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ACKNOWLEDGEMENTS

The scope and intent of this report was originally described in the General Management Plan for Friendship Hill National Historic Site. The task directive for the "Historic Structure Report," approved in September of 1982, outlined the scope of work. This document fulfills the requirements of these directives for the administrative and architectural data sections of the "Historic Structure Report" for the home of Albert Gallatin, the main house (package no. 05D).

Two members of the Mid-Atlantic Regional Office contributed significantly to this document. Regional Archeologist David Orr performed on-site investigations; his report is incorporated in this document. Regional Historical Architect Henry Magaziner visited Friendship Hill during field investigations. He evaluated the completed investigation, assisted with scoping the work, and reviewed the draft report.

In preparation of this report, data was gathered from a variety of people and sources. Dolores Fleming, a student at West Virginia University, assisted with field notes. At the Denver Service Center, Sayre Hutchison, Ken Bennett, and Ray Todd assisted with the field investigation and preparation of drawings. Elayne Anderson and Alfred Thornton assisted with preparation of HSR drawings. Denver Service Center Historian Harlan Unrau, prepared the "Historical Data" section, which is part of the "Historic Resource Study," and also assisted with the preparation and review. Quentin Smith performed the electrical engineering investigation, Dwight Wendell evaluated the mechanical systems, and Terry Wong, the structural engineer, evaluated the main house.

We would like to thank Superintendent Robert Warren for his assistance and support and Area Manager William Fink, who took a personal interest in the preparation of this report. Many of Mr. Fink's observations and suggestions were incorporated in this document. He and
his park staff provided the on-site assistance required to complete this report.

Appendix E contains historical photographs that were not available at the time this report was being prepared. Evidence contained in the photographs affects the 1900 evolutionary drawings and in particular the roofline and chimneys of the 1798 frame house, the 1789 brick house, and the south bedroom wing. In addition, the roof over the 1824 stone kitchen would have been a continuation of the frame house roof and not a separate gable roof.

In July 1984, a draft of this report was circulated for review and comment. All suggestions have been incorporated into this document with two exceptions: Both Area Manager William Fink and Regional Historical Architect Henry Magaziner were uncomfortable with the handicap access portion and the stone kitchen stabilization recommendations. However, it was agreed to that the report be printed "as is" realizing that these two issues are complex and require further study, analysis, and discussion.

The report has been prepared with floor plans in appendix F, which are to be referred to while reading the document.

John Marsh
Scott Jacobs
August 1984
I. ADMINISTRATIVE DATA SECTION

A. Vital Structural Data

Title: Gallatin (main) house
Number: HS-01
Location: Friendship Hill National Historic Site, Fayette County, Pennsylvania

Treatment Period: Primary--1798 to 1825
Secondary--Late Gothic to Modern

Order of Significance: The site is recognized in History and Prehistory in the National Park Service and the National Historic Landmarks Program in the following themes:

B. Proposed Scope of Work on Structure

The Gallatin (or main) house at Friendship Hill National Historic Site is a 35-room structure built in five major phases between the late 18th and early 20th centuries. The house is conveniently discussed in distinctive sections, four of which are associated with Albert Gallatin. These sections are:

The Brick House (1789, Gallatin)
The Frame House (ca. 1798, Gallatin)
The Stone House (1823, Gallatin)
The Stone Kitchen (1824, Gallatin)
The State Dining Room section (ca. 1895)
The Servants' Quarters section (ca. 1895)
The South Bedroom Wing (ca. 1900)
Garage Addition (ca. 1950)
The structure suffered extensive fire damage in 1979. The roof of the brick house, frame house, state dining room, south bedroom wing, and stone kitchen was destroyed. Second-floor areas of these sections were heavily damaged (the stone kitchen was gutted). The second floor and roof of the servants' quarters were heavily damaged. The stone house was not damaged. The structure has other significant problems associated with structural deterioration, subsidence, and the lack of adequate heat and other utilities.

All work proposed is best classified as restoration. The General Management Plan, approved in 1981, provides general guidance on the treatment and use of the various sections. An "Interpretive Prospectus," completed in the fall of 1983, offers specific interpretive uses of several sections.

The first-floor sections of the brick, frame, and stone houses will be restored to be safe and presentable, recognizing that few Gallatin-associated features survive. Several Gallatin-associated features uncovered during the course of the "Historic Structure Report" will be framed and presented as in situ architectural exhibits used to tell the story of the house's evolution. The second-floor areas (and third floor of the stone house) will be made safe and presentable, although regular visitor use is not contemplated at this time. (Later owners had changed rooflines on the brick and frame house and over the stone kitchen.)

The stone kitchen will be made safe and used as a vantage point to display the various sections of the structure. Consideration must be given to long-term weatherproofing of the kitchen and the surrounding components.

The state dining room section will be made safe and presentable; again no regular visitor use of the second floor is contemplated at this time. The state dining room will be used as the major visitor reception area for visitors to the house. Possibly a window in the butler's pantry will be opened into a doorway, with stairs and a ramp leading up to it. This area will be heavily modernized on the interior to accommodate interpretive needs.
The servants' quarters will be made safe and presentable and adaptively used downstairs as an audiovisual/multipurpose room. The upstairs will be adaptively used as either office space or additional multipurpose space.

The south bedroom wing will be made safe and presentable and adaptively used as park administrative offices and work space.

Recognizing that traditional funding cycles and processes are probably unusable (the park's multiyear programming is currently out-year beyond 2007), it is important that the proposed work be broken into sequential segments or modules of perhaps $25,000 each. Over the years, as different special-emphasis funds are tapped, work can proceed in a relatively orderly fashion, e.g., three modules one year, five the next, and so on. A recognized danger in this strategy is that some key projects costing much more than $25,000 will have to be done, in sequence and all at once. As possible, park administrative and interpretive operations will move into sections of the structure over this time period.

C. Provision for Operating the Structure

The main house is the major cultural resource of the park. Upon completion of the required work, the knoll area surrounding the house will be cleared of modern intrusions, and the house will stand presentably in a dignified, serene setting. Recognizing that the house has undergone an extensive evolution and that post-Gallatin portions are needed to avoid construction of office and visitor center space, the house will serve two purposes: it will be an appropriate vehicle with which to tell the story of Albert Gallatin's life; it will be a functioning architectural exhibit, portraying its own development and some of the principles of historic architecture in a manner unique to the national park system.

D. Cooperative Agreement Executed or Proposed for Operating Structure

None
E. Annotation of All Related Documents

General Management Plan, 1982
Environmental Assessment, GMP, 1981
Historic Resource Study, 1981-- "Historical Data" section of the "Historic Structure Report" is part of this document
Draft Statement for Management, 1983
Draft Outline of Planning Requirements, 1983
Interpretive Prospectus, approved 1983
II. NARRATIVE AND GRAPHIC DESCRIPTION OF THE HISTORY OF PHYSICAL CHANGE

The following section is a synthesis of historical study, physical evidence, materials analysis, and archeological investigation. It follows the chronology of ownership of the main house at Friendship Hill as prepared by Harlan D. Unrau for the "Historical Data" section of the "Historic Structure Report." Much of the information in this section of the report is from the "Historic Resource Study" and is not footnoted. Historical research data is cross referenced with architectural evidence compiled during physical investigation undertaken for the preparation of this report. Detailed descriptions of existing conditions and an analysis are provided in section III. The analysis of materials is found in the appendixes.

A. The Early Years of Friendship Hill Under Albert Gallatin, 1786-1801

Albert Gallatin purchased the 370-acre Friendship Hill property in May of 1786. Gallatin was not a permanent resident at Friendship Hill but lived in a log structure while a brick residence was being constructed. This log structure was to have been located along the river or on the knoll just north of the main house. Physical investigation of the main house indicates that no portion of the main house was at one time a log structure.

Although there is no documented start date for construction of the brick house, documentation indicates that the house was well underway by 1789. In May of that year, Gallatin wrote a Mr. Wibel, urging him to finish construction work if it was not already completed. In late May or early June, Gallatin and his new bride Sophia, took up residence in the two-story brick house even though it was not completed. The historical data states that "secondary sources" say that the original two-story, four-room brick house consisted of a library and a small dining room on the first floor with two bedrooms on the second floor. There was also a lean-to log or frame kitchen attached to the house.
Physical evidence indicates that the brick portion of the main house, between the south bedroom wing and the frame house, is the structure constructed by Gallatin in the late 1780s. Few interior partitions remain from the Gallatin period and the possible locations of a library, small dining room, and two second-floor bedrooms referred to are unknown. If there was a lean-to log or frame kitchen, it was probably along the west portion of the north exterior wall. In that area of the first floor there is no evidence of an original window or door opening; no other physical evidence suggests a location for a lean-to log kitchen.

The death of Sophia, five months after her marriage to Gallatin and their move to Friendship Hill, temporarily diminished Gallatin's interest in Friendship Hill. However, in June of 1791, he signed a contract with Daniel Duggin, presumably a local carpenter, to finish various portions of the brick house. This contract is the only known written documentation that provides any detailed architectural description of the brick structure during Gallatin's ownership:

**ARTICLES OF AGREEMENT, A. GALLATIN & D. DUGGIN:**
**JUNE 13, 1791**

The following Memorandum of an Agreement entered into between Albert Gallatin of Fayette County & State of Pennsylvania on the one part & Daniel Duggin of same County on the other part Witnesseth That said Daniel Duggin for & in consideration of thirty pounds Pennsa. Curry, does agree & oblige himself to finish the brick house belonging to said Albert Gallatin & lying in said County in the manner explained in the bill hereafter annexed, which work he is to do in a workmanlike manner & to have finished before the first day of next October ensuing the date hereof; for & in consideration whereof said Albert Gallatin does hereby agree & bind himself to pay to said Daniel Duggin thirty pounds Pennsyl. Currency whenever said work is completed, part whereof to be paid in joiners' tools if both parties can agree on their price & the remainder part in cash. In witness whereof both parties have signed & sealed these presents this thirteenth day of June one thousand seven hundred & ninety one.

The following is the bill of the work to be made by Daniel Duggin in said house as before mentioned to Witt. To finish the three porches to witt two front ones & the back one, fixing posts under the two upper ones, boxing with planks all three around lining the two front ones; flooring tongue and groove & planed & boxing the posts of the upper front one, flooring
tongue & groove but not planed the lower front one & the back one; to make window shutters, pannel & lined, for all the windows of the lower story, a pair to each window; to make & fix a double batton falling door for the cellar, said door to be lined & fixed on a frame; to make a step ladder for the cellar; to make a panel door for the lower story room & to fix the partition & casing where the same is to be placed to finish the surbase of the lower room, to line the partition of the same in the entry; to finish the rough partition of the two rooms in the second story; to make & fix two panel doors with the casing for the two said rooms, to line the two doors that open in the porches of the second story, to box with a rail & planks planed on both sides along the entry of the second story above the lower stairs, to make a plain washboard & surface around the entries of the first & second story, up the lower flight of stairs & around the two rooms of the second story; to case the two upper doors of the second story that open on the porches, the windows of the entry of the lower story & all the windows of the second story with single architrave in the same manner as the windows of the lower room are fixed; to make & fix the flight of stairs to go to the garret, the stairs to be plain supported with horses & boxed with rail & planks planed on both sides; to floor tongue & groove & planed the third floor, & to face the windows of the garret; and to make a small front with one large pannel fluted from the surbase broke over with a small cornish broke over for the chimney of the lower room; which work said Duggin is to put up & nail on in a proper manner.

