

Agency Official 106 Effect Report

Replacement of Roof & Paint Exterior Brick Walls at the Bowman-Hite Farmhouse

U.S. Department of the Interior

National Park Service

Cedar Creek and Belle Grove National Historical Park

8693 Valley Pike

Middletown, Virginia 22645

Prepared by:

Kyle Rothemich

Cultural Resources Manager

Cedar Creek and Belle Grove National Historical Park

540-868-0807

Kyle_rothemich@nps.gov

April 30th, 2018

Purpose:

Cedar Creek and Belle Grove National Historical Park acquired the 8-acre Bowman-Hite Farmstead in 2003. The extant farmhouse and landscape have been a high priority and focus for the park and its partners. In following NPS Directors Orders #28 guidelines on stewardship the NPS has, “continued preservation maintenance” as “stewardship is key to protecting the integrity of cultural resources and the investments made to bring them to maintenance condition.”¹ Since 2006 the NPS has completed numerous projects on the property including: repairs to the historic barn, removal of non-historic structures and features, and developed a maintenance schedule to maintain the landscape. One of the recent projects involved placing a temporary rolled asphalt roof on the original 1870’s footprint of the structure in 2013.

During the winter and spring of 2017-2018 staff from the NPS Historic Preservation Training Center (HPTC) worked on stabilizing structural issues with exterior brick work, and worked on repairing extant wooden windows through best restoration practices.

The current roofing materials is inadequate and is causing water damage to this historic resource. The leaking roof is also jeopardizing the work that HPTC has recently completed on both the windows and exterior brick walls. NPS historic engineers have concluded that, “Overall, the Bowman-Hite Farmhouse roof was found to be in poor condition...Certain features are in critical condition and nearing a point of complete failure.”²

The park’s newly completed Foundation Document lists the Bowman-Hite Farmstead as a fundamental resource and value the park’s mission. The park is actively working to restore the farmhouse and landscape to its late 1870s appearance. The park has decided that an envelope preservation of the 1850s footprint and reconstruction of the 1870s addition will be necessary in order to achieve this goal. Therefore it is critical that the park address the failing roof to ensure that the structural integrity is preserved in its current state and to repaint the exterior walls to protect the work completed by the historic masons.

Consequently the park is proposing to replace the current rolled asphalt roof with a new metal standing seam roof and repaint the three existing brick elevations.

Need:

The Bowman-Hite Farmstead was originally constructed circa 1850s and is located within the legislated boundaries of Cedar Creek and Belle Grove National Historical Park. The park has focused extensively in the last decade on documenting the property, and also working on stabilizing and preserving the structural integrity of the farmhouse and bank barn. Since 2008 the park has completed: an archaeological investigation, historic structures reports for both the barn and house,

¹ National Park Service Directors Orders 28-Cultural Resource Management, Chapter 4: Stewardship.

² Historic Preservation Training Center Project Agreement to Replace and Paint Exterior Brick Walls of Bowman-Hite Farmhouse, p. 3.

cultural landscape inventory, and narrative history of the site. This research has led the park to focus on interpreting and restoring the house and landscape to its circa 1870s appearance.³

Numerous projects have also addressed the historic preservation needs of the site. Through the use of historic preservation crews from HPTC, the park has stabilized the bank barn and farm house. Non-historic features such as a 20th century garage and pad have also been removed. The park also placed a temporary rolled asphalt roof on the house in 2013 in efforts to stop the failing roof structure. In the fall of 2017 and spring of 2018 crews from HPTC pulled nine original wooden windows and have restored them to their original appearance. Historic masons re-pointed failing masonry joints, and rebuilt portions of the walls that lacked any structural integrity.

With this recent work being completed it is critical to preserve and protect the work that HPTC has finished on the windows and bricks. If the current roofing material stay in place, water will damage the masonry and windows and pose a severe threat to the structural integrity of the structure.

Description:

To meet this threat the park is proposing to install a standing seam metal roof, and repainting the exterior brick walls of the Bowman-Hite Farmhouse through \$112,000.00 made available through end of year funds. This work will be completed by crews from HPTC out of Frederick, Maryland in the summer of 2018. The work will include four major components: Replacing the asphalt roof with standing seam metal, repairing the roof frame components, replacing the K-style gutter with galvanized half-round gutter, and cleaning the exterior paint on brick walls and re-paint. In advance of any work to be done the NPS has been consulting with the Virginia Department of Historic Resources, and the NPS interdisciplinary cultural resource team. All work will comply with the *Secretary of Interior Standards for Treatment of Historic Properties, Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*, and *Cultural Resource Management Guidelines*. (Most current release of Directors Orders # 28).

