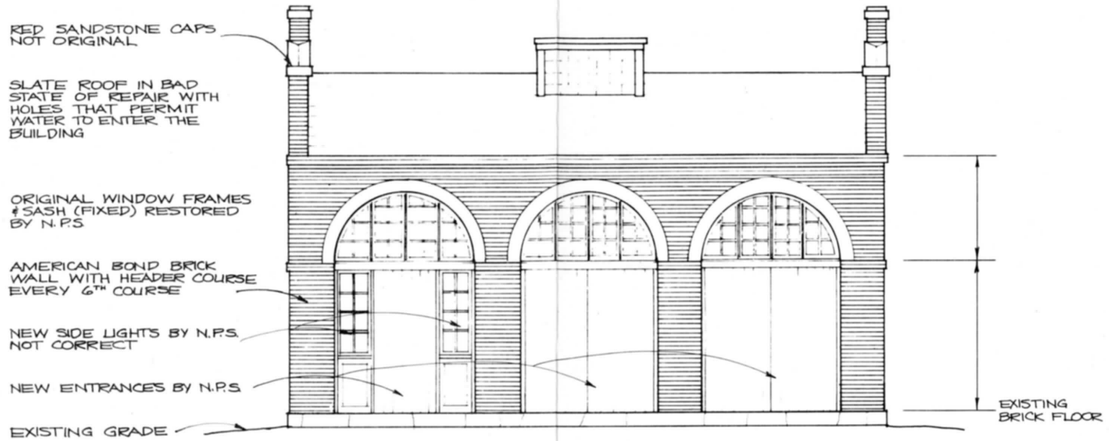
SCALE: 1/4" = 1'-0" 0 5 10 FEET

PREPARED	DRAWING NO.
W. L. BARLOW	385
DESIGNED W. L. BARLOW	28,000
DRAWN	PKG. NO. 113 / SHEET 2
CHECKED	OF 12
JAN. 1975 DATE	



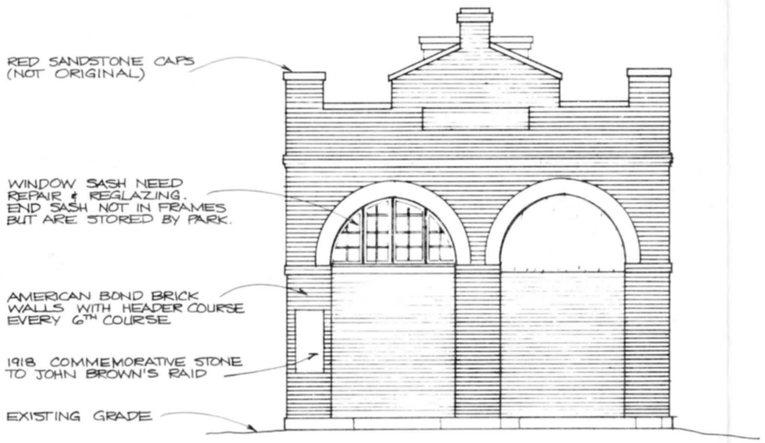
· EAST · ELEVATION ·

SCALE: 1/4" = 1'-0"



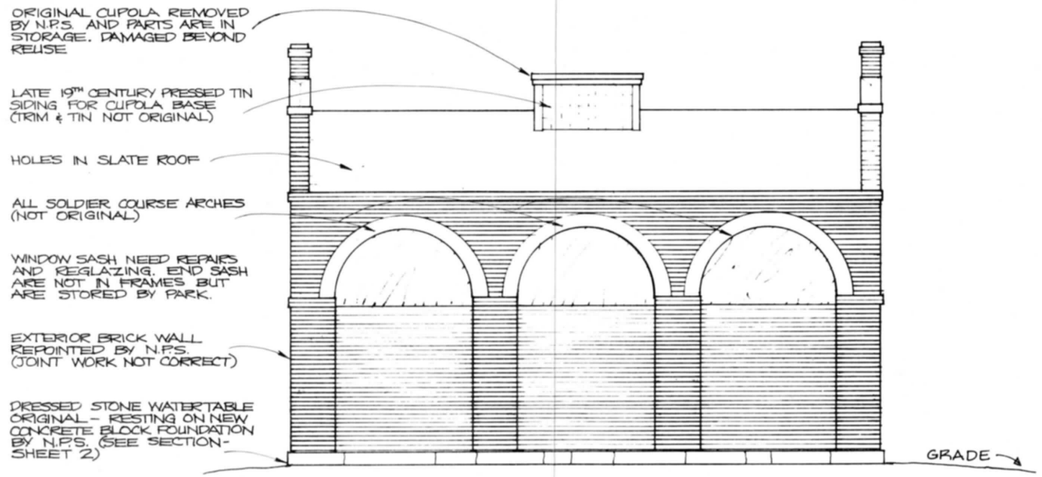
· NORTH · ELEVATION ·

SCALE: 1/4" = 1'-0"



· WEST · ELEVATION ·

SCALE: 1/4" = 1'-0"



· SOUTH · ELEVATION ·

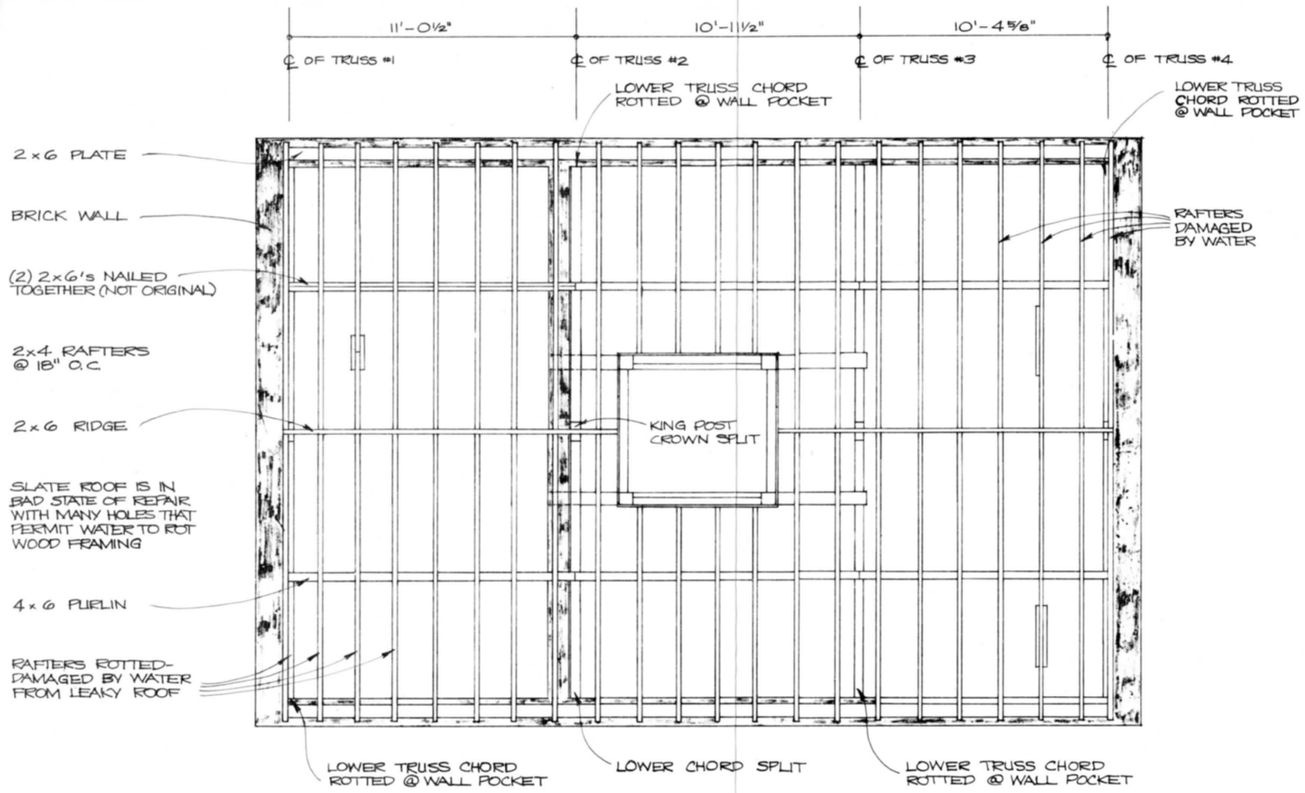
SCALE: 1/4" = 1'-0"