And it is further agreed that said Gallatin shall find the planks necessary for said work, but not the scantling except what he now has got by him; & said Duggin shall find himself at his own expense as also much workmen as he may choose to employ, whilst he is making & finishing the said work.

The scantling to be hauled by Gallatin from any place on his plantation where Duggin may work it out. There are a few things not mentioned in the bill which said Duggin is to make in addition to them, such as seats in the porches, hand rail in the lower porch, shelves in a cupboard, rail to the lower flight of stairs, and finishing the work which is done such as putting nails, fixing doors, & etc.

It is further agreed that in case said Gallatin does not supply said Duggin with planks, & said Duggin gives him notice a fortnight before hand that he will be out of work, he may undertake any other job of work if Gallatin does not bind himself then to him that he shall supply him with planks by that time.

Witneses present
Thos. Clare
James

Albert Gallatin
Daniel Duggin

7
To begin the analysis, the following are definitions of terms included in the document:

**Casing:** The exposed trim molding, framing, or lining around a door or window; may either be flat or molded.

**Washboard:** Baseboard.

**Double Batten Falling Door:** A wood door without stiles which is constructed of vertical boards held together by horizontal battens.

**Surbase:** The molding at the top of the baseboard.

**Horses (Carriage):** An inclined beam which supports the steps or adds support between the strings of a wooden staircase, usually between the wall and the outer string. Also called a carriage piece, horse, roughstring.

**Cornish:** Assumed to be cornice.

**Scantling:** Any piece of hardwood of nonstandard dimensions or hardwood timber cut to specified dimensions.

**Plank:** A long, wide, square-sawed thick piece of timber; the specifications vary, but often the minimum width is 8 inches and the minimum thickness is 2 to 4 inches for softwood and 1 inch for hardwood.

**Architrave:** The molding around a door or window.

**Box Stair:** An interior staircase constructed with a closed string on both sides, often enclosed by walls or partitions with door openings at various floor levels.

**Box Casing:** The inner lining of the cased frame of a window.

**Box Column:** A hollow, built-up column, constructed of wood, usually rectangular or square in section.

It appears that the brick structure required a great deal of finishing work at the time Gallatin and his wife Sophia moved. The agreement calls for the construction of a second-story, west elevation porch and a first-and second-floor porch on the east (front) elevation.

Evidence of original door openings to a second-story west and east porch supports this agreement. Duggin is to make a pair of exterior window shutters for all first-floor windows. The shutters are to be paneled rather than louvered as they are now. No physical evidence of these shutters remains. The original exterior door opening to the cellar is on the west elevation. Existing first-floor framing suggests that there was not a set of interior stairs to the basement at this time. In addition, there are portions of early interior partitions that were crudely assembled butted vertical boards on the first floor and vertical and horizontal boards on the second floor. Apparently, these are what are being referred to as "rough partitions" in the Duggin agreement.

The agreement also calls for the finishing of most doors and windows and the installation of baseboards (surbase). New stairs are to be completed to the attic space with other finishings to be completed in the attic space. A "small front" is to be constructed of wood for the chimney of the lower room which suggests an original wood mantel for the first-floor fireplace; the present one is marble.

By definition wood scantling is the wood required for framing and dimensioned boards. After Gallatin provides the scantling, Duggin is to "work it out," which means to size and install the wood appropriately.

This agreement helps one to understand the condition of the brick house for 2 to 2-1/2 years before Duggin "finished" the interiors and porches. Partitions were boards butted together with most windows and doors unfinished. There were no shutters, no finished attic space, and no finished access to the basement space. Although there is discussion of finishing stairs, there is no mention made of interior stairs to the basement space. The interior stairs from the first floor to the second floor existed but were not finished.

In October of 1798, the house at Friendship Hill was described in the documents of the United States Direct Tax of 1798 as a two-story brick structure having dimensions of 26 by 29 feet. The upper story had seven windows with 15 lights each, while the lower floor contained nine
windows with 12 lights each. Two outbuildings were also mentioned: a one-story log kitchen and an unfinished frame building of unspecified use. This refers to the 1798 frame structure to the north of the brick structure.

The existing brick structure measures 25 by 29 feet. Field investigations indicate that there were seven windows on the second floor; however, investigation indicates that the first floor apparently had only eight and not nine windows as recorded in the tax inventory. The tax listing did not mention any dormer windows or the existing gable end window on the third floor of the north elevation. The 1798 windows were divided into smaller lights than is now the case. An unfinished frame structure is mentioned and is probably the frame structure with brick infill just to the north of the 1789 brick structure. The lean-to log kitchen is again mentioned and was probably in use until Gallatin decided to replace it in 1823 with a stone kitchen.

B. The Later Years of Friendship Hill Under Albert Gallatin: 1801-32

The years 1801-20 proved to be uneventful years at Friendship Hill because of Gallatin's political career. From 1801 to 1814 Gallatin was secretary of the treasury, and those duties kept him in Washington with the exception of brief visits to Friendship Hill in 1803, 1806, and 1810. There is little documentation available about changes to the house and use during this period. However, the years of 1821-24 are a relatively well documented period of improvements to Friendship Hill as Gallatin prepared the estate for his retirement from active public life. His youngest son, Albert Rolaz, was to direct the construction of an addition to the existing brick house (the 1823-24 stone portion of the main house). In March of 1821, Gallatin sent Rolaz plans and directions for the addition. These plans, which were sent from Paris, have not been located; however, a follow-up letter of April 2 contained the following:

1st. The building cannot be commenced until not only all the stones and scantling necessary to the windows & door frames and to the joists is ready or secured, but also the work of the carpenter in preparing those frames so far advanced as to be
side of the passage at the foot of the stairs on the first floor, which is not necessary & for which there is hardly room sufficient.

3rd. I have supposed the wall which divides the two rooms from one another on both floors to be stone. This is not necessary for the solidity of the house, and adopted only on the supposition that it was the cheapest mode. If you like it better, you may substitute a frame partition about 5 inches thick, fitted with bricks & plastered. The space thereby gained must be given to the smaller room, which would then be about 14 ft 2 inches on the first, and 14 feet on the second floor from north to south. This would have more room for an east window in the corner of those rooms.

4th. Have not the hearth pieces placed at that inconvenient height at which they are placed generally in America. 3-1/2 to 4 feet elevation from the hearth as in house is sufficient and much more convenient. There are sometimes complete Italian marble front ___ & marble pieces to be sold reasonable in our seaports. Enquire about the price & that of transportation.

5th. Whilst in New York, try to get from a carpenter a detailed bill of prices. They must be much cheaper in the Western Country; but it will teach you the preparation value of the several objects & the manner of rating them. Go also & look at some of the homes that are building there, in order to learn how floors, roofs &c. are formed, & other particulars respecting the work.

In the first paragraph (item 1) Gallatin, in referring to the floor plans, alters previous plans and describes where the new stone house is to be located and how the new house and the existing house are to interconnect. Gallatin's instructions call for a door to be cut in the east front on the first floor of the frame house next to the chimney. This door would be where the northernmost window of the frame house's east elevation is now located. This plan calls for the construction of the 1823 stone house to be approximately 8 feet to the south from its present location. This would allow the west elevation door of the 1823 stone house to align properly with a new door on the east elevation of the frame house. The present door on the west elevation of the stone house is 1 foot 3 inches from its interior corner. Gallatin was calling for about 1 foot 4 inches.

In item 2, Gallatin does not reveal any detail of the construction materials for the passageway, which is to interconnect the
stone and frame houses other than "stone or frame." The 1841-42 "sketch of Friendship Hill" indicates that this structure may have been frame. Unfortunately the addition of the state dining room has removed the evidence of this former interconnection between the old and the new houses.

Gallatin continues with a discussion of the second floor of this "passage between the old and new houses." The Day drawing (figure 1), photographs, and physical evidence indicate that the two-story passageway concept was later modified to a one-story passageway. The west window on the first floor of the stone house at the foot of the stairs was not eliminated. The window is clearly evident in the 1891 (figure 2) photograph. The stairs are in the same approximate location, but they are not 5-1/2 feet from the south wall on the second floor as was specified. Gallatin also describes a "... last flight of stairs from the first to the second floor...." This implies that Gallatin's plans did not have the stairs drawn in the plan as a continuous flight between floors as is presently the case. It becomes apparent that some of Gallatin's instructions were either modified by Gallatin or were changed by his son before completion of construction.

In item 3 of the letter, Gallatin discusses the construction of the interior partition wall of the new stone house that exists today. It is brick and apparently a frame partition fitted with brick and plastered. Of importance is that Gallatin describes a brick-nogged wall of the type found in the 1798 frame structure. This type of construction can be associated with much earlier structures but because of the reference, it appears reasonable that the 1798 frame structure was a technique that Gallatin was familiar with.

In item 4, Gallatin refers to purchasing marble mantel pieces 3-1/2 feet to 4 feet in total height. The present marble pieces are 4 feet 1-1/2 inches to 4 feet 4 inches in height and may possibly be original to this construction period.
It appears that the plans changed after Gallatin wrote this letter to his son. Much, including the passageway, the stairs, corridor placement, and even the location of this addition was modified.

In a later letter dated November 1821, it is clear that preparations for the construction of the addition to the house were well underway. Gallatin was informed by James Nicholson, who was assisting Albert Rolaz, that:

we have been employed in collecting materials for the contemplated building—the brick and a considerable quantity of stone were prepared in 1820 and in June 1 sent a keel boat to Pittsburgh, purchased fine boards and shingles, which after much delay have been received and nothing prevented our commencing the building but the impracticability of procuring scantling, the failure of the water in George creek rendering it impossible to saw at your saw mill. We intend commencing early in the spring and expect to go on in the work with much dispatch.

This would indicate that the brick was fabricated on-site and the stone was possibly quarried nearby. Evidence of an old quarreling activity exists on the riverside of the knoll directly beneath the stone cistern. The Gallatin sawmill in New Geneva was apparently only capable of producing rough framing, and the boards for interior finishes were purchased in Pittsburgh. Scantling is again referred to in this letter. This letter indicates that the 1823 stone house had a roof finished in wood shingles. Physical evidence of an early or original wood shingle roof on the stone house is nonexistent at this time.

In a letter to his son dated February 4, 1822, Gallatin reassessed his financial position.