In preparation for this project the park has paid for a historic paint analysis to be done on the exterior brickwork in order that all treatments will be as historically accurate as possible. This project will involve repainting the south, west, and north elevations of the exterior brick walls.

The historic structures report (HRS) completed by Michael Spencer from the University of Mary Washington's historic preservation program in 2013 points out that there is no original roofing material left on the exterior of the house. He points out that the regional trend before the Civil War was wooden shingles, and that after the Civil War metal roofing became widely available.⁴ Spencer

³ The Bowman-Hite Farmhouse has three distinct periods of architectural development: 1850s, 1876-1972, and 1972-2003.

⁴ Michael Spencer, "The Bowman-Hite Property Warren County, Virginia Bowman-Hite Historic Structures Report," Cedar Creek and Belle Grove National Historical Park, 2013, p. 52.

notes, “Additionally, the tight spacing of the nailers currently seen in the attic is not typically conducive for wood shingles as it fails to provide adequate ventilation, promoting rot.”⁵

Multiple factors have led to the park in deciding to pursue a treatment of a standing-seam metal roof. First is that the park does not have enough information on construction materials to accurately inform a management decision that would lead to a reconstruction of a ca. 1850s roof. Second the park has decided to restore the structure and landscape to its 1870s footprint and appearance. Therefore the use of metal roofing material fits within the time frame, and the regional context of construction techniques. The park feels that the maintenance of a standing seam metal roof will be more cost efficient than maintaining a wooden shingled roof, which may not have been there in the 1870s. Lastly if future managers decide in the next decades that they wish to place a wooden shingled roof on the structure, the metal roof will can be easily disassembled and without any damage to the historic structure.

Property Description:

Major Physical Components

The area of the Bowman-Hite Farmhouse sits along a high plateau of the banks of Cedar Creek with views of Massanutten Mountain, Signal Knob, the Town of Strasburg, and the historic Mt. Pleasant Farmstead. The house site is accessible today on a rural gravel road, Bowman’s Mill Road. Interstate I-81 runs to the west under a half a mile away and the din of the traffic can be heard on the property.

The landscape today contains both historic and non-historic features. The Bowman-Hite Farmstead and historic bank barn are the two most important character defining features on the landscape. An extant curing shed dates from the 1870s has been restored. A historic road trace divides the house and barn and turns west towards the historic ford along Cedar Creek. The house site sits below what is known as Thoburn’s Redoubt and is approximately 1000 feet away from Union earthworks that remain today built before the Battle of Cedar Creek in 1864.

Non-historic features include a concrete watering trough, non-historic fence lines, remnants of a 20th century fruit orchard, and the concrete base of a farming silo adjacent to the barn.

The internal framing of the roofing structure today contains elements of the original 1850s construction and the balloon construction from the 1870s assembly. Michael Spencer describes the roof construction when he wrote, “attic joists, rather than resting inside pockets, sit atop the wall. Because of their position, the ends of the joists are tapered to coincide with the pitch of the roof, a typical technique used by carpenters when dealing with brick corbelling at the cornice line. This feature also indicates that the current roof pitch of the structure has been maintained since its

⁵ Spencer, 53.

original construction date.”⁶ Elements of local Germanic influences are witnessed through the existence of roof “kicks,” where the roof pitch lowers as it approaches the eaves.

Historical Significance

The properties development, and eventual decline, mirrors many regional farms within the lower Shenandoah before and after the Civil War. Once part of Isaac Bowman’s large landholdings in the late 18th and early 19th centuries, this land passed to his daughter Rebecca Bowman in 1843. At this time the property consisted of approximately 498 acres in Warren and Shenandoah Counties and included a mill complex.

In 1849 Rebecca Bowman married Charles Hite and shortly thereafter sold the mill complex in 1850. It was sometime shortly after their marriage that the extant brick farmhouse containing Greek Revival elements was constructed. Outdoor structures such as a post in ground kitchen doubled as housing for their eight slaves.

The ten years before the outbreak of the Civil War were the most prosperous for the Hite family. Hite crew crops and raised livestock typical of Warren and neighboring counties. However his output in 1860 was far above the county average at 380 bushels of corn and 199 bushels of wheat when his roughly 400 acre farm produced 1,700 bushels of corn and 1,250 bushels of wheat. By 1861 the farm’s financial sustainability was brought into question when a deed of trust was entered into with the Bank of Winchester for the amount of \$4,100. This loan was “secured” through their farm holdings, house, kitchen, slaves and furniture.