EXISTING CONDITIONS

EXTERIOR ELEVATIONS — JOHN BROWN'S FORT

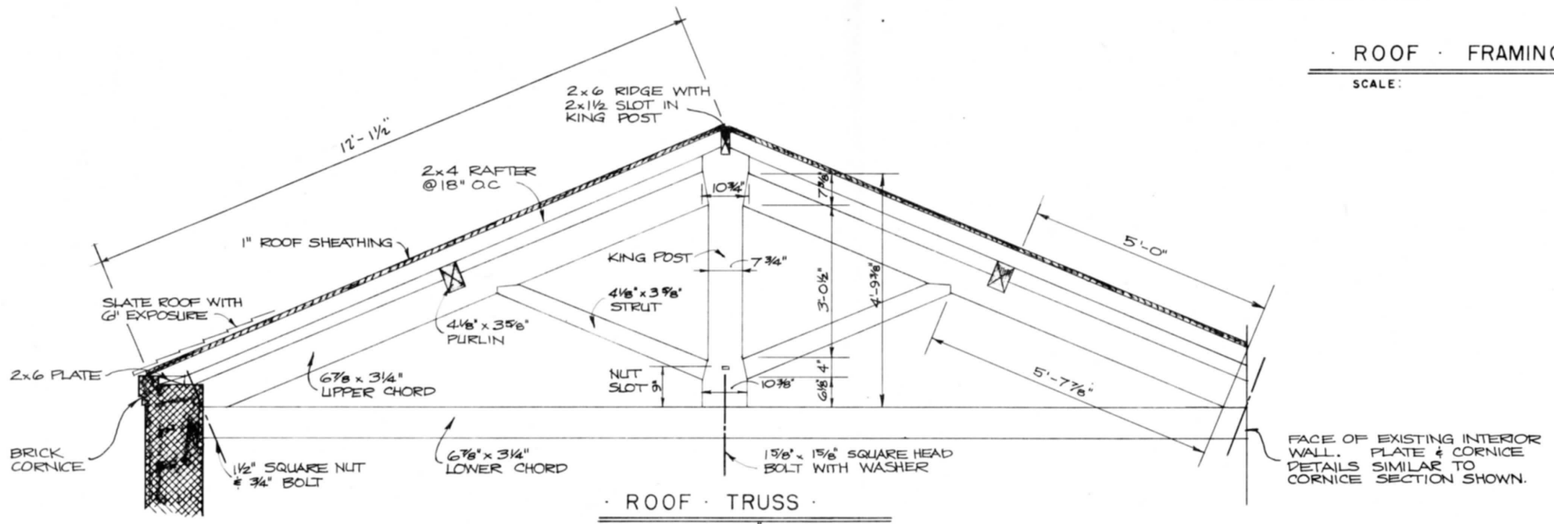
SCALE 1'0" 5' 10' 1/4"=1'-0"

PREPARED	W. L. BARLOW
DESIGNED	W. L. BARLOW
DRAWN	
CHECKED	
DATE	JAN. 1975
DRAWING NO.	385 28,000
PKG. NO.	113
SHEET	3 OF 12



· ROOF · FRAMING · PLAN ·

SCALE: 3/8" = 1'-0"



· ROOF · TRUSS ·

SCALE: ¾" = 1'-0"

EXISTING CONDITIONS

ROOF FRAMING - JOHN BROWN'S FORT

SCALE 10' 5' 1' 0 1' 3/8"=1'-0"

PREPARED	DRAWING NO.
W.L. BARLOW DESIGNED	385
W.L. BARLOW DRAWN	28,000
CHECKED	PKG. NO. 113 / SHEET 4
JAN. 1975 DATE	OF 12

RECONSTRUCT CUPOLA TO DETAILS. SEE SHEETS #10 & #11

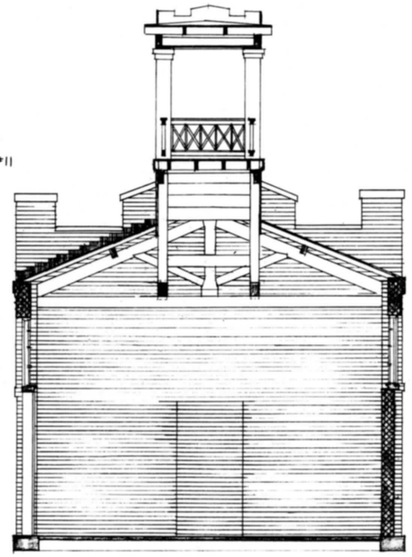
REPLACE ALL (4) RED SANDSTONE CAPS TO MATCH DETAILS OF ORIGINAL

REMOVE EXISTING CUPOLA BASE & STEPS. RECONSTRUCT CUPOLA TO DETAIL

REPAIR SASH AS REQUIRED

REUSE ORIGINAL HARDWARE ON DOORS

BRICK IN INTERIOR DOORWAY TO MATCH EXISTING BRICKWORK



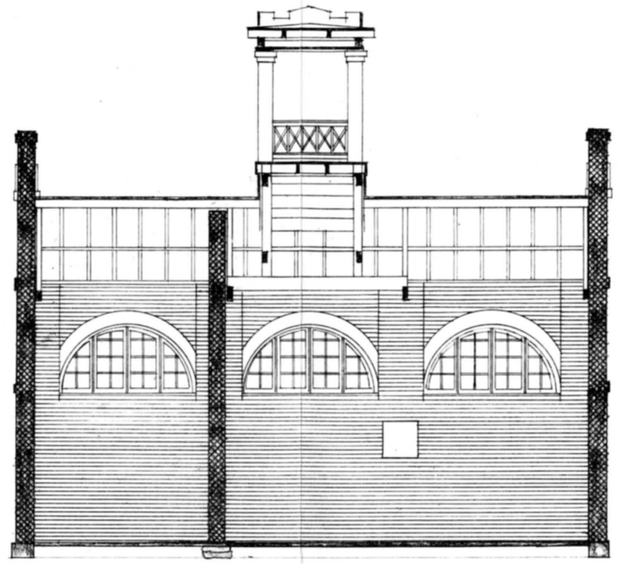
SECTION A—A

SCALE: 1/4" = 1'-0"