Had I been earlier apprized of the gradual losses & decay of our glass works, I would not have adopted so extensive [a] plan of building in our place. The size of the house was justified not by the value of the plantation but by the aggregate income drawn from the whole of our property in that neighborhood. And, not knowing that no dividends had been received for the last years, I had calculated that the expense of the new house would be defrayed by those and by the accruing profits of this & next year. It is now quite different;
but, materials being procured & part of the expense incurred. I can only recommend great economy & attention to the work, lessening the plan if practicable & you think it proper, and avoiding every expense not strictly necessary. I hope however that the same cause... has reduced prices will enable you; both as to materials & workmanship, to build much cheaper than could have been done in more prosperous times.

This change in financial fortune helps to account for changes in what was called for in the earlier letter of April 2, 1821. In addition, by a letter of July 1822, Gallatin was informed that Albert Rolaz was "going on with the House according to... [his] Father's first instructions."

On October 15, 1822, Rolaz informed his father that the masonry work was finished on the new house and in a December letter that the carpenters were working on the interior of the house. Upon Gallatin's arrival at Friendship Hill in August of 1823, the connection (passageway) between the new house and the existing house was not started.

Gallatin, enroute to Friendship Hill from Paris, sent a July 1823 letter from New York to brother-in-law James W. Nicholson. Gallatin mentioned his needs to now build a "stone kitchen for which Albert has directions..." This refers to the existing stone kitchen which, at that time, was probably replacing the log kitchen mentioned in earlier correspondence.

In August of 1823, Gallatin and his son James arrived at Friendship Hill. James, in a letter to his sister Frances, mentioned that "we are still debating in what manner it shall be connect with the old one"; (this refers to the passageway which is still to be constructed).

In two letters written after his arrival, Gallatin describes his frustrations to his daughter Frances with the new stone addition:

... Notwithstanding all my exertions, you will find it hard enough when you come next spring to accommodate yourself to the privations and wildness of the country. Our house has been built by a new Irish carpenter, who was always head over heels and added much to the disorder inseparable from building. Being unacquainted with the Grecian architecture, he
adopted a Hyberno-teutonic style, so that the outside of the house, with its port hole-looking windows, has the appearance of Irish barracks, while the inside ornaments are similar to those of a Dutch tavern, and I must acknowledge that these form a singular contrast with the French marble chimney-pieces, paper, and mirrors. On one side of that mass of stones which Lucien calls "le chateau," and in full view as you approach it, is a wing consisting of the gable-end of a log house, with its chimney in front, and I would not pull it down, as it is the kitchen and dining-room where are daily fed two masons and plasterers, two attendants, two stone quarriers, two painters, a carpenter (besides three who board themselves), Lucien, Albert's black Peter, and Mr., Made., Mesdiles et les petits Buffle. The grounds are overgrown with elders, iron-weeds, stinking weeds, laurel, several varieties of brier, impenetrable thickets of brush, vines, and underwood, amongst which are discovered vestiges of old asparagus and new artichoke--beds, and now and then a spontaneous apple or peach tree. As to Albert, he has four guns, a pointer, three boats, two riding-horses, and a pet colt, smaller than a jackass, who feeds on the fragments of old lilacs and althea frutex. His own clothes adorn our parlor and only sitting-room in the old brick house; for the frame house is partly occupied by the Buffle family and partly encumbered by various boxes and Albert's billiard table, the pockets of which are made with his stockings.

. . . Notwithstanding all my ____ , more will remain to be done after our arrival next spring than I would have wished. I was impossible for me to attend to anything else for the improvement either of mills, farm plantation etc., all of which are in a most deplorable state.

At the time of Gallatin's arrival in 1823, it is evident that the 1823 stone house has been erected but is not finished. There is no connection with the frame and brick house. The interior is more complete with French wallpapers and marble fireplaces in place. A log structure is referred to which is to the west of the new stone house. This may be the kitchen, which according to previous letters, is to be replaced with a new stone kitchen. It appears that it is not the gabled end of the frame house.

Gallatin also expresses his disappointment with the appearance of the addition and the surrounding structures and site. It is stated that the house was intended to be constructed in a "Grecian" style that was unfamiliar to the carpenter.
When Gallatin refers to the "port hole-looking windows," he is not speaking of round windows. Instead he is disappointed with the size of the window openings versus the amount of stone on the face of the buildings. If the stone addition is viewed with the louvered shutters closed and as though the porch were not present, then one can understand Gallatin's disappointment with the undersized window openings.

We know that the contractor for the stone house was Hugh Graham, a builder living in Uniontown. In 1818 he emigrated to the United States, landing in Philadelphia where he worked for Stephen Girard for two years. In 1820 he moved from Philadelphia to Pittsburgh and then to Uniontown where he became a carpenter-builder of some renown. Among the structures that he built in Fayette County over the years were the 1821-25 addition to the main house at Friendship Hill, the residences of Colonel Samuel Evans and Judge Alfred Wilson, two houses on East Main Street, and a row of frame buildings known as Graham's Row in Uniontown.

Gallatin and James left Friendship Hill in November 1823 and again corresponded with his son Albert regarding instructions for construction. The connection between the new addition and the frame house was about completed in November as documented by Gallatin reminding his son to "... have immediately all the shavings removed from the new entry, as it will be the perpetual passage during winter to the brick house, and a high spark might set on the house on fire."

A letter from Albert Rolaz to his father dated February 20, 1824, updates construction progress. It is at this time that the porch construction is underway, "I will do all in my power towards having the porch finished ... by the first of April. . . ."

Gallatin hired an English gardener, living in Baltimore, to help with the development of the grounds at Friendship Hill. In a March 10, 1824, letter to his son, Gallatin states that the gardener is to "... live in the log house, the chimney must be rebuilt up as soon as it is moved,
taking care to make it much narrower inside than now—say about 4 feet wide. . . ." This reference to a log structure being moved is probably the log kitchen that needed to be moved so that the stone kitchen, referred to earlier, could be constructed in its place. It was also referred to as the gable end log house in Gallatin's August 1823 letter. Physical evidence on the west elevation of the frame house at the first-floor level suggests that the frame house, which was constructed in 1798, was built butting into another structure. There are no original first-floor openings on this level of the west elevation, as is the case on the first and second floors of the east elevation.

In the late 1820s, there is little written documentation of developments to the house. In May of 1825, the Marquis de Lafayette visited Friendship Hill. After October of 1825, Gallatin never returned to live at Friendship Hill, and in 1832 the property was sold to Albin Mellier.

C. Friendship Hill Under the Albin Mellier, Jr. Family--1832-59

Documentation is available on the purchase of Gallatin's furniture by Mellier and the purchase of the former Thomas Clare estate at Friendship Hill in 1834; however, there is little information concerning the main house under Mellier ownership.

In 1841, Friendship Hill was visited by Sherman Day, an artist, engineer, and compiler of county histories in Pennsylvania. Day's sketch of the main house is the earliest known illustration of the main house. The Day sketch (figure 1) is a view of the main house from the north looking south. The 1823 stone house is prominent, with other portions of the main house to the west.

The 1823 stone house of today has differences from the Day drawings. The porch appears to front the east, north, and portions of the west elevations. Unlike the present porch, the Day drawings indicate a continuous railing between columns. The drawing also suggests that the roofs are not continuous at the corners. The porch columns appear more massive than is currently the case, and they are missing decorative
Figure 1 - "Sketch of Friendship Hill," ca. 1841-42, the Day Drawing.
bracketing between them. The second-floor windows on the north elevation indicate that if there are shutters they are closed, or possibly there are no shutters at all and the window openings are divided into 12 lights—a smaller and more numerous division of the sash than is present today. On the east elevation there are no windows indicated in the sketch. Presently two exist, one on the first floor and one on the second floor. This may be a problem with perspective, and physical evidence suggests that most likely the windows existed at that time. It is unclear as to the type of entry door at the north elevation. Also, the windows of the dormer are unclear. The roof in the Day sketch terminates at the stone end wall and does not overhang with bracketing.

The west elevation of the stone house is before the addition of the state dining room and indicates an assortment of structures. The north gable end of the frame house is immediately west of the 1823 stone house. The frame house is rendered with a second-floor window on the north elevation in approximately the same location where a door currently leads to the second floor of the state dining room. The chimney is not exposed along the wall, indicating a wall surface covering. In front of the north gable end of the frame house is a one-story shed roof structure that is possibly the passageway Albert Gallatin wanted constructed to connect the 1823 stone house and the 1798 frame house.

Above portions of the frame house's roofline is what appears to be the roofline and portions of the gable end of the 1789 brick house. It is in shadow and little information is gained of the brick house from this drawing.

To the west of the frame house is the 1824 stone kitchen. The wall of the kitchen is rendered the same as the 1823 stone house, indicating a stone finish. Again, there is a one-story shed roof structure that abuts the north elevation of the stone kitchen, and it may have provided covered passage between portions of the house. The chimney of the stone kitchen appears lower than is currently the case. Quite possibly it was added to when the servants' quarters were constructed and the roof height in that location was relocated to a higher level.
When the state dining room addition was constructed, the shed-roofed passageway, the other ancillary structures, and the porch along the west elevation of the 1823 stone house were destroyed with only minimal physical evidence remaining today.

The Day drawing of Friendship Hill is the earliest illustration known. From an architectural perspective, its detail is disappointing but it does give an indication of what the main house may have looked like shortly after Gallatin completed his improvements to the structure.

In 1842, Reverend William Hanna visited the property and noted that the house was in a dilapidated condition. He also noted that the interior surfaces of the stone walls (in the 1823 stone house) were once finished in French cement plaster attached to a network of copper wires suspended from floor to ceiling. This provided a 2-inch air space between the stone wall and the plaster finish. At the time of his visit, the network was broken and the paper torn.

Present conditions indicate that this wall system possibly existed but may have been a cording and not copper wire; if so, it is a unique construction technique that, in principal, is widely in use today. The term French plaster is possibly the plaster of paris we know today. Remnants of a lightweight, extremely uniform plaster were found, which date to the 1823 construction period.

From 1842 to 1859 there was an uncertain legal status of Friendship Hill because creditors of Albin Mellier filed claims against the Friendship Hill estate. There is also no documentation concerning the development and utilization of Friendship Hill during this period. Quite possibly the house went into a period of continued deterioration at this time.

D. Friendship Hill Under John Littleton Dawson - 1859-70

Dawson was active in politics, including holding a congressional seat representing the region. He purchased Friendship Hill in 1859 and used it as his summer residence until his retirement from public life in
1867. After 1867, Dawson and his family lived there until his death in 1870. Various accounts refer to Dawson renewing the existing structures after years of neglect, and quite possibly few improvements had been made since the time Gallatin owned the property.

In a Biographical Dictionary and Historical Reference Book of Fayette County, reference is made that: "... After Mr. Dawson purchased the place, he renewed the buildings, which had been neglected for many years, and made such alterations as were necessary for the comfort of his family." An unidentified newspaper article states that Dawson changed the awkward appearance of Friendship Hill by ". . . erecting porticos on the northern and eastern approaches to the building. . . ."