During the Civil War the area surrounding Cedar Creek became critical for both northern and southern armies. Union and Confederate armies first came to Cedar Creek during the spring of 1862 during Jackson’s Valley Campaign. The war brought financial hardships to the family as their slaves were sold in 1863. But it was not until October 1864 when the Bowman-Hite Farm saw the bloodiest fighting. Before the Battle of Cedar Creek Union soldiers encamped on the high ground putting the Hite family directly between Union and Confederate lines. Confederate soldiers under the command of Major James M. Goggin crossed through the Bowman-Hite Farm on their way to attack the Union VIII Corps under Colonel Joseph Thoburn. The farmhouse and landscape escaped any major damage during the Battle of Cedar Creek on October 19th, 1864.

Following the Civil War the Bowman-Hite Farmhouse was in disrepair. Charles Hite abandoned his wife and children, and the farm was sold at auction in January 1871. Following Rebecca’s protest the property was eventually sold in 1872 to William Stickley. Stickley sold the property to John Purkey in 1876 and the advertisement noted, “good new frame dwelling house, stabling and other necessary improvements.” These improvements represent the additions made to the house that were carried out in the 1870s.

⁶ Spencer, 52.

Purkey rented the property to Abraham Kerns in 1880 who worked the now below average sized farm. It was during this period that the original bank barn was replaced with the current structure around 1881. These developments mirror other regional farms such as Mount Pleasant and Fort Bowman. The Kerns owned the property into the 20th century until they sold the working farm to the Whithams in 1967. The Whitham ownership is marked by the substantial alterations taken to the farmhouse. These included: enlargement of the rear frame ell which encompassed the 1870s addition, a two car garage which sat upon a concrete base, a concrete porch, and a metal utility shed. This was the state of the property when the NPS obtain ownership in 2003.⁷

Treatment Schedule:

Task #1: Remove Existing Roof & Repair Roof Frame

HPTC shall perform the preservation tasks necessary to achieve a sound roof substrate, identify and repair roof frame components prior to installing a new metal standing seam roof.

- Existing asphalt rolled roofing will be removed and disposed of
- Nails used to attach prior roofs will be removed from the sheathing
- Rafters, plates and ceiling joists will be inspected for damage and repaired where necessary
- Deteriorated and structurally unsound sheathing will be replaced in kind
- Install galvanized gutter brackets
- Repair, prep & paint wood rake boards; replace in kind if needed

Task #2: Install Standing Seam Metal Roof

HPTC shall perform the preservation tasks necessary to install new *Galvalume* metal standing seam roof.

- Full length 21” wide panels in true standing seam double lock
- Double lock at ridge junction/single lock at eaves
- Chimneys will be re-flashed

Task #3: Install Galvanized Gutter & Downspouts

HPTC will perform the preservation tasks necessary to replace the existing gutter and downspouts.

⁷ Compiled from draft National Register Nomination, Spencer, 372-377.

- New 5” gutter, shanks and hooks
- New 4” downspouts and hooks

Task #4: Exterior Brick Surface & Paint Prep

HPTC shall perform the preservation tasks necessary to clean by power-wash at low pressure the exterior brick surface. Intact paint will not be removed, areas of loose paint will be removed. Bare surfaces will be primed prior to application of finish paint. Color will match existing

Description of Alternatives:

Alternative A- No Action

This alternative would leave the current structure in a state that will cause damage to the structural integrity of the Bowman-Hite Farmhouse. The rolled asphalt roof will continue to leak and let water into the masonry joints, window frames, and joists of the structure.

Alternative B- Replace current asphalt roof with wooden shingles and re-paint exterior walls

Under this alternative the rolled asphalt roof would be replaced with wooden shingles. This would stop water from leaking into the structure. However this treatment would create an enormous amount of maintenance for a park who only employs one maintenance worker. Wooden shingles are also extremely cost prohibitive and their life-span requires replacement within a short time period. Repainting of exterior walls would solve issues associated with the protection of brick masonry features.

Alternative C- Installation of Standing Seam-Metal Roof and re-painting of exterior brick (preferred)

Under this alternative the park will hire HPTC to come and replace the existing rolled asphalt roof with a metal standing seam roof and re-paint the exterior brick based on the results of the paint analysis. This new roof will prevent further water damage and the new paint will protect the work completed by the masons. This roofing material will also not compromise the park’s mission to restore the house to the 1870s appearance as metal roofing was common in the area during this period. This alternative will also severely reduce cyclic maintenance costs, and match the roofing material of the existing bank barn.

Description of Mitigation Measures:

A. Park will ensure that all work will be done in the absence of rain and hazardous weather conditions.

B. Park will use opportunity of having roof work done to further investigate the construction of the Bowman-Hite House to inform future management decisions of the site.