REPLACE ALL ROTTED ROOF FRAMING MEMBERS SEE FRAMING PLAN SHEET # 7

ALL INTERIOR WALLS ARE TO BE WHITE-WASHED

NEW BLOCK FOUNDATION BY N.P.S. TO REMAIN

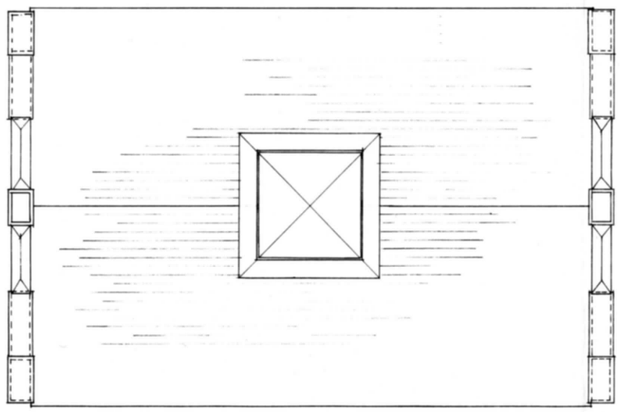


SECTION B-B

SCALE: 1/4" = 1'-0"

NEW SLATE ROOF WITH 6" EXPOSURE

INSTALL NEW COPPER RAIN GUTTER & DOWNSPOUTS



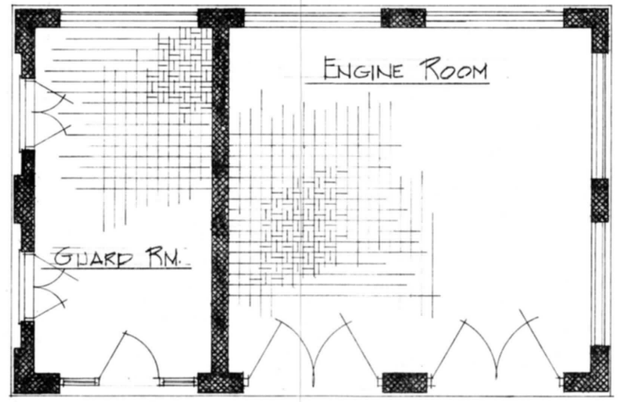
ROOF PLAN

SCALE: 1/4" = 1'-0"

REPAIR WINDOW FRAMES & SASH AS REQUIRED

RESET PORTION OF BRICK FLOORING AND REPACK ALL JOINTS WITH SAND

PRESENT ENTRANCE DOORS ARE TO BE RETAINED. ALL NEW HARDWARE TO BE REPLACED WITH ORIGINAL HARDWARE IN STORAGE BY N.P.S.



FLOOR PLAN

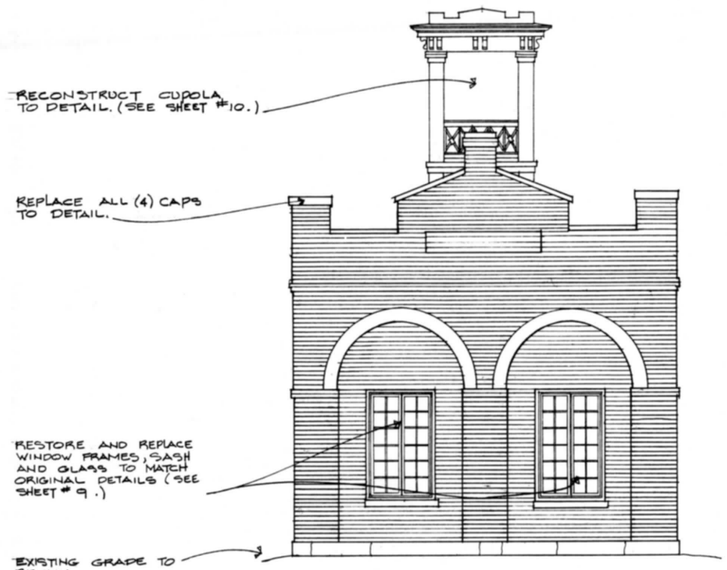
SCALE: 1/4" = 1'-0"

PLANS & SECTIONS - JOHN BROWN'S FORT

PARTIAL RESTORATION

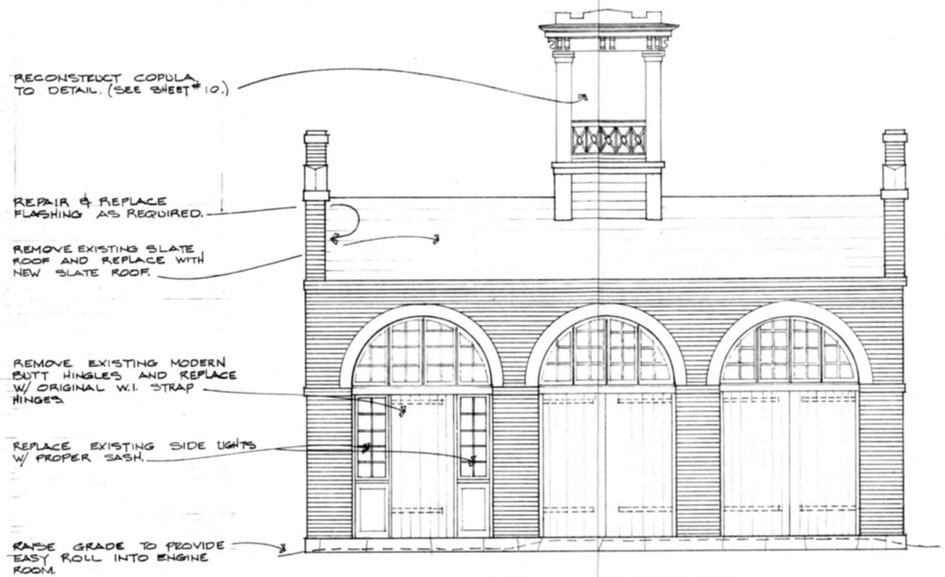
SCALE 1/4" = 1'-0"

PREPARED	DRAWING NO.
W. L. BARLOW — DESIGNED	385 / 28,000
W. L. BARLOW — DRAWN	PKG. NO. 115
CHECKED	SHEET 5 OF 12
JAN. 1975 — DATE	



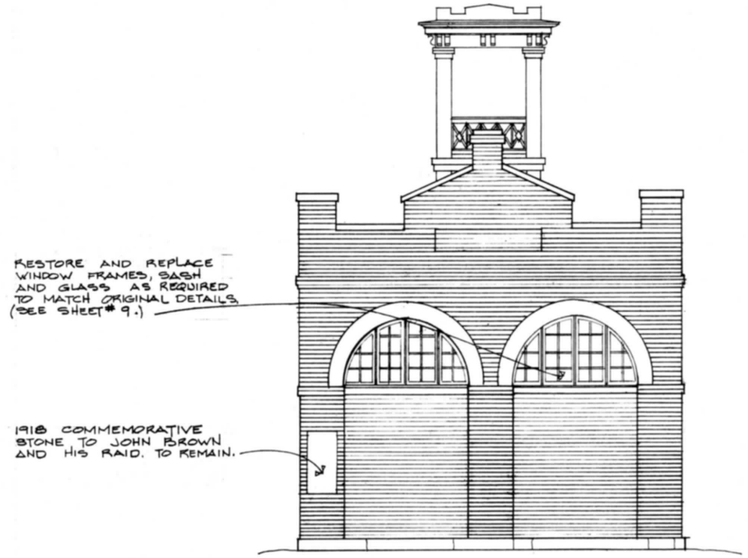
· EAST · ELEVATION ·

SCALE: 1/4" = 1'-0"