The first known photograph of the main house is titled "The Vignette of Friendship Hill" (figure 2) with a probable date of 1891. It documents the probable configuration of the main house just after Dawson's ownership and indicates that the structure had been maintained and improved. This photograph was taken before the state dining room was added.

Exterior improvements that were probably completed by Dawson, which can be seen in the photograph, include the extension of the roof at the gable ends and the addition of bracketing at gable end roof overhangs. Another Gothic Revival improvement fashionable during Dawson's period of ownership would include the porch columns and the decorative bracketed Tudor arch work between them. Louvered exterior window shutters were possibly added at this time. The connection between the 1798 frame house and the 1823 stone house has changed from what was depicted in the Day sketch. Portions of the gable end of the 1798 frame house are visible and this corroborates with physical portions of this gable end rakeboard which remains today. The exterior finish of the north gable end of the frame structure appears to be stucco. Also visible is a small portion of a two-story porch on the south elevation of the 1823 stone house (the Lafayette balcony). Two windows on the west elevation of the 1823 stone house, which are on the first- and
Figure 2 - "Vignette of Friendship Hill," ca. 1891.
second-floor levels at the north end, are clearly visible. They were later changed to doors after the state dining room addition was completed.

This photograph confirms that Dawson apparently concentrated his efforts on improving portions of the main house which existed when he purchased the property. The flavor of the improvements undertaken by Dawson suggests a Gothic Revival influence and includes the bracketing on rakeboards of the roof gable ends of the 1823 stone house and the detailing of its porch columns.

It is probably at this time that much of the interiors of the main house were updated after the approximate 20 years of uncertain ownership and disuse. This deterioration was documented earlier by Hanna's visit to the house, especially the poor condition of interior plaster.

A block print of the main house exists which, according to the "Historic Resource Study," (HRS) dates from 1870. The date is questionable and other findings indicate a date of 1935, yet it is probably the earliest pictorial documentation of the state dining room addition. It shows the uniform surfaced north elevation of the state dining room with windows in their present location. All window openings show louvered shutters as do the windows of the 1823 stone house; other than that, little is shown except windows and the general form of the state dining room.

The 1823 stone addition shows the north and east porches without railings. The wall surfaces appear to indicate a stone finish. One window is rendered on the first floor of the east elevation. The dormer windows appear to show a closed louvered shutter. This drawing shows the stone house in much the same condition as the "Vignette of Friendship Hill" photograph.

E. Friendship Hill Under Mary Clarke Dawson--1870-89
Mary Clarke Dawson was willed Friendship Hill upon her husband's death in 1870. Little is known of any possible changes to the
Figure 3 - "Block Print of Friendship Hill," ca. 1935.
structure during this period of ownership; however, several newspaper clippings, including the following, suggest that the house had once again regained its grandeur:

To reach the mansion ground from the town [of New Geneva] you must walk up a winding roadway between cultivated fields and forest, and though you reach the summit of the hill with tired legs and shortened breath, you are more than repaid by the vision. There is hardly a finer view on the line of tourist travel in this part of the country. A walk of a mile through the deep woods, brings one out into the open space in which stands the historic mansion. A gate opens into a long lane which leads up to the house. This lane is fringed on either side with rows of locust and oak trees planted there by Gallatin sixty years ago. Through the foliage of the trees I catch glimpses of the high stone chimneys, ivy-bound and ivy-crowned, and a moment more and the fine old building breaks in full view. The flower-bededecked lawn with its varied shrubbery is taken in at a glance, and then the attention is drawn to the house, with its high portico running the entire width of the front. The portico turns the angle at the side and extends along the eastern gable. In the rear is a long wing by the side of which runs another portico. The house was evidently designed for comfort. It is large and roomy and a little too much on the square order to suit our modern ideas of architectural grace. Still it is far from being clumsy, its porticos and gables much relieving the effect of its stiff regularity. It is built of stone taken from the quarry on the bluff overlooking the river, more than 60 years ago. Its interior is finished in heavy dark woodwork and the high mantels recall the style of that period. Sixty years it has withstood the storms and wear and tear of time seemingly without injury.

The south wing of the house is referred to as "... long wing by the side of which runs another portico." Because the observer does not call out a brick structure and a frame structure comprising this wing, both were probably covered with a stucco, possibly scored stucco, as materials analysis suggests.

The interior woodwork is described as dark and heavy, with high mantels that recall the style of an early period. There are currently no mantels fitting this description, with the possible exception of two in the 1798 frame house. No mention is made of the marble mantels installed when Gallatin constructed the 1823 stone addition. This information, along with a general lack of documentation, suggests that the
house and grounds were also kept much the same during Mary Clarke Dawson's period of ownership.

F. Friendship Hill Under the Heirs of John Littleton and Mary Clarke Dawson--1889-99

Mary Clarke Dawson, the widow of John Littleton Dawson, died in March of 1889. The ownership of Friendship Hill was handled by the Speer, Patterson, and Black families. In 1892, Charles E. Speer was appointed trustee for his interest in the estate. The house was used as a summer home during this time, with the Speer family spending a larger portion of the time at the house.

In 1891, George Alfred Townsend addressed a letter to The Philadelphia Press, describing a visit he had made to Friendship Hill. The letter is the only written description found of the structure for this period of ownership.

As you enter the lawn you see to the left a large barn with slatted windows, and on the right are two buildings which may have been a stable and a corn house. Within the gate is a new building, probably put up for the custodian, a Mr. Baker. Further on you see a square, stone house of native limestone, obtained at the river side, bearing here and there marks of the rough mason's chisel. This is two stories and a garret high and has a porch surrounding it, ten feet wide, which has been of late restored, and the interior has also been torn out and made agreeable to modern ideas. From one of the back corners of the house, at the southwest, abuts the old mansion which Gallatin himself built, his son having constructed the stone part while the diplomatist was in Europe. The old part is merely a long Virginia house, with a double storied porch to the west, which has been made to connect with the portico over the rear door of the stone house; the old house has also a second story verandah in the rear, upon a protruding stone kitchen there, which has a milk cellar under it.

Townsend describes the 1823 stone house as having rough chisel marks, indicating no stucco application over the stone. The brick and frame structures are described as a long Virginia house, with a double-storied porch. Townsend appears to have his directions turned around when he describes a double-storied porch to the west; it should instead be east because he later describes the west porch as a "second
story verandah in the rear." The stone kitchen with a milk cellar below was described as being adjacent to the rear verandah. Archeology was performed in the stone kitchen and in the basement of the state dining room to look for evidence of the milk cellar. Unfortunately no substantial evidence was uncovered (see "Archeological Support Data," appendix G).

Townsend refers to a restored porch and an updated interior. This is probably in reference to the work completed by John Littleton Dawson. From the description, it also sounds as if the south bedroom wing, the servants' quarters, and the state dining room were not extant.

The account of the two-story porch connecting with the portico over the rear door of the stone house has caused some confusion. It appears that this refers to the two-storied balcony/porch (Lafayette balcony) over the rear door in which a portion of its roof can be seen in the photograph "Vignette of Friendship Hill" (figure 2).

G. Friendship Hill Under Charles Edward Speer--1899-1905

In May of 1899 Charles E. Speer became the sole owner of Friendship Hill. Speer was successful in his business ventures and possessed the financial backing to improve Friendship Hill. This is evidenced by the fact that between the years of 1902-05 he purchased four additional adjacent parcels to enlarge the site from 537 acres to 760 acres.

Although the historical research is not conclusive, it appears that at this time the main house grew dramatically. Written documentation exists for a 1901-02 construction date for the south bedroom wing and a 1901 construction date for the Painter house—a separate structure that was on the knoll area and built by Charles Albert Painter and his wife, who was one of the Speer daughters. Physical evidence suggests that the state dining room and the servants' quarters were built about the same time, or possibly five to ten years earlier. This dramatic change in the size of the main house and other improvements are reflected in the assessed tax valuation that jumped from $25,000 in 1903 to $43,850 in 1904.
Figure 4 - Photograph of Rear (South) Elevation of Friendship Hill, 1909.
The historical photographs and drawings are not conclusive. A 1909 photograph of the south and east elevations (figure 4) shows that both the south bedroom wing and the state dining room are fully completed, and the house looks much as it did before the 1979 fires. The servants' quarters cannot be seen in this photograph. The block print of Friendship Hill (figure 3), which is ca. 1870 according to the "Historic Resource Study," is probably ca. 1890-1900. A discussion with author Harlan D. Unrau verified the uncertainty of the ca. 1870 date. This print shows the state dining room completed adjacent to the 1823 stone house with no other portions of the main house visible. The "Vignette of Friendship Hill" photograph (figure 2), discussed earlier, probably indicates the appearance of the main house before the Speer additions.

Because of the addition of the state dining room, the former connection or passageway between the 1823 stone house and the 1789 frame house was destroyed; only fragmentary evidence remains. The state dining room addition also destroyed sheds along the north elevation of the 1823 stone kitchen.

Charles Speer added the south bedroom wing, the servants' quarters, and the state dining room to the main house, and this represents the third and final building phase. Even though he dramatically increased the size of the structure, the major Gallatin portions of the main house remained surprisingly intact.

H. Friendship Hill Under Sarah Kennedy (Dawson) Speer--1905-10

Little is known about Friendship Hill under the ownership of Sarah Speer, wife of Charles Speer. No known improvements are documented during this period of ownership; only the purchase of three small parcels totaling 8 acres. Presumably the property continued, as under Charles Speer, to be used primarily as a summer retreat.

I. Friendship Hill Under Josiah Van Kirk Thompson--1910-25

In 1910 Josiah Van Kirk Thompson purchased Friendship Hill. He was a leading Fayette County banker, financier, and coal baron. Thompson purchased the property for $175,000. This price again
supports the assumption that Charles Speer extensively improved not only the main house but the property in its entirety. Thompson and his wife used Friendship Hill as their summer home. There is no documentation of any improvements to the main house under Thompson's ownership.

Thompson's financial fortunes took a turn for the worse, and in September of 1917, he was adjudged bankrupt. In 1919, Piedmont Coal Company acquired title to all of Thompson's holdings. Because Friendship Hill was in receivership during this time, it can be assumed that few improvements took place at the main house. More than likely because of disuse, the structure gradually deteriorated.

J. Friendship Hill Under Andrew Thompson and Lida Grimm

In February of 1925, Andrew A. Thompson, the son of Josiah Thompson, purchased Friendship Hill at a sheriff's sale for the sum of $25,000.

Of importance is the listing of structures acquired by Andrew in the land deed.