Park Consultation:

The park is consulting with partner groups including: The Shenandoah Valley Battlefields Foundation, Belle Grove Plantation, The Cedar Creek Battlefield Foundation, Shenandoah County, and the National Trust for Historic Preservation, the Civil War Trust, and Shenandoah University's McCormick Civil War Institute.

The park is consulting with members of the Federal Advisory Commission.

The park has invited all eleven of the state recognized tribes of Virginia to comment on the park projects.

Effect Analysis

It is in the park's opinion that this undertaking will have "no adverse effect" on historic resources.

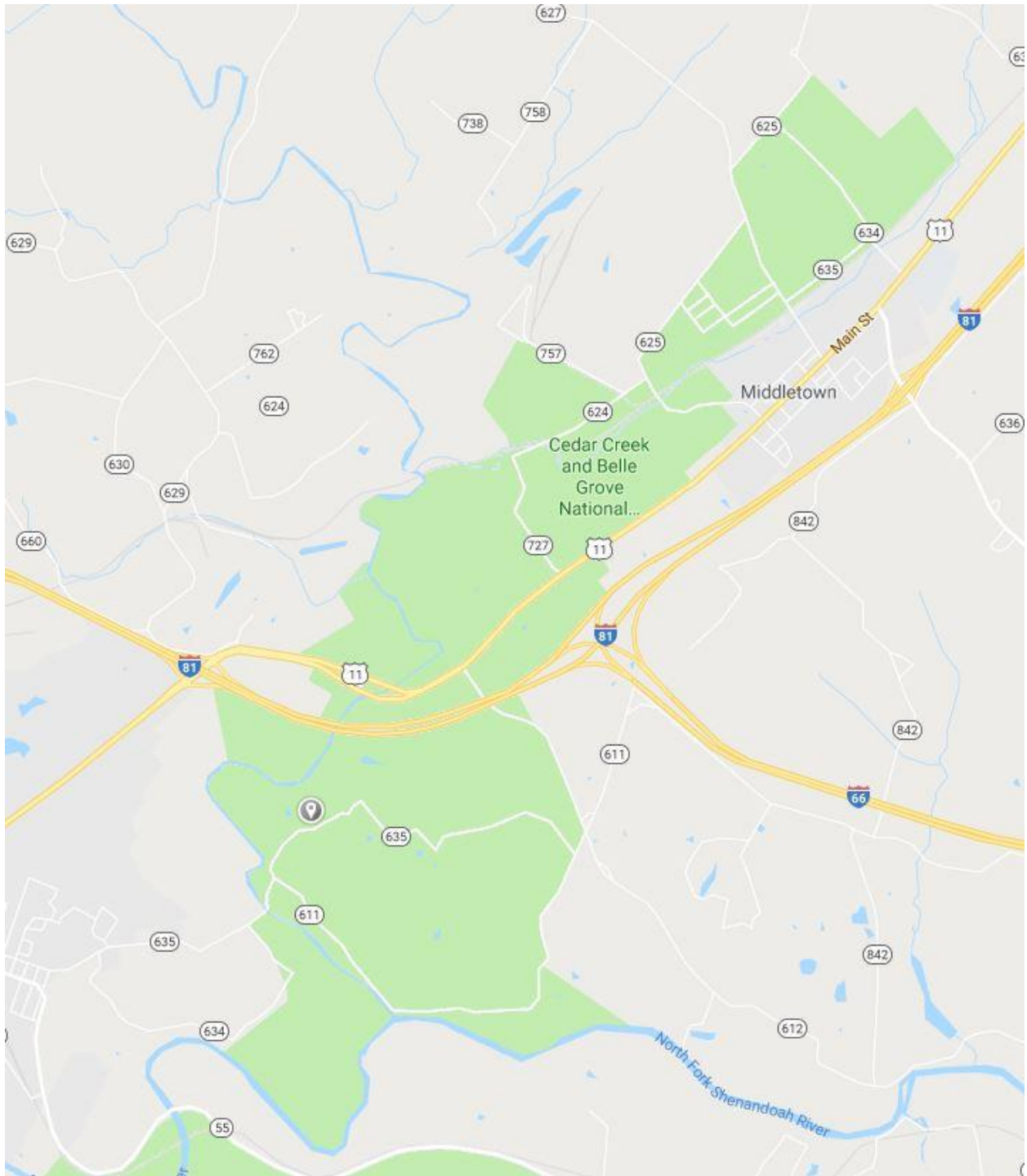
Attached Supporting Documents

- I. Map and Diagrams
- II. Photographs of work areas

Report Prepared By

Kyle Rothemich
Historian/Cultural Resources Manager
Cedar Creek and Belle Grove National Historical Park
Kyle_rothemich@nps.gov
540-868-0807

Map and Diagrams



Approximate location of Bowman-Hite Farmhouse within park boundaries along Route 635.