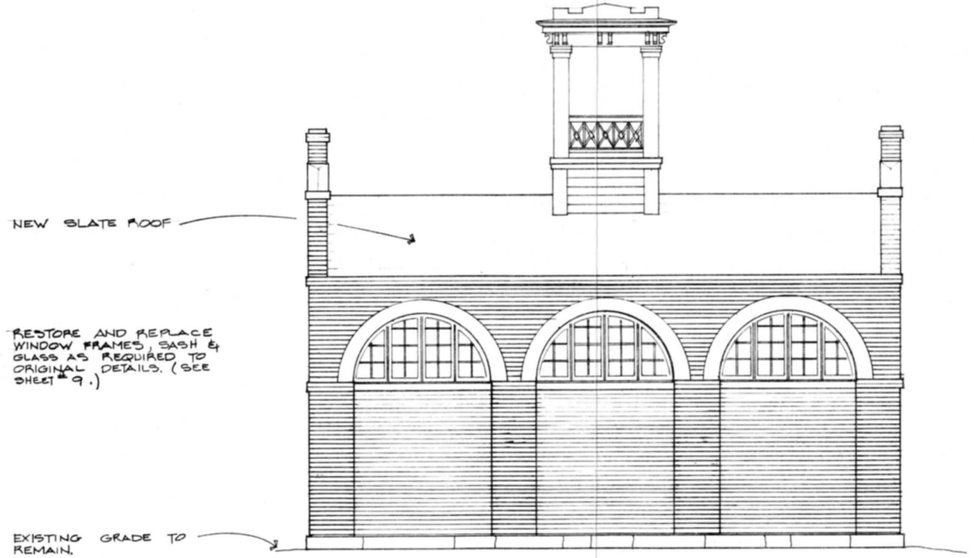
· NORTH · ELEVATION ·

SCALE: 1/4" = 1'-0"



· WEST · ELEVATION ·

SCALE: 1/4" = 1'-0"



· SOUTH · ELEVATION ·

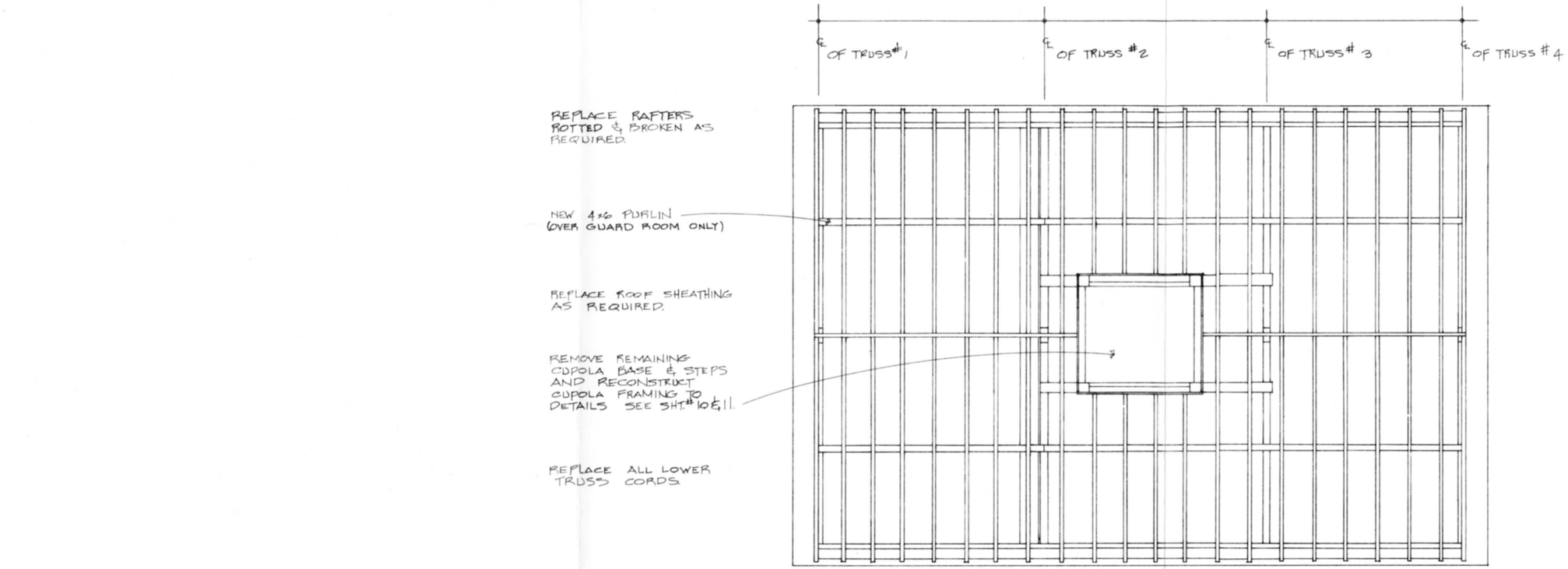
SCALE: 1/4" = 1'-0"

PARTIAL RESTORATION

EXTERIOR ELEVATIONS – JOHN BROWN'S FORT

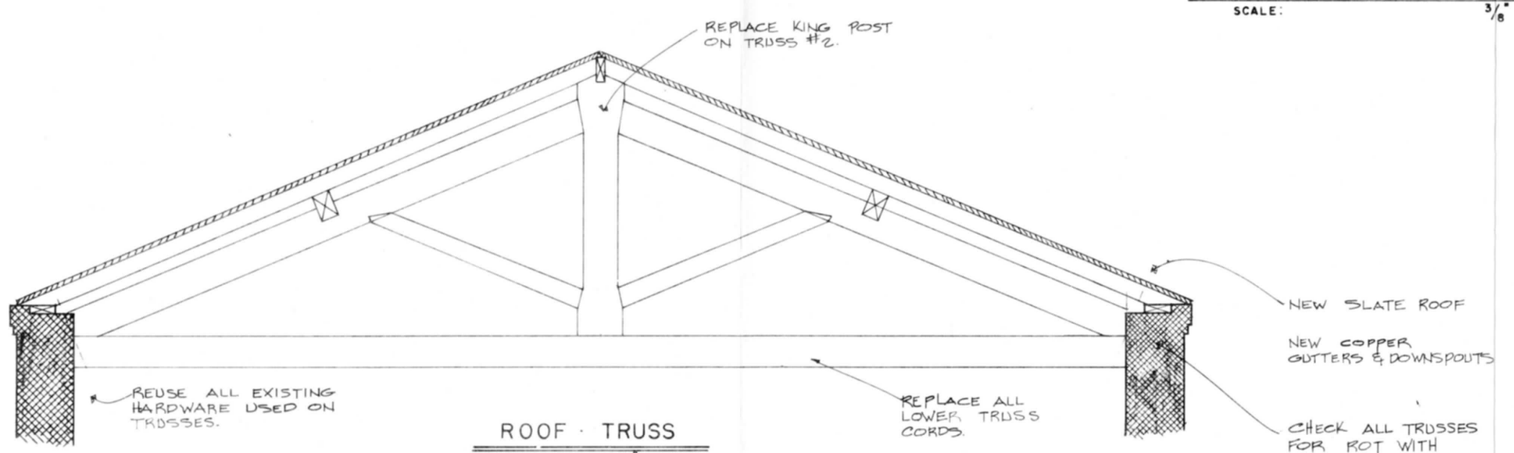
SCALE 0 5 10 FEET 1/4" = 1'-0"