Friendship Hill Tract
- bank barn with stone foundation and tin roof
- stone brick mansion house with asbestos shingle roof, known as the Gallatin mansion house, containing 35 rooms
- shingle-roofed, concrete foundation barn, garage, stable
- shingle-roofed, stone foundation, tenant house, known as the gardener's cottage
- frame, shingle-roofed, house and porches, known as the Painter house
- brick and stone foundation, shingle-roofed house, together with milk room, chicken house, outbuildings, etc., known as the farm boss house
- stone-concrete basement, shingle-roofed, bank barn, known as the dairy barn
- shingle-roofed, combination corn crib, wagon shed, tool house, and machine shop

Kussart Tract
- stone foundation, two-story, tin-roofed house, with outbuildings, known as the river tenant house
Oliphant Tract

no structures listed

Eneix Tract

to-paper-roofed, 1-1/2-story cottage known as the Crow Cottage

It is stated that the main house had an asbestos shingle roof and 35 rooms. The main house contains 35 rooms on the first, second, and third floors, not including stairhalls, entries, and the basements. This again supports the assumption that few changes occurred between the Charles Speer ownership and NPS ownership in 1979.

Between the years of 1925-41, the house was used as a summer residence. The basement of the 1823 stone house was remodeled to resemble a tavern. The bulkhead entry to the basement on the south elevation was used as the entrance during lavish lawn parties. The servants' quarters consisted of four bedrooms and a bath on the second floor, and a living room was over the 1824 stone kitchen. A laundry room was on the first floor. The extension of the servants' quarters roof over the 1824 stone kitchen was in place during this period. The original stone kitchen roof was probably revised when the servants' quarters were constructed as remaining physical evidence suggests. This information is important because the recent fires gutted the area above the 1824 stone kitchen and portions of the second floor of the servants' quarters.

Written documentation indicates that the house was renovated in 1936, but it appears that this did not include major modifications. Articles were published in 1937 in response to house tours. It appears that the interiors were furnished in a grand style, and the reference to renovation may reflect the interior furnishings and extensive site work. The articles also state that this house had never been wired for electricity, and that oil lamps provided the only light. After the death of Andrew D. Thompson in October of 1938, the house was transferred to Lida Grimm Thompson. She owned the property until her death in 1941.

Reportedly the main house was relatively unmaintained while Evelyn Louise Thompson lived at Friendship Hill during the 1940s. There is no documented evidence between 1941 and 1949 of improvements to the main house.

In 1949 Evelyn married Sherwood C. Martin in 1951. In the 1950s the Martins added a rustic garage to the north elevation of the servants' quarters section of the main house and a swimming pool on the south lawn behind the house. Electricity was introduced into the main house during the 1950s.

Throughout the 1950s and early 1960s the Martins took generally good care of the main house, painting and cleaning it thoroughly once a year and oiling the floors. Two new gas-fired, forced-air furnaces were installed in the basement of the 1821-24 portion of the house in the mid 1960s.

During the late 1960s and early 1970s, the condition of the main house, which had been well maintained through the 1950s and early 1960s, began to deteriorate. By 1970 it was noted that the wall plaster was cracked and the wallpaper was torn in many places throughout the house, and dampness on the first floor of the house was beginning to take its toll on the structure. Two years later in 1974, the year that Evelyn died, it was reported that the "original" wallpaper in the dining room had been removed, that the shingled roof was subject to many leaks, and that the interior and the furnishings were beginning to deteriorate.

L. Acquisition of Friendship Hill by the National Park Service--1975-80

Following the death of his wife, Sherwood C. Martin made plans to sell Friendship Hill. Soon afterwards historical groups began an effort to acquire the property. In April of 1978, Representative Austin J. Murphy of the 22nd Congressional District of Pennsylvania introduced a
bill to Congress to establish Friendship Hill as a national historic site. His presentation included an assessment of the structure's condition:

... As I toured the house it was very apparent that the house, although structurally sound, was in dire need of extensive repairs. The private gas well which supplies the house with heating fuel is inoperable, although usable. Thus, the home has been without heat for the past two severe winters. The house also requires extensive roof repair, painting, replacement of rotting exterior woodwork, and elimination of excessive dampness in the basement area. . . .

Soon after NPS ownership, there were a series of fires (arson) at the main house; June 29-July 2, 1979. The 1823 stone kitchen area was totally gutted, leaving the perimeter stone walls and charred portions of door and window frames. Adjacent to the stone kitchen, the second floor of the servants' quarters was heavily damaged on its easternmost portion. The roofs and upper portions of the 1798 frame house, the 1789 brick house, the south bedroom wing, and the state dining room were largely destroyed by the blaze. These locations suffered smoke and water damage as well, which affected the floors below.

Because of the fires, the main house was vulnerable to the elements and suffered accelerated deterioration until temporary roofs were installed by Fairchance Lumber Company of Fairchance, Pennsylvania, in October of 1979. These roofs are currently in place and appear to be keeping the structure relatively weathertight. An effort was made at the time of the temporary roof installation to preserve all remaining building fabric. Besides the roof repairs, the park has provided some emergency stabilization bracing on porches and in portions of the interior. The park has also kept the structure clean, ventilated in the summer months, and partially heated in the winter.

SUMMARY

The main house at Friendship Hill has undergone three major phases of change. Originally, Gallatin constructed the brick structure in 1789 after living there for approximately three years in a log structure that no longer exists. He then added a frame structure in 1798, a stone house in 1823, a connection between the stone house and the frame house in
1823-24, and a stone kitchen in 1824 after possible relocation of a log structure. After Lafayette's visit in 1825, Gallatin lost interest in Friendship Hill, and the structure fell into a period of gradual deterioration until John Dawson purchased the property in 1859. It is important to note that most of the available historical documentation for development of the main house is from the Gallatin period.

During the time of Dawson's ownership, the interiors and exteriors of the existing structures that Gallatin constructed were "modernized." There appears to be a Gothic flavor to Dawson's improvements versus the Greek Revival influence in Gallatin's construction.

It was after Dawson's death in 1870 that the main house was again in a period of minimal change and gradual deterioration until the Speer/Painter ownership of the 1890-1910 period. Like Dawson, the Speer/Painter family had the financial wherewithal to do improvements. The structure underwent its second and final period of growth during this time. The south bedroom wing and the Painter house were constructed in 1901 and 1903. Although there is no historical documentation for the dates of construction, physical evidence indicates that the state dining room and the servants' quarters were constructed during this period of ownership. The older passageway that connected the frame house and the 1823 stone house was removed, destroying most of the physical evidence due to the construction of the state dining room. After this period of ownership, the main house underwent relatively minor improvements. Much of the emphasis was placed on the site and other structures related to farming and summer recreation.

The main house was again suffering from lack of maintenance just before ownership by the National Park Service in the late 1970s. Three fires, which occurred just after the National Park Service acquired title, destroyed much of the building fabric in the upper floors of the servants' quarters, the frame house, the brick house, and the state dining room; the 1824 stone kitchen was gutted. The fires were disastrous from the historic preservation perspective but allowed a far
more complete investigation of remaining building components. Fortunately, the 1823 stone house that represents Gallatin's hopes of Friendship Hill was virtually untouched by the fires.

The physical investigation/analysis of the main house also suggests that most of the existing building fabric relates to the major periods of development as summarized below:

Albert Gallatin 1789-1825
John Littleton Dawson 1859-1870
Speer/Painter 1890-1910

Physical evidence suggests that a large percentage of improvements at the main house occurred during the above periods.
III. ARCHITECTURAL DESCRIPTION AND ANALYSIS OF EXISTING CONDITIONS

A. 1789 Brick House

Lying between the east bluffs of the Monongahela River and the west shoulder of Pennsylvania State Highway 166 is a 661-acre site overlooking the river's bluffs. This site, known as Friendship Hill, contains many structures, gravesites, and foundation walls of former structures. Of major concern is the structure containing the houses where Albert Gallatin once lived and held title from 1786 to 1832. This structure, containing the Gallatin house and the later additions, is referred to as the main house. The house is significant because of its association with the life of Albert Gallatin and his influence upon western Pennsylvania and his career, with impact in shaping the developing nation.

The main house is in a prominent position on the site northeast of the gazebo, southeast of the frame barn, and south of the stone well. It is oriented on a northeasterly/southwesterly axis, with its main entry elevation facing northeast. The entry is approached by a gravel road leading from Highway 166. The main house, a complex structure, consists of as many as eight components or additions that range from 16 feet high or 1-1/2 stories at the stone kitchen, to 41 feet high or 2-1/2 stories at the stone house. Each story contains about 6,500 square feet of floor area with major wings extending to the south and west.

Included in the total area of the structure are all floors of Gallatin's 1789, 1798, 1823, and 1825 houses. In addition to these are the circa 1895-1902 additions of the south bedroom wing, state dining room area, servants' quarters, and the 1950s garage. Most of the structure's walls are now finished with coats of stucco. This creates some uniformity among the various building components (figures 5 through 10).

1. Roof

A temporary roof currently covers the 1789 brick house, the 1798 frame house, the 1901-02 south bedroom wing, and state dining
Figure 5 - East Elevation: Two-tiered verandah in background connecting facades of 1789 brick house, 1798 frame house, and 1901-02 south bedroom wing; all three houses are covered with a temporary roof. 1823 stone house is shown in the foreground and to the right with its one-storied porch to the east and the two-storied "Lafayette balcony" to the south.
North Elevation: 1823 stone house at center and the ca. 1895 state dining room addition in background and far right. The stone house has an asbestos cement roof and its porch has a metal roof. The roof of the state dining room addition is a temporary rolled roof.
Figure 7 - North Elevation: Northwest end of state dining room addition shown at far left. The one-story 1824 kitchen and the two-story ca. 1895 servants' quarters with its archway appear in background. 1954 garage shown in foreground at far right behind trees.
Figure 8 - North Elevation: Well in foreground with state dining room addition, stone kitchen, servants' quarters, and garage also shown.
Figure 9 - West Elevation: From left to right: servants' quarters, stone house (extreme left background), frame house, stone kitchen, brick house, and south bedroom wing are shown.
Figure 10 - Southwest Elevation: Left to right, servants' quarters, stone kitchen, frame house, state dining room addition and stone house (to far right in background, brick house, and south bedroom wing are shown.)
room addition. This roof is extended to the east elevation to cover the adjoining porch along the east facades of the buildings, excluding the state dining room. This room neither faces east nor has a porch in that direction. Rafters are braced at the porch by collar braces connected to the attic floor joists and rafters of the porch.

The temporary roof was installed around 1979 to keep out the elements after an earlier roof gave way to the 1979 fires. It is a gable roof covered with an asphalt-rolled roofing cemented in a bituminous coating over three to four plys of bituminous coating and felt; all are cemented and nailed to 3/4-inch by 4-foot by 8-foot plywood roof decking. The decking rests on truss rafters constructed of 2-by-10 members spaced approximately 2 feet on center and rests on the top plate of a newly constructed knee wall. This wall sets over the brick wall and rests on the original attic flooring of the brick house. The structural components of the temporary roof are fastened to one another and to the attic flooring with wire nails and connectors along the rafter plates.