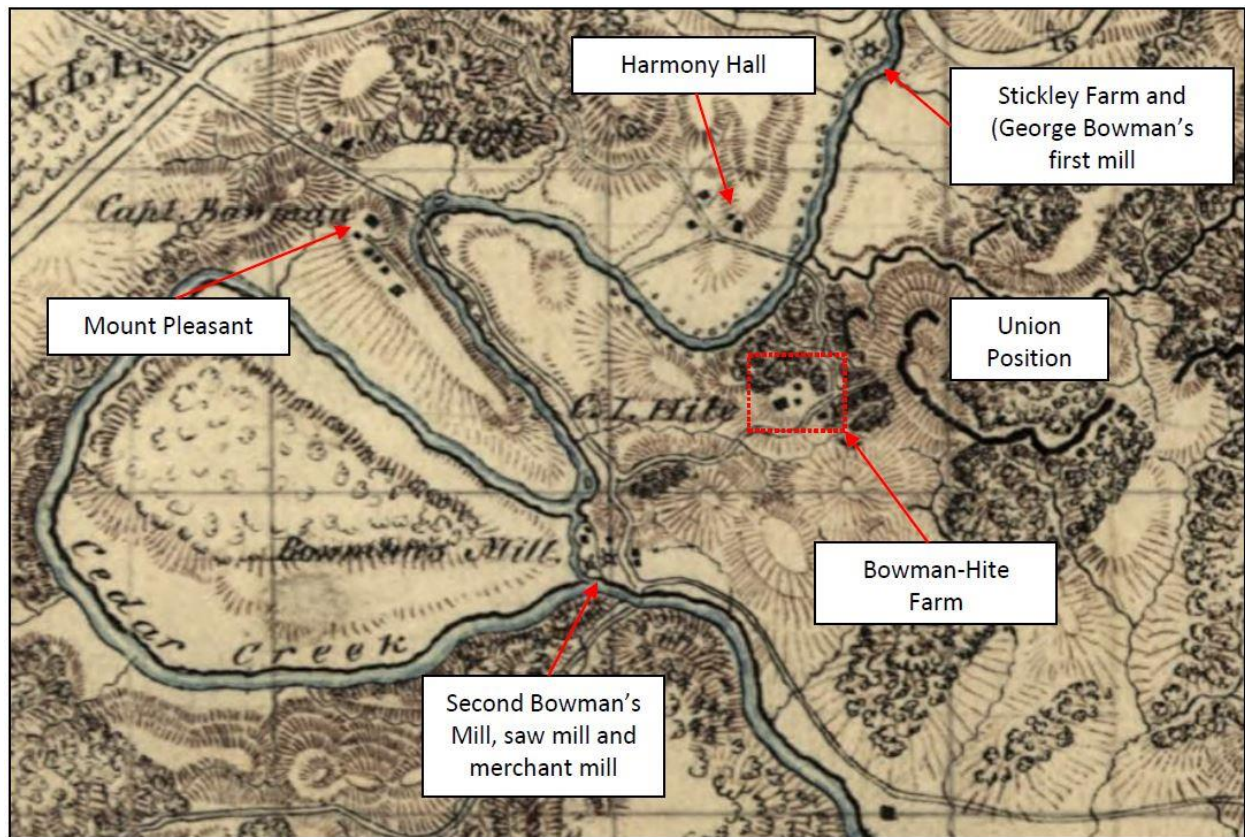


Figure 6: 1864, J.D. Hotchkiss map showing the C.I. Hite farm and ancillary structures as well as the two mills associated with the Bowman's mill complex, at this time no longer owned by Charles and Rebecca Hite (Library of Congress).