PREPARED	DRAWING NO.
W. L. BARLOW	385
DESIGNED W. L. BARLOW	28,000
DRAWN	PKG. NO. 113 / SHEET 6
CHECKED	OF 12
JAN. 1975 DATE	



· ROOF · FRAMING · PLAN ·

SCALE: 3/8" = 1'-0"



ROOF · TRUSS

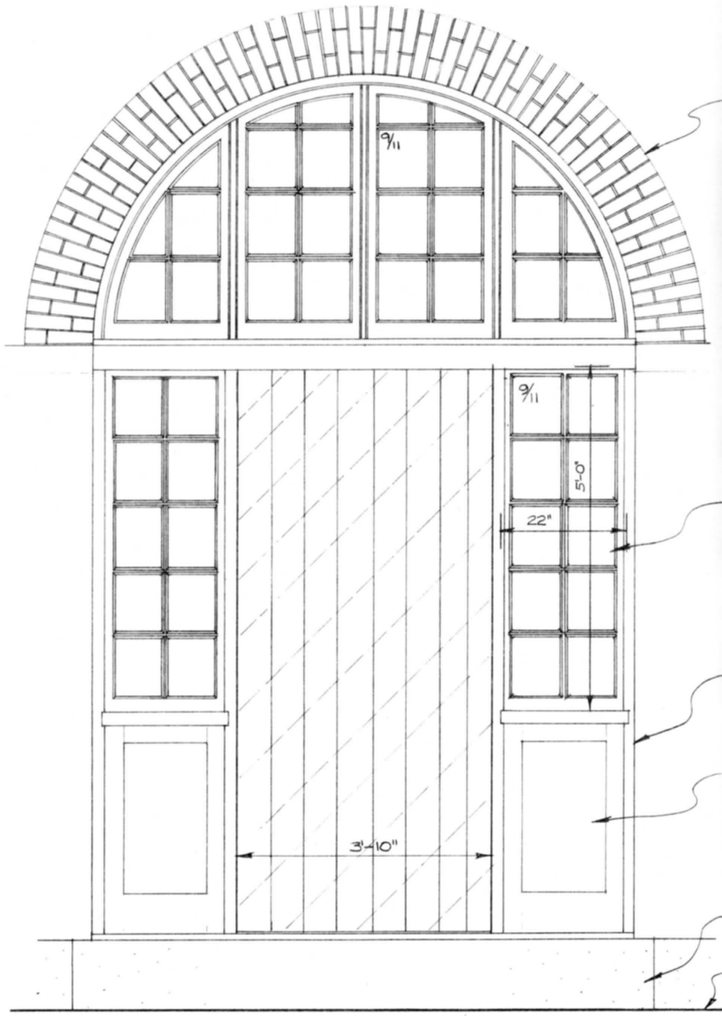
SCALE: 3/4" = 1'-0"

PARTIAL RESTORATION

BROWN'S FORT

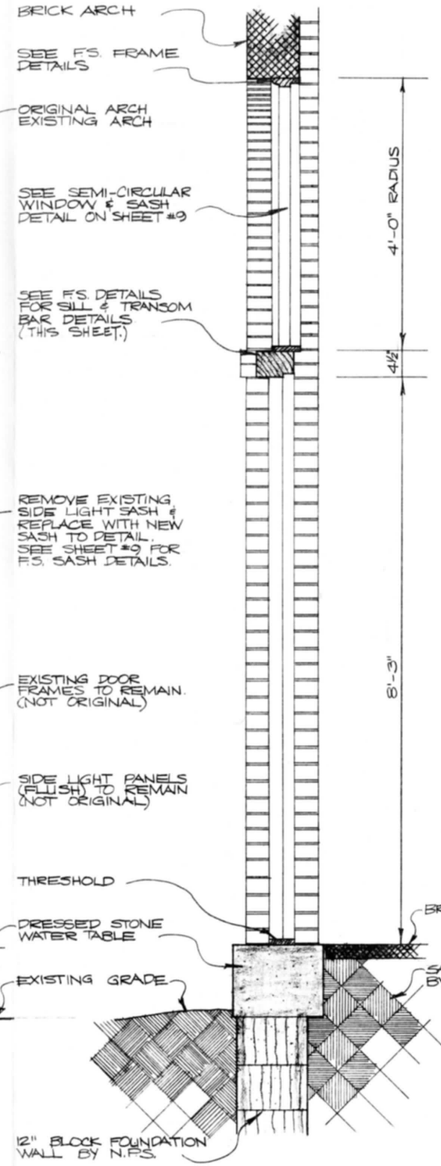
ROOF FRAMING — JOHN BR

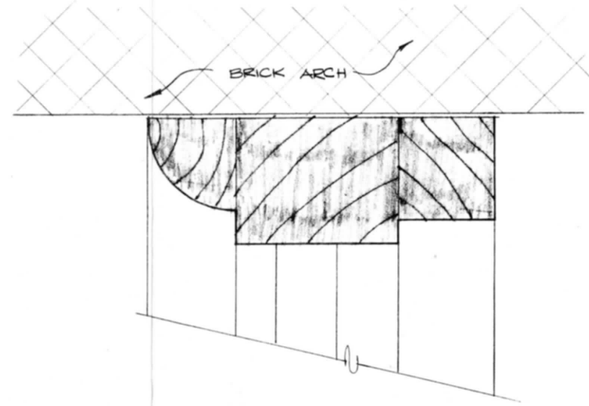
PREPARED	DRAWING NO.
W.L. BARLOW DESIGNED	385
W.L. BARLOW DRAWN	28,000
CHECKED	PKG. NO. 113 / SHEET 7
JAN. 1975 DATE	OF 12



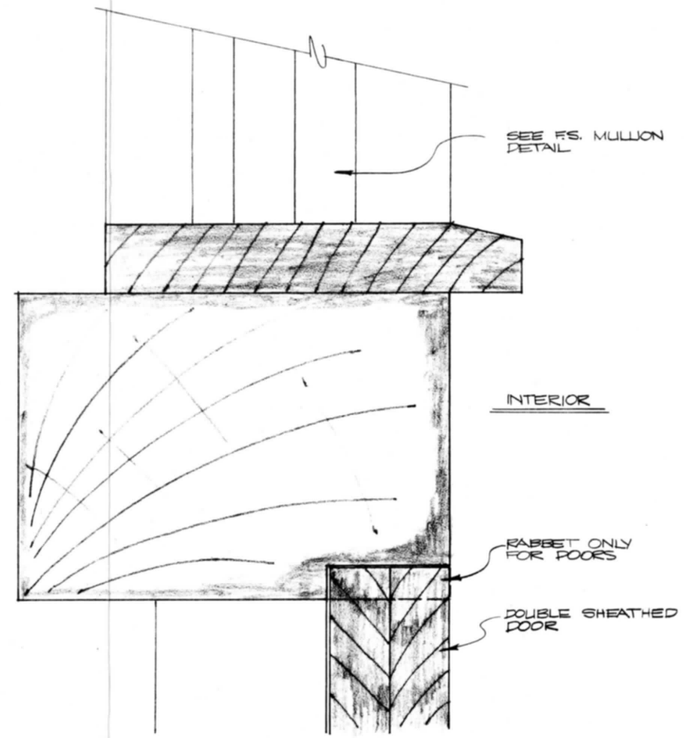
· GUARD · ROOM · BAY · ENTRANCE · ELEVATION ·