Below the temporary roof at the brick house are remnants of rafters from an earlier roof. These are at the last attic floorboard just above the rafter plate and rest on the overhanging floor joists supporting the roof's cornice. The remnants appear as ghost marks on the rafter plate and are spaced approximately 24 inches on center. Other remnants of an earlier roof are wood shingles that remain at the rafter plate as debris. It is not possible to determine their exact size because only pieces of the sawed shingles remain. From the position of the rafter ghost marks and their projection to the roof ridge, using the brick house's gable ends as a guide, it is conceivable that they are remnants of the original roof rafters to the 1789 Gallatin house. The sawed wood shingles, however, are possibly the remnants of a later roofing installed after the original 1789 roofing was removed. In comparison to a typical shingle roof of 1789, it is most likely that a 1789 shingle roof contained handsplit shingles or shakes which were handplaned.1 With Gallatin's

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sawmill located at New Geneva, it is possible that the shingles were sawed as early as 1823. Evidence found at the edge of the attic floor joists and flooring supporting the roof indicates that the original roof terminated 12 inches beyond the building's brick wall. The 12-inch projection of the roof appears to have formed a simple cornice. The remnants of the cornice are a piece of fascia board measuring 1 inch thick. Its width and length have been reduced. Other remnants seen at the end of the floor joists are early handwrought nails and nail holes which indicate that a continuation of the fascia board was once nailed to them. The joist ends were reduced in depth when the present porch was added long after Gallatin's time. There is no indication that a covering for an original porch continued beyond the roofline nor from another area below the roof; however there is evidence of a former porch floor or balcony. This holds true at the east and west elevations. The 2-1/2-story brick house has several rooms and porches at its various levels.

2. Walls

Gallatin's 1789 house measures approximately 26 by 29 feet and is currently bordered to the north and south by the 1798 frame house and the 1901-02 south bedroom wing, respectively. Beneath the coats of stucco and adjacent wall finishes, the exterior walls of the house are constructed of what appears to be a salmon-colored, handmade brick having a nonuniform appearance. The bricks are somewhat soft. These brick walls depict the Flemish Bond laid with lime mortar composed of a medium textured sand and animal hair as a binder. This mortar is medium-hard in texture. The mortar joints, as seen at the exterior walls, measure from 1/4 inch to 1/2 inch in width and are penciled with a white paint. Evidence reveals that the penciling was done shortly after the construction of the brick house in 1789 or at least between that time and the construction of the 1798 frame house. The penciled joints uncovered behind the south gabled frame wall of the frame house verifies that the scoring must have taken place before this wall was constructed and consequently before construction of the frame house (see figure 11). This wall is integrally tied into the east and west walls of the frame house with mortise-and-tenon joints.
Figure 11 - South and west walls of 1798 frame house, Room 107: Penciled joints of 1789 brick house shown. Conditions of ceiling and walls also shown in this room.
Immediately covering the east wall of the brick house and continuing north to cover the east wall of the frame house is a 3/4-inch thick application of an ochre-colored lime stucco. The stucco is composed of a fine-grained sand containing a large amount of clay. Also contained in the stucco are large amounts of animal hair used as a binder. The density of this material makes it hard to distinguish the number of coats used in applying it; however, the finish or skim coat appears to be about 1/32 inch thick. It is slightly lighter in color than the other coats and does not contain any animal hair. Its exterior surface is scored and penciled to simulate an ashlar stone pattern across the building's walls. The pattern is composed of 10-inch-high, stone-shaped blocks ranging from 11 inches to 41 inches in width (figure 12). The scoring confining these areas is concaved to a depth of 1/8 inch and is 1/4 inch wide. The penciling in the scoring was done with a flat white paint applied in one coat. It complements and accents the ochre-colored stucco, causing it to exemplify the details of a building period. The scored stucco or simulated ashlar pattern is characteristic of some late Georgian architecture (ca. 1780-1800), but mostly to the Victorian Gothic style houses (1860-90). However, it is not known exactly when it may have been applied to the east facades of Gallatin's 1789 and 1798 houses.

When observing the unbroken pattern of scoring and stucco from the brick to the frame house, it is conceivable that all the stucco and scoring was applied at the same time and after completion of the frame house.

The above observation may suggest the following theories for the stucco application:

The stucco may have been applied after the frame house was constructed to create a uniform and formal appearance between

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Figure 12 - Penciled and scored stucco at east wall of frame house. A later stucco covers it. Clapboard siding of frame house also seen under wood lath supporting stucco.
the brick and frame houses at the east facade. Although the style of the houses was closest to a long "Virginia House," the uniformity and formality brought about by the stucco application would have enhanced its architectural appearance. When contrasted to the placement of its windows and doors, the house may have appeared formal and Georgian in style. Georgian architecture was popular during that era, and it is quite possible that Gallatin may have incorporated Georgian details in his house as well.

The stucco may have not been applied until after construction of the stone house in 1824 to bring about uniformity among the three houses (1789, 1798, and 1823) on the east facades. This work may have been done by Gallatin or late owners of the main house from 1860-89. It was also discovered that a very thin parge coat of a similar stucco resembling the latter was applied to the stone house at a later date. Its joints were also penciled to give the stonework a more uniform or ashlar stone appearance.

Two coats of a hard, gray-colored Portland cement stucco covers the ochre-colored stucco of the brick and frame houses and the finished brick wall in the south bedroom wings. The total thickness of this stucco is 1/4 inch, with individual coats measuring 3/16 inch for the base and 1/16 inch for the skim or final coat.

When examining several areas along the stuccoed wall, the stucco was loose and did not appear compatible with the ochre-colored stucco nor brick walls below. The areas of loose stucco show incompatibility to the materials below where its application has spalled the finished surfaces of the ochre-colored stucco and brick. Further contributions to spalling are because of actions of the elements in which the materials below were subjected. These materials have been subjected to moisture and have worsened because of freezing and thawing during the winter season and the fires of 1979. The fires and moisture conditions have also left the finish of the Portland cement stucco stained. Remnants of a paint or other finish pigment on the stucco surface has disappeared.
The technology or methods used to produce and apply the Portland cement stucco to areas of the house and its uninterrupted application suggest that it was applied after the building of the south bedroom wing around 1902 or later. Its application was probably administered by the Speer family or others in an attempt to modernize the main house at that time.

Under this and other coats of stucco the brick walls remain stable. The east wall, which was the only wall to receive two different stuccos, is also intact and so are the north and south walls. The north wall received its penciled joints and was later covered by the frame house. The south wall, which received both the penciled joints and whitewash, was later covered when the south bedroom wing was built. It is conceivable that the penciled joints on all the brick walls were done by Gallatin, and later, the whitewash of the south wall was applied.

Aside from the other walls of the brick house, the west wall deserves attention (figure 13). Some remnants of the penciled joints and plasters still survive on the wall; however, most have been destroyed by weather. Bonding patterns of the brickwork are somewhat different from that of the other elevations, and there are no brick arches above the windows. The exposed brickwork greatly shows the effects of weathering, as well as the effects brought about by the materials once covering it. The hardened and protective brick finish surfaces have spalled away, leaving exposed the soft and vulnerable interior surfaces of the brick unprotected. The effects of pitting and spalling have set in on the interior surfaces of the brick, gradually diminishing their cross sections and the strength of the wall they compose. If these bricks are left exposed, it is possible that they may be totally destroyed and will consequently destroy the wall.

3. Shutters

These fixtures are the same all around the house. They measure 56-7/8 inches high, 16-1/8 inches wide, 1-1/8 inches thick, and are painted green with shutter dogs and latches on hardware attached to the sill. One of the two shutters has interior hardware that lock from
Figure 13 - West wall of 1789 brick house: Deteriorated stucco and brickwork shown.
the interior of the house. Shutter hinges appear to be the first ones applied to the existing jambs. They close the shutter automatically and are attached to the jambs with modern screws.

4. **Sash**
   
   All sash have two-over-two lights. The lights in the sash appear to be unoriginal to 1789, and no distortion appears in the glass. The molding profiles appear modern, and there are no signs along the frame which indicates that previous mullions may have been removed to accommodate new ones. Consequently, it is conceivable that the sash are not original to the 1789 house and represent a replacement set. The size of each light suggests a construction date much later than 1789. The construction techniques used are similar to those used on the sash in the south bedroom wing. This suggests that the sash may have been replaced shortly before or during the time when the south bedroom wing was added.

5. **Window Frames**
   
   The frame of the windows at the east elevation extend out from the brick wall to form a molded trim around the exterior window opening and to provide a stop for the existing stucco wall surface. These differ from the windows on the other elevations in that the windows of the other elevations' frames terminate about 1-1/2 to 2 inches inside the building walls. There is a small molding that trims the window frame well inside the face of the wall. The basic window frames at all elevations are very similar. They are all built to accommodate sash weights and appear somewhat modern in design and construction.

6. **Water Table**
   
   The upper three courses of brick at the water table have been crudely cut, apparently to accommodate a later porch; not necessarily the porch that is now in place. The cutting of the brick was probably done long after the building was constructed. This water table is on the east elevation.
Porches

Along the east and west elevations of the brick house some remnants of the original porches are beneath the existing porches.

At the first floor of the east elevation, four stone walls were under the existing porch. These walls run perpendicular to the east wall of the brick house and are spaced approximately 8 to 10 feet apart. The walls are 18 inches above grade, and their spacing and construction suggests that they were once used for a porch support. These supports are believed to relate to an earlier porch structure; however, little evidence remains. Three of the walls are south of the front door and one is to the north.

Directly 9 feet above the water table are remnants of a historic porch or balcony covered by the existing second-story porch. The remnants exist in the form of joist pockets that appear to have been originally built into the east brick wall (figure 14). These joist pockets are spaced approximately 24 inches on center and are sized at about 3 by 8 inches. They fall approximately 5 inches below the second floor and are currently being used to support the framing of the existing porch.

The location of a historic second-story porch is further suggested by the termination of the penciled brickwork and the exposed ends of the second-floor joists at the exterior of the east wall. The joist ends appear to have originally terminated at this point, and the nail holes suggest that it was used to secure a baseboard which may have trimmed the porch. No evidence of the original baseboard remains. The baseboard of the present porch does not fit the nailing pattern nor the construction techniques of the 1789 era and is therefore not considered to be original.

No evidence of a historic roof or covering above this porch or balcony was found.

At the west elevation, remnants of a rear porch remain at the second story. The present floorboards are tongue-and-groove, measuring 1 by 4 inches and running north to south and parallel to the
Figure 14 - Remnants of earlier porch at brick house.
brick wall of the house. They span across the porch joists supporting them. The floorboards appear to be radially sawed and are attached to the joists with wire nails.

The joists below measure 3-1/2 by 7-1/2 inches with 2- by 4-inch members scabbed along their sides. The scabs provide a nailing system at the joist ends which have deteriorated. Also at the top of the joists are 2-1/2-inch by 5/8-inch strips that perform a similar function in addition to lifting the porch floor above the joists' surface. These and the scabs are radially sawed and are attached to the joists with wire nails. The existing joists are pit-sawed and are spaced approximately 1 foot 6 inches on center. They extend into the building wall between the second-floor and first-floor ceiling and are attached to the floor and ceiling joists with handwrought nails. These joists appear to be original.