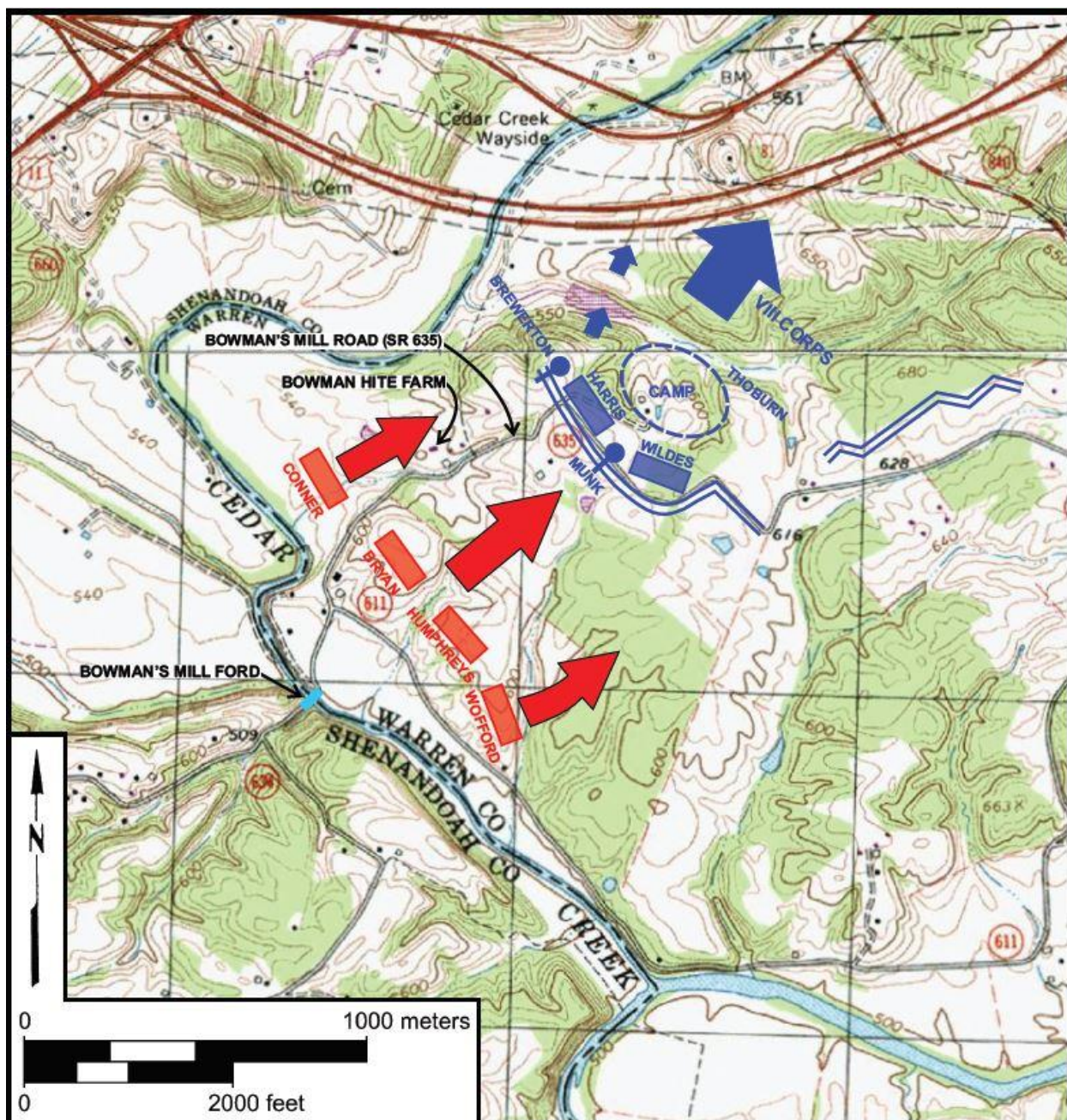


Figure 9. Troop movements in vicinity of Bowman-Hite Farm during the opening stage of the Battle of Cedar Creek (USGS 1994, 1999; after Mahr 1992:118).



Figure 48: The development of the Bowman-Hite farmhouse from the 1850s until 1971. (Models created by Michael Spencer, 2011; Plan drawings by Brian Townes, 2010)