SCALE: 1" = 1'-0"





· F.S. SEMICIRCULAR · WINDOW · FRAME · DETAIL ·



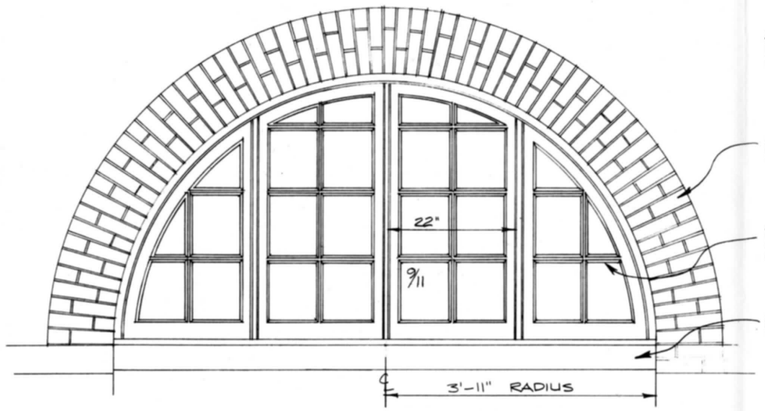
· F.S. · WINDOW · SILL · & · DOOR · TRANSOM · DETAIL ·

ENTRANCE DETAILS – JOHN BROWN'S FORT

PARTIAL RESTORATION

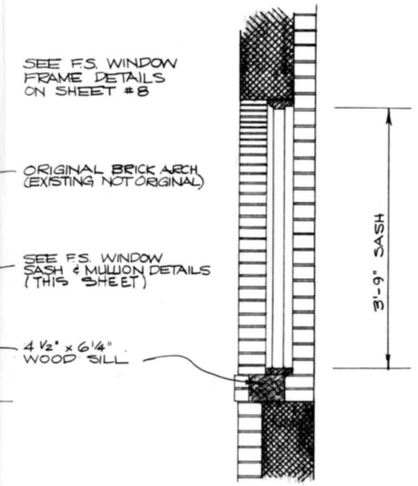
SCALE 5' 1'-0"

PREPARED	DRAWING NO.
W. L. BARLOW DESIGNED	385 28,000
W. L. BARLOW DRAWN	PKG. NO. 113 / SHEET 8
CHECKED	OF 12
JAN. 1975 DATE	



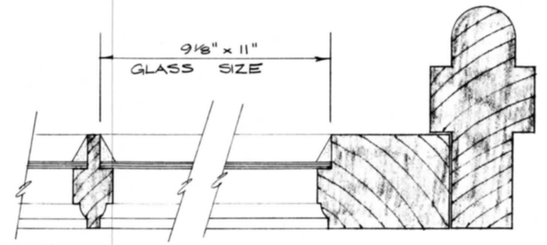
· SEMI-CIRCULAR · WINDOW ·

SCALE: 1" = 1'-0"

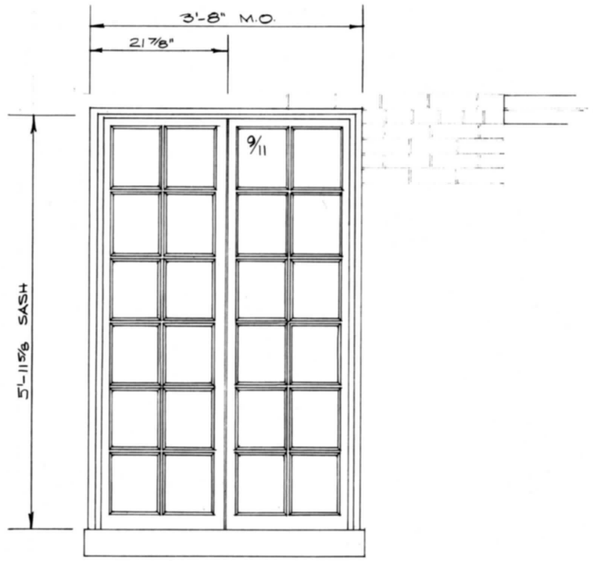


· WINDOW · SECTION ·

SCALE: 1" = 1'-0"

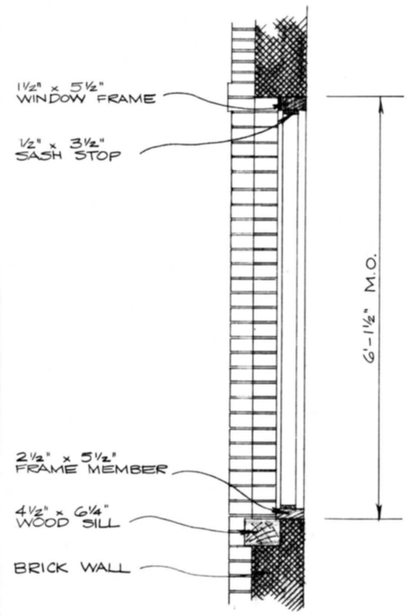


· F.S. · WINDOW · SASH · & · MULLION · DETAIL ·



· GUARD · ROOM · SIDE · WINDOW ·

SCALE: 1" = 1'-0"



· WINDOW · SECTION ·

SCALE: 1" = 1'-0"

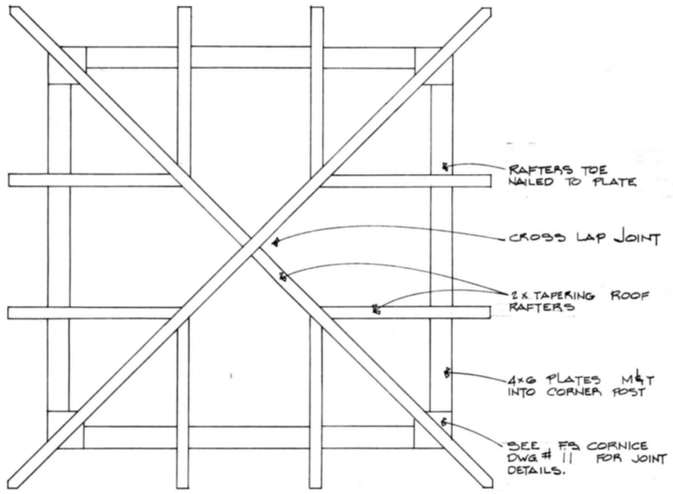
PARTIAL RESTORATION

JOHN BROWN'S FORT

WINDOW DETAILS

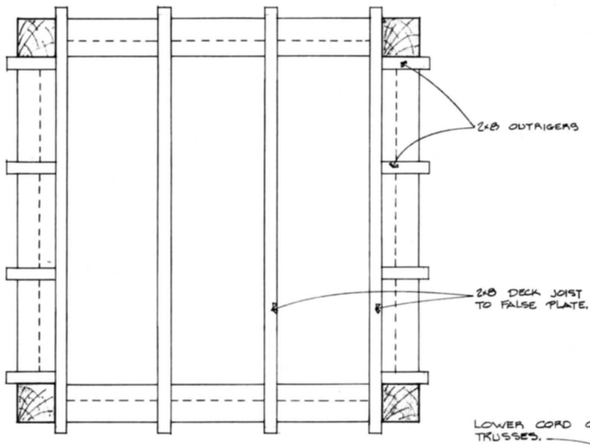
SCALE 5' 0 1' 1" = 1'-0"