At the north end of this porch, spanning from the stone kitchen's south wall where the porch begins and spanning 11 feet south, is a 3-inch-thick concrete slab. This slab is supported by porch flooring spanning over the joists below. The joists below have been reduced in depth so that the slab fits flush with the continuing porch flooring along the remaining portions of the porch. It is not known when or why the slab was poured; however, it has imbedded within a number of 1-inch galvanized iron pipes and fittings. These appear to have served plumbing or electrical fixtures at one time. The slab also supports a 6-inch cast-iron soil pipe that runs from a wye just below floor level down to a vertical run that is below grade. This pipe is now functioning as an extension of the roof downspouts. The slab does not extend to the edge of the porch but terminates about 4 inches away. Remnants of nails and markings along the edge of the porch in this space and at the south end of the slab suggest that there may have been a wall around the slab at one time. This wall may have enclosed a room (possibly a toilet).

The porch extends 6 feet 4 inches beyond the west brick wall, and its second layer of flooring appears to have been trimmed with a plain 1-inch by 10-inch baseboard with a 2-inch molding above. This molding and board are similar to other porches around the main house.
No evidence of a historic roof or covering above this porch was found, except as seen in the Day drawings of 1841-42 (figure 15). This shows a continuous roofline extending across the porch area from the main roof ridge. If this drawing reveals what the porch roof really looked like, it is possible that it was attached to the main roof by way of the member believed to be the fascia board of the cornice at the east second-story porch. If this holds true, it is conceivable that a porch roof covered both the east and west porch and that they were attached to the main roof in a similar manner.  

Although the existing physical evidence found at the site and the evidence presented in the historic resource study do not indicate any supports for the porch roofs, the porches, or balconies below, it is conceivable that they were supported in a similar manner to other porches of this style and period. A typical means for support of a porch during that building period and today would be a series of columns. In addition a balustrade would have been attached to the columns surrounding the porches at the second story.

It is not known exactly how the columns or balustrade may have looked; however, it is likely that they were plainly designed. The plain design of the porch and other elements of the building were compared to the designs of other late Georgian and Federal period country houses. The brick house appears to be representative of the period's country houses.

8. Attic (Figure 16)

At the attic level (room 306) a continuous space is formed by the roof's intersection with the gabled ends and knee walls of the building. This room has no finished ceiling but uses the temporary roof's truss rafters and plywood sheathing for that purpose. The walls of the room are also left unfinished. The knee walls are constructed of 2-by-4 studs with no finished interior surface, and the gabled walls are left as

Figure 15 - Day drawing 1841-42: See extension on 1789 brick house roof along stone kitchen to form porch at west elevation.
Figure 16 - Rooms 306 and 307 - attic levels of 1789 brick house and 1901-02 south bedroom wing (Room 307) in background.
exposed brick. Portions of both brick walls were removed to allow entry to the attic spaces of the frame house and the south bedroom wing. These walls are currently charred as a result of the fire. The rough window opening and a badly charred window frame remain over the stairwell on the north wall; however, no evidence of a window remains on the south wall. An examination of the window frame did not reveal any significant evidence of its construction period. The wood was charred too badly to detect any moldings or beads, or to determine how it was sawed. The frame members were about 2 inches thick and put together with both cut and wire nails. The member sizing may suggest construction of an earlier period, possibly 1789; however, some of the wire nails in the framing seems to contradict this date. It is possible, however, that the wire nails in the frame are due to later alterations. No sash for the frame remains; the opening is currently boarded up with plywood. The rough window opening appears to be original. All brick at the head, sill, and jambs of the windows do not appear to be disturbed. A rowlock course forming the lintel andjack arch at the exterior side of this window remained in place and has not been disturbed.

The flooring of this area is constructed of pit-sawed, 1-by 10-inch boards which appear to be original. It rests on a series of handhewn and pit-sawed 3-by 9-inch joists spaced 2 feet on center. These are also believed to be original to the brick house. The construction techniques used on the undisturbed flooring and its supports are incidental to this construction period. This floor and its supports appear to be structurally stable except at the stairwell where the header and other members supporting the stair have been badly damaged by the fire. Consequently, the stair landing dips downward in this area and flexes with the least bit of load applied.

Resting on portions of this floor is a later floor constructed of 1-by 8-inch radially sawed boards over sleepers. It is not known exactly when this floor was constructed, but it appears to have been built for a storage room once housed in the attic. Boards on the original floor noting the location of two dormers at the attic level also remain. The original attic flooring is charred from the fire.
9. Second Floor (Figures 17-20)

On the second floor, room 214, the 8-foot 6-inch ceiling of the room is badly charred and even burned away in some areas. In the surviving areas, it can be seen that the ceiling is constructed of a 3/8-inch base coat of a sandy lime plaster finished with a 1/32-inch coat of gypsum plaster. The lime plaster does contain some animal hair and is secured in place on a sawed wood lath. Next to the finish coat of gypsum plaster is a coat of white paint covered by what appears to be wallpaper. This wallpaper is badly charred, blistered, and burnt so that it is not possible to determine its color or date of origin. The location of this ceiling relative to the original joists above suggests that it is not original. Scabs are nailed to the bottom of the joists, lowering the ceiling from 2 to 3 inches. No traces of an earlier ceiling were found. The construction techniques used in producing the ceiling lath and securing the lath to the scabs and the scabs to the joists are also indicative of a later construction period.

Even the crown molding that trims the ceilings and the walls are of a later period than 1789. This molding is a 1- by 1-1/8-inch concave wood molding with a decorative plaster infill that covers the 1-1/8-inch concave surface of the molding's interior. The top 5/8-inch molding is convexed outward and upward to form a 5/8-inch bead. The bottom tapers inward to a 3/16-inch flat bead and then to a 1/4-inch concave surface below. The crown molding appears to have received a special coat of a gold-colored paint that was later covered with a white paint. This wood molding is machine-made and has been nailed and renailed with wire nails.

Aside from a wood partition wall that separates the two rooms, the finish walls of this room are all plaster which at one time or another received paint and wallpaper as finishes. The plaster is applied to handsplit lath and may very well be original. The wallpapers, however, appear very modern and it is unlikely that they are original. Most of them are badly charred, blistered, or peeling, which made it impractical to take good samples for testing.
Figure 17 - Room 213: Stairhall
Figure 18 - Room 214 north and east walls and ceiling

Figure 19 - Room 214 - north, south, and east walls and ceiling.

Figure 20 - Room 215 Ceilings and Walls
The plaster of the walls is a lime plaster containing large amounts of animal hair and measures about 3/8 inch thick. Its finish coat is 1/32-inch thick and is made of gypsum. Two paint colors can be seen on the walls; the first layer next to the wall is a white paint, and the second layer is an off-white paint. These appear to be applied in two coats and one coat respectively. Two layers of wallpaper lay on top of the painted wall surface. The first layer, which is next to the wall, is an olive green paper, and the paper above it is gray. The gray paper has alternating diamond and flower patterns running across its surface, and the flowers are pink roses shadowed in green and gray.

Beneath the plaster and wallpaper finishes, the partition wall between rooms 213 and 214 is constructed of a double layer of vertical and horizontal boards. It is not a stud wall. Sawed and handsplit wood lath is applied over the boards to receive the plaster. The boards are not uniform in shape or dimension and appear to be reused from other areas of the house. Several of them appear to be remnants of baseboard and flooring.

It is not known when the wall was constructed, but its crude workmanship suggests that it is not original. Other evidence found in its nailing and materials, however, indicate that a portion of it could be original with other portions constructed later. Evidence pertaining to the wall is inconclusive at this time.

Field investigation shows that this floor once contained four doors and seven windows. Four of the seven windows have been altered to create four additional doors. There are currently eight doors that appear to be of a later period. They are very similar in appearance and construction to those of the south bedroom wing.

At the south wall two windows were discovered. One was found behind a false wall at the southwest corner between two cabinets. The first wall was framed into the window jambs, using 2- by 4-inch studs to which were attached radial sawed 1-1/2-inch by 1/2-inch wood lath providing a surface for plaster. The plaster used appeared to
be an early plaster and contained animal hair as a binder. It is very similar in composition to the plaster laid on the remainder of the south wall abutting the window's rough opening. A noticeable difference in the two plasters is that the plaster of the false wall was applied in one 1/4-inch coat and was never painted. The plaster on the brick was applied in at least three coats and has a 1/32-inch finish coat of gypsum and paint covering it, like the plasters of the other walls of the room. The scratch and base coats are approximately 1/2 inch thick whereas the finish coat is only 1/32 inch thick. It does not contain animal hair like the other two but is made of gypsum and is basically painted white.

A grayish/pinkish flowery wallpaper is applied next to the painted wall abutting the window. It extends between the west side of the chimney to the west wall. This paper extends between both cabinets and is only in this area of the room. The paper appears to be modern rather than one from the Gallatin period.

The second wall is constructed of 1- by 1-3/4-inch vertical nailers spaced approximately 1 to 2-1/2 inches on center. These are nailed over another set of horizontal nailers of the same size, spaced approximately 2 feet 7 inches on center. The sandwiched two sets of nailers make up the wall framing. This wall is finished with approximately 1/2 inch of plaster that appears to be a much later plaster than that of the latter wall. This plaster, like the latter, sets over sawed lath that is attached to the studs with wire nails.

The rough masonry opening of this window measures approximately 2 feet 10 inches by 4 feet 6 inches, and the exterior jamb returns 2 inches beyond the point where the wood window framing would have terminated. It is whitewashed. No evidence of the original window frame remains in the opening, except that nailers are inlaid in the rough brick masonry jambs. On the interior wall near this window the plaster does not appear to stop at a distance to approximate the thickness of an architrave which may have trimmed the window but continues up to the rough opening. It also does not appear to have been trimmed at the edge of the window which suggests that it may be a later plaster.
Another window at the south wall was discovered when observing the trim of the door. The trim near the bottom of the door was cut off at the baseboard panel. This panel like those of the other windows helped to form the window baseboard and wainscot panel board which had been cut out to form the door. It is most likely that this would have only taken place during the addition of the south bedroom wing.

On the east, west, and north walls in the stairhall (room 213), it was discovered that the doors here were once windows. The north door was probably added when the frame house was constructed and so were the entry doors leading to the porches from the stairhall. The moldings of all the doors and windows, however, are of a later period.

Evidence of the broken brickwork at the bottom of the doors shows that the brick probably continued across to form windows at an earlier time.

The doors and windows are currently trimmed with architraves that are basically plain in design but have Grecian ogee and bevel moldings running vertically at one-third its width. The same molding is duplicated in an attached backband that is about 2 inches wide. The basic architrave to which the backband is attached is roughly 5-1/2 inches wide. Its top and side pieces are mitered up to the back edge of the molding and then carried vertically from that point on. The construction of the molding appears to have been done by machine and is later than 1789. They are attached to the rough bucks and window jambs with later cut nails. The basic design of the architrave seems to simulate details of the Greek Revival style much like the details of the molding that trim the door panels. These moldings are all applied to the paneled doors with sprigs.