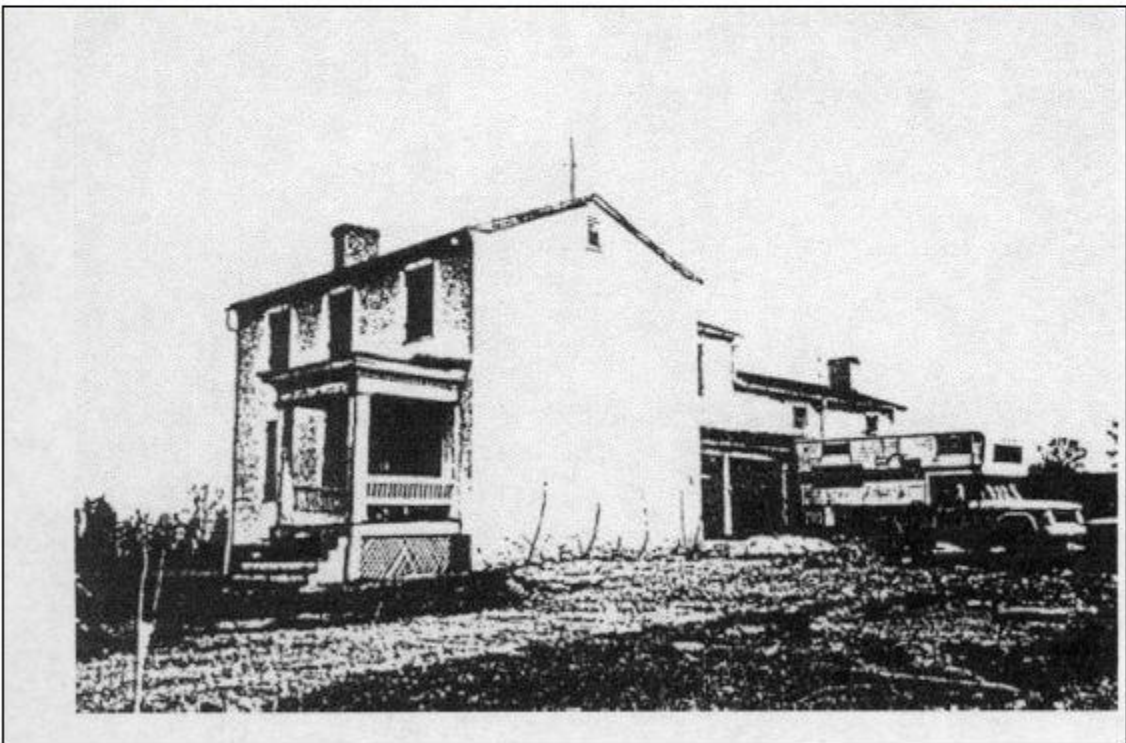
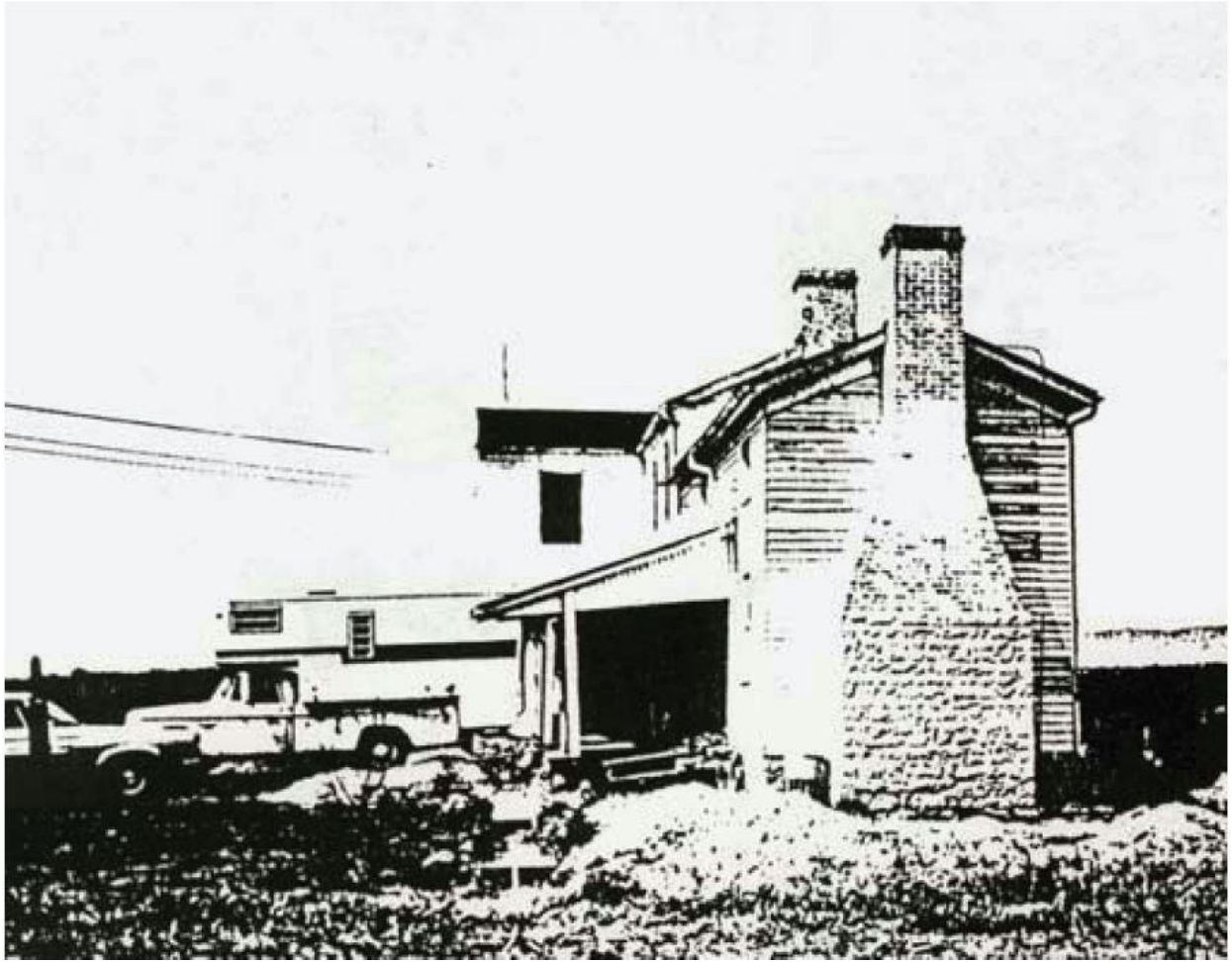