PREPARED	DRAWING NO.
W.L. BARLOW DESIGNED	385 28,000
W. L. BARLOW DRAWN	PKG. NO. 113 — SHEET 9
CHECKED	
JAN. 1975 DATE	OF 12



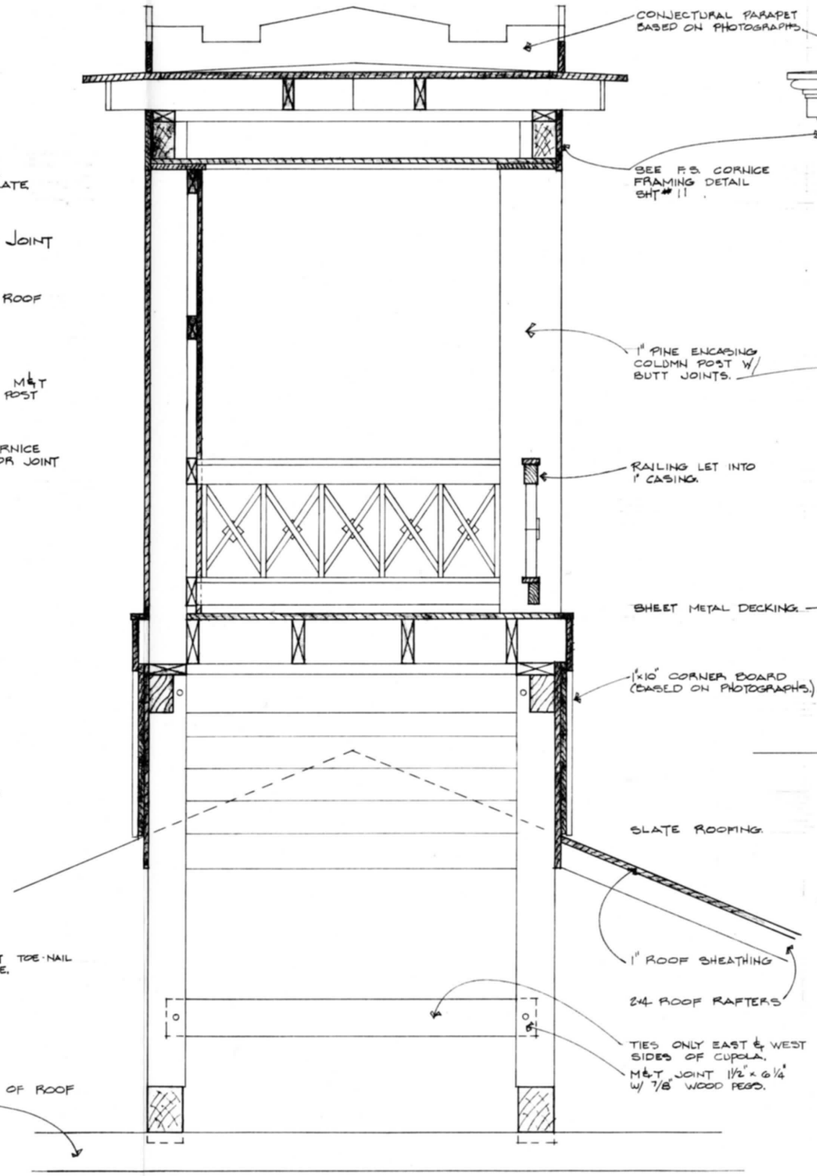
· CUPOLA · ROOF · FRAMING · PLAN ·

SCALE: 1" = 1'-0"



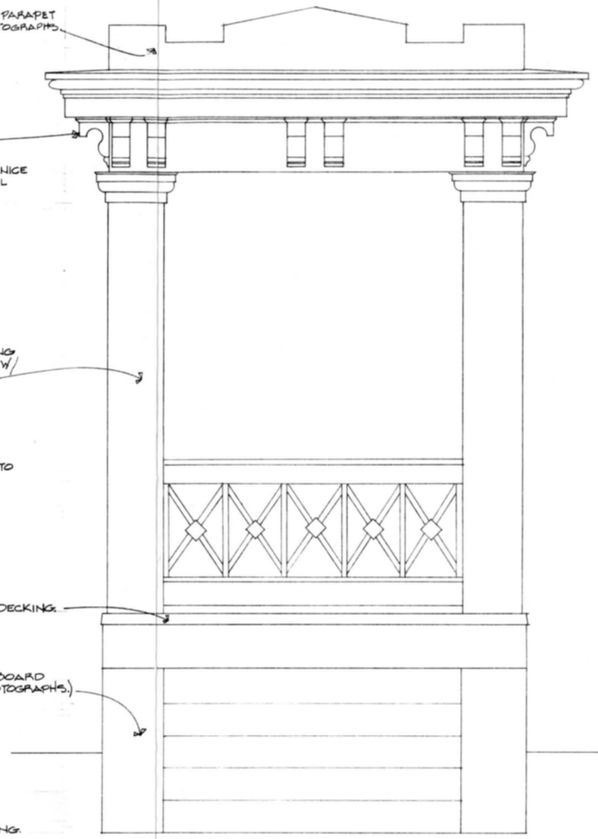
· CUPOLA · DECK · FRAMING · PLAN ·

SCALE: 1" = 1'-0"



· CUPOLA · SECTION · & · FRAMING · DETAILS ·

SCALE: 1" = 1'-0"



· CUPOLA · ELEVATION · (ALL FOUR ELEVATIONS SIMILAR.

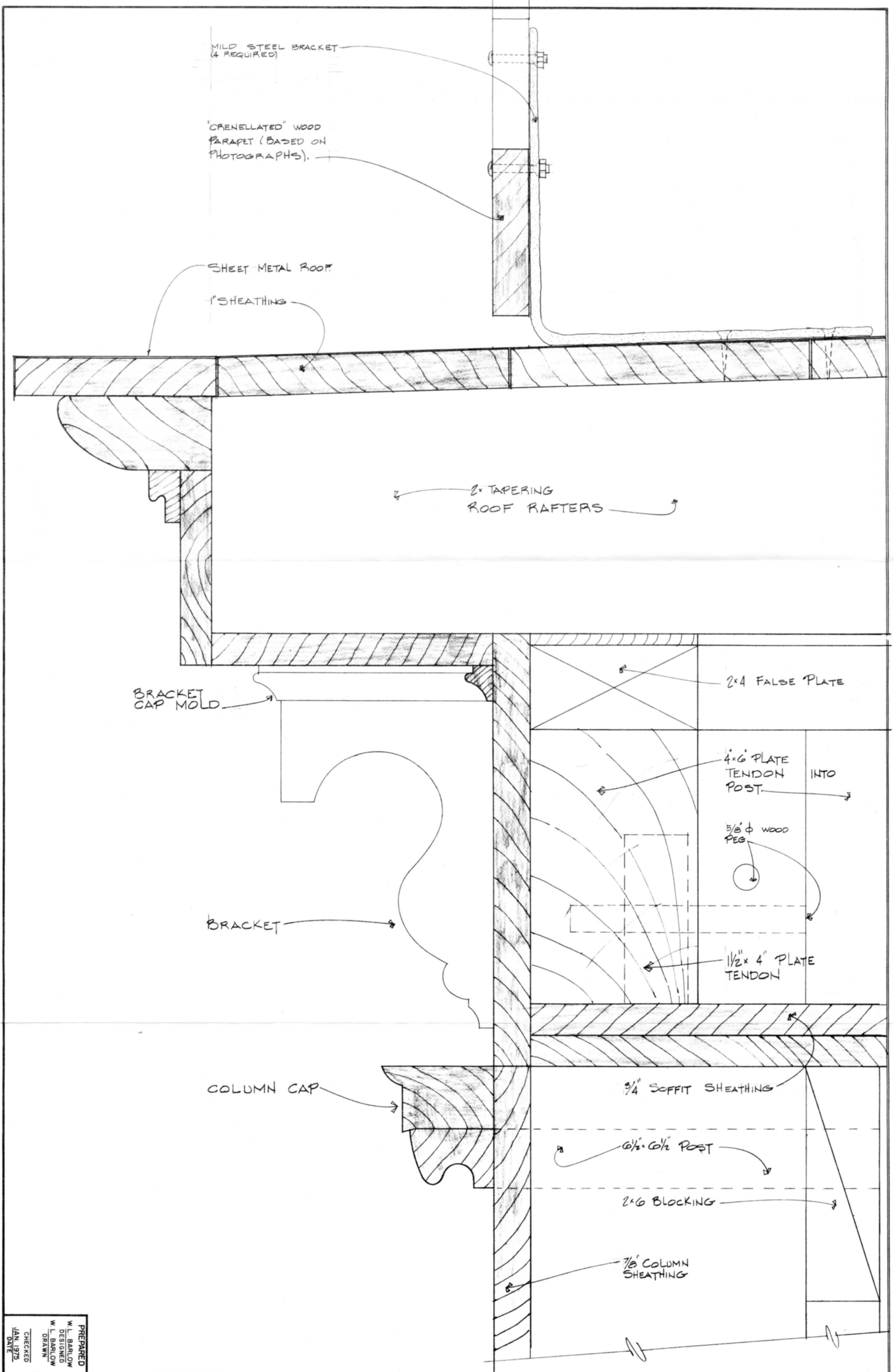
SCALE: 1" = 1'-0"

PARTIAL RESTORATION

CUPOLA — JOHN BROWN'S FORT

SCALE: 0 1 2 3 FEET 1" = 1'-0"

PREPARED	DRAWING NO.
W. L. BARLOW DESIGNED	385 28,000
W. L. BARLOW DRAWN	PKG. NO. 113 / SHEET 10
CHECKED	OF 12
JAN. 1975 DATE	



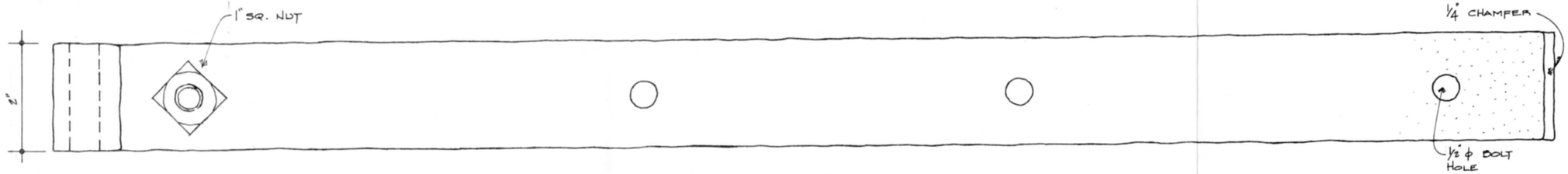
PREPARED
W. L. BARLOW DESIGNED
W. L. BARLOW DRAWN
CHECKED
JAN. 1975 DATE

DRAWING NO. 385 28,000
PKG. NO. 113
SHEET 11 OF 12

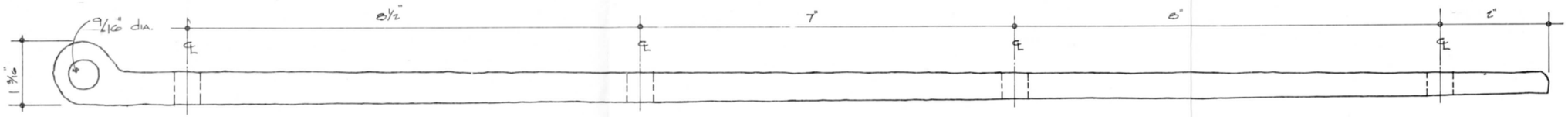
COPULA CORNICE — JOHN BROWN'S FORT

SCALE: 1 2 3 INCHES FULL SIZE

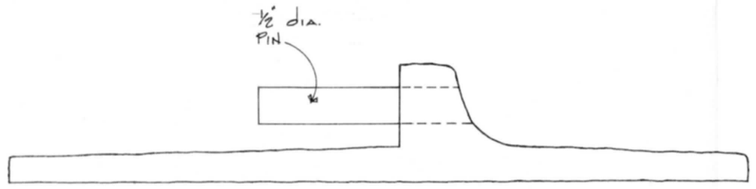
PARTIAL RESTORTION



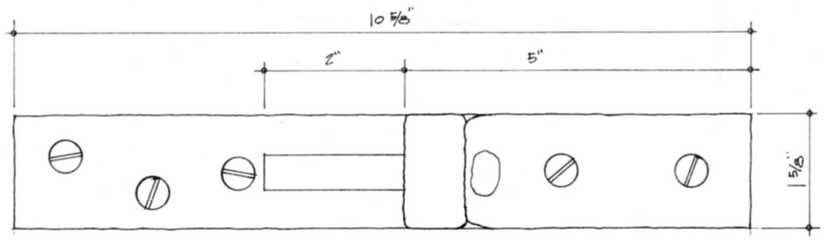
· F.S. · W.I. · STRAP · HINGE — TOP · ELEVATION ·



· F.S. · W.I. · STRAP · HINGE — SIDE · ELEVATION ·



F.S.- W.I. · HINGE · PINTLE — SIDE · ELEVATION ·



· F.S. — W.I. · HINGE · PINTLE · TOP · ELEVATION ·

PARTIAL RESTORATION

FORT — HARDWARE — JOHN BROWN'S

FULL SIZE

SCALE: 0 1 2 3 INCHES

PREPARED	DRAWING NO.
W.L. BARLOW	385 / 28,000
DESIGNED W.L. BARLOW	PKG. NO. 113 / SHEET 12
DRAWN	OF 12
CHECKED	
JAN. 1975 DATE	

GPO 835-227

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

NPS 1030