Figure 26: Both images show the southwest corner of the Bowman-Hite farmhouse. The top image shows the building in 2011, whereas the bottom image is from ca. 1971, shortly after the Whitham's purchased the property. Note the presence of the Greek Revival front porch, as well as the side porch and rear frame addition in the lower image. (Top photograph by Michael Spencer, 2011; Bottom photograph by unknown photographer, Department of Historic Resources, 1971)



View of the east elevation showing from 1969 showing the footprint of the ca. 1870s house before the 1970s addition.

Photographs Showing Work Areas



Exterior masonry that shows: brick current condition and masonry work completed by HPTC.



North elevation of Bowman-Hite House. Painting would stop at vinyl siding.



Exterior condition of rolled asphalt roof.



Photographs inside attic show water damage to sheathing, framing, and masonry. Note mold.



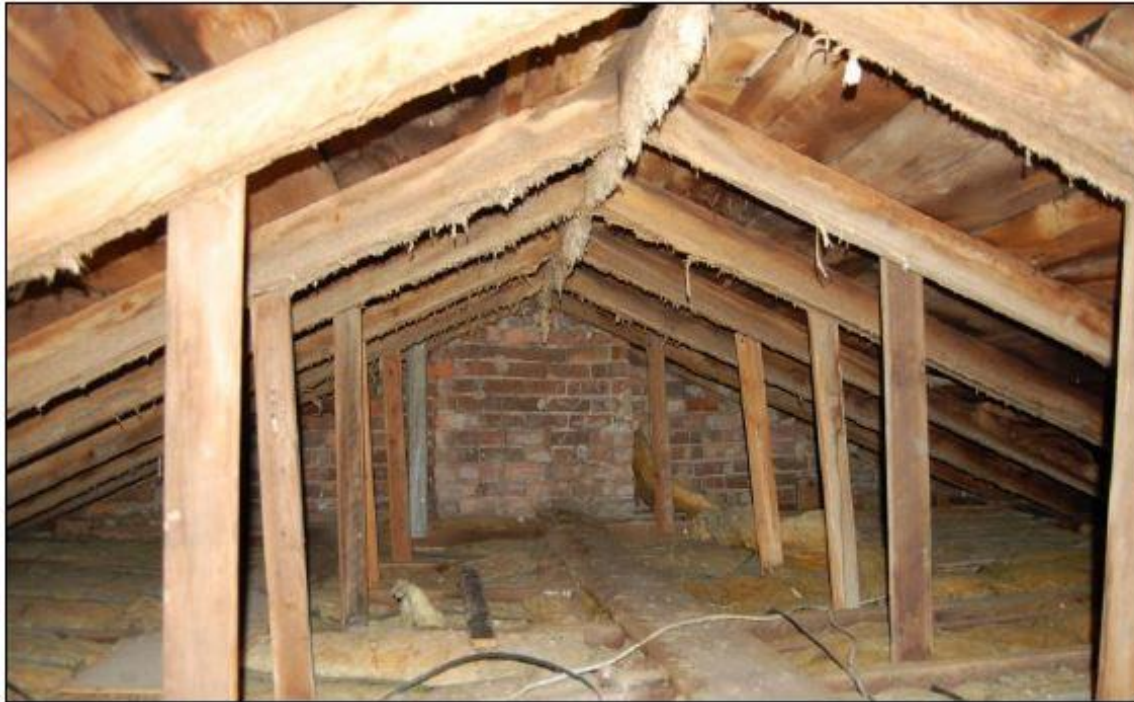


Figure 37: Bowman-Hite's common rafter system with ridgeboard, something typically found in later-19th century balloon frame structures. This system may have replaced the original roof during the ca. 1876-1880s alterations although this cannot be entirely confirmed. (Photograph by Michael Spencer, 2011)



Note same image taken in 2018 shows continued water damage.



Water damage from inadequate roofing material.