The paneled door construction and its hardware appear to be middle to late 19th century construction and detailing. No alterations to the doors or their hardware have been made. Their interior surfaces
are painted to match the interior trim much like the windows. The windows are also of a later construction, with a two-over-two double-hung sash. Based on the construction techniques used, these do not appear to be the original windows of 1789. Further inspection of several windows during the removal of their trim, jambs, etc., indicate that alterations to the window frames had taken place and the sash were replaced.4

The baseboards are plain except for a 1-inch beaded mold, with a smaller bead trimming its underside. A quarter-round toe molding trims its foot at the floor.

The floor in this area is currently unstable because of the failure of joints in the structural framing below. The framing is two 8-by 8-inch handhewn summer beams with a series of 3- by 8-inch pit-sawed joists framing into them. The framing connections are made with mortise and tenon joints that become weak at the summer beam toward the west elevation. This causes the floor to sag, requiring present support from below.

There are two layers of flooring currently covering the floor framing. The layer resting on the framing and extending into the stairhall measures from 6-1/2 to 8-1/2 inches wide and 1-1/8 inches thick. These are tongue-and-groove boards that are handplaned on top and sawed below.

In the stairhall a portion of these were cut out near the partition. It appears as though they failed in that area at one time.

Outside the stairhall and back into the large room (room 214), the floor above is covered by later flooring. Sleepers measuring 1-1/4-inch thick with varying widths and spacing were nailed on this floor to accommodate the later flooring. The later flooring is constructed of 1- by 3-1/2-inch tongue-and-groove boards and is the finished floor at

4. Ibid.
this time. This raises the floor in the large room approximately 2-1/4 inches above the stairhall floor. The widened board of the stairhall floor and that beneath the later flooring is believed to be original.

A fireplace and chimney sits at the south wall of the room. The construction of the fireplace and chimney is brick, which is covered with a Portland cement stucco at the chimney above the roof and an interior fireplace surrounded by a wooden mantelpiece.

The mantel is comparative in style to mantels of the Greek Revival style and in many ways resembles mantels in other areas of the house. Distinguishing features of the mantel include beaded pilasters trimming the jambs around the brick opening of the fireplaces. These are attached to a plain trim supporting the mantelpiece. This mantelpiece has a series of ovolo and cavetto moldings extending over the edges of the jamb. Within the fireplace opening is a cast-iron grate setting over a copper gasline that once supplied fuel to the fireplace. This line is no longer working.

10. First Floor (Figures 21 and 22)

The first floor is arranged so that two major rooms have a partition running between them from the east to west wall. There is a door at the east end of the partition. The south room is the major room (room 114), with the east room (room 113) being the stairhall that extends to the second floor to form room 214. On the first floor at the west end of the stairhall is a door leading to a small room at the extreme northwest corner of the room. Off this room is the stairway to the basement and the door and stairway to the kitchen area.

Exploration of the first-floor partition walls indicated that the wall at the extreme west end of the stairhall is made up of handsplit lath attached with an early cut nail at the location where the wall joins the major east-west wall. The portion of the wall to the west has modern sawed lath attached with wire nails. The portion of the wall to the east is comprised of what appears to be beaded boards placed vertically. The boards measure 6-7/8 inches wide. On portions of this wall there is also
Figure 21 - Room 113: Stairhall
handsplit lath attached directly to the boards with early cut nails. Portions of these boards were removed, and a sawed lath was applied. It appears that an earlier plaster was removed and the wall was replastered a second time.

The door in the south wall is a six-panel door with mortise lock-and-pin hinges. It appears that this door has not been reused from another location. The molding profiles of the door and of the architrave match those that are original to the south bedroom wing. Of interest is the wall plaster surrounding the architrave. It was crudely chiseled to accommodate the installation of the new doors and its frame. The architrave was not removed to determine if there may have been an original window or door in this location, which would have related to the south wall of the 1789 brick house before construction of the south bedroom wing. This door has an architrave with plinth blocks that match those of the two windows on the east (front) wall and those that are missing on the two windows of the west elevation. The door measures 88-1/2 inches high, 33-1/4 inches wide, and 1-3/8 inches thick. The architrave is 7-1/2 inches wide. The jamb and head panels are plain boards measuring 17 inches in depth and help to support the brick wall of the former 1789 house's south exterior wall.

A window was uncovered on the south wall (the former south exterior wall of the 1789 brick house before construction of the south bedroom wing). This window sits directly below the second-floor window above. Small amounts of plaster were removed from the upper left and lower left corners of this window as one faces it from the interior. The investigation shows that a wood lintel had a brick relieving arch located above, and its crude construction indicates that the interior was always intended to be plastered. The investigation at the base clearly indicates that the brick infill continued below the window sill and did not have a paneled inset on frame construction as in the case with the other windows on the floor. Of interest is the plaster covering the infilled brick area. It is surprisingly similar to the plaster covering the surrounding brick wall. The rough window opening measures approximately 5 feet high by 3 feet wide. The infill of that window is of
an earlier material not found in the south bedroom wing addition, suggesting that the window was closed much earlier, possibly for an earlier structure, before the building of the south bedroom wing addition. However, no remnants of an earlier structure were found.

The windows along the west wall of the first floor are interesting because they are different from those of the east wall. From the exterior the three windows appear similar. The wood lintels are exposed on the exterior, and investigations from the interior side of the wall suggests that they are original because of the continuity of masonry surrounding the lintel. The sills of the windows on the exterior are in relatively good condition and are massive. Because of profiles and the sizes of the glass, the sash appear to be a later modification.

The windows have sash weights and exterior shutters. Not all of the windows of this floor were dismantled to avoid destroying a lot of fabric. In those areas that were dismantled, there were cut nails found holding the frame and trim together.

On the interior side, the windows below the sill have a paneled wood area that is inset one wythe of brick. Of interest is the void from the sash weights. The brick behind the window jambs is not notched. It, therefore, appears that the sash weights are a later modification because the rough opening of the once enclosed south elevation windows have no voids built into them to accommodate the sash weight pockets in the jambs. What would be helpful is to open up the existing flooring to see which floor relates to the window.

The main door at the east elevation of the first floor is an eight-panel door with a similar surrounding on the jambs and head panels. The door measures 94-1/2 inches by 45 inches and is almost identical to other interior first-floor doors at the 1823 stone addition to the house. Its dimensions were compared with the other interior doors and were found to be similar. Its dimensions were compared to the openings on the exterior doors to ascertain whether or not it may have come from those openings when they were altered; however, this door was
approximately 12 inches short of filling the entire opening. It may have come from the opening in the wall between the two first-floor main rooms (rooms 301 and 302) and was removed and relocated during the time when the opening was enlarged.

11. Stair to the Second Floor and Attic (Figure 17)

When examining the stairs, it appears as though the construction techniques are dissimilar to other earlier interior finishes such as the vertical board interior partition on the first floor. In particular, the risers and treads, the handrail and balusters, and the baseboard trim alongside the stairs are much more finished than the earlier partitions. Closer examination shows that the assumption is correct. By removing the baseboard running adjacent to the stair, there is a finished whitewashed plaster. Framing on the second floor and in the basement indicates that stairs have probably always been in this area of the house. A sawed lath with cut nails finished the ceiling and the wall below the stairs, indicating that it may have been a later improvement to the house. Also of interest is the height of the stairs' first tread above the first floor. The riser height is 5-1/2 inches above the floor; all the others are 7-1/2 inches from tread to tread. This indicates that the stairs relate to the first and possibly the original floor. All lath and the existing ceiling relate to the existing stairs.

12. Floor

The existing chair molding and baseboard appear to be from a much later period because they relate to the third type of flooring material. The three flooring materials are as follows from bottom to top:

First: 1 inch thick, 6-1/2 to 7-inch tongue-and-groove, laid directly on original joists

Second: 1-1/2 inches thick, probably tongue and groove, laid directly on first floor

Third: 7/8 inch thick, 3-3/8-inch tongue-and-groove, laid on 1/4-inch sleepers
The framing below is hewn members mortised and tenoned together. There is one large summer beam midway in the structure running east and west. Floor joists run north and south and measure 8-1/2 inches by 3 inches and are 24 inches on center. The summer beam frames into a large wood sill plate on the west wall resting on top of the stone foundation wall. The stone foundation wall is approximately 18 inches thick and is coated with pargeting and whitewash. The basement floor is covered with a pargeting in poor condition. Two stairs lead to this basement space; one exterior stair from a bulkhead and one interior stair from the stairhall above. The bulkhead stairs and doors do not appear to be original. The stairs are obviously modern because of wire nails and dimension lumber.

13. Bulkhead Doors
The doors are made of narrow beaded boards attached with wire nails. However, the strap hinges and pintels set in stone appear to be handwrought hinges and pintels and may be original or certainly old. Cuts in the stone indicate that the original bulkhead door had two horizontal boards and not three as currently seen. These held the vertical boards in position.

14. Basement (Figure 23)
The existing stairs to the basement do not appear to be original. The floor joists were cut approximately 4 feet south of the north wall, and a beam was installed which runs east and west and supports the cut joists. Construction techniques used in the framing around the stairs suggest that the modifications may have occurred early in the building's history or possibly when the state dining room was constructed and the passageway under the frame house was installed.

The original framing was a summer beam running east and west with joists at 24 inches on center. The joists frame into the summer beam and the north and south stone walls. The joists and bottom of the first floor floorboards have whitewashed finishes just like the interior surfaces of the stone walls.
Figure 23 - Basement 1789 brick house
The windows on the east wall have been filled with stone from the interior.

The east basement wall is suffering from moisture migration and the wall has a pronounced inward bow. Red brick laid on end has been infilled at the base of the wall to make it appear less bowed. However, the water migration is still a problem, and the wall may require relaying/repointing for stabilization.

B. 1798 Frame House
The 1798 frame house built by Albert Gallatin is adjacent to and north of the 1789 brick house. It, like the brick house, has walls covered with layers of stucco dating later than its original construction period. The plan of the house is basically a 20 foot- by 20 foot-square spread out over 2-1/2 stories.

1. Roof
Covering the house is a temporary roof; the same which now covers the 1789 brick and later additions to the house. Beneath this roof was found remnants of two earlier roofs that once covered the building. One is believed to be the original roof to the building, whereas the other is a later roof (the roof that existed just before the 1979 fires).

The original roof framing, as seen from the remnants found in the northeast corner of the frame house, slopes from 0 to 7 feet above the attic floor. All portions of the framing are roughly hewn members, and their connections appear as seen in the photographs and drawings (figures 24 and 25). The 3-1/2-inch by 6-inch rafter's lower end abuts and is connected with handwrought nails to a 1-1/8-inch by 6-1/2-inch rafter plate. This extends beyond the last attic floorboard at the projecting roof cornice. This cornice is formed by the attic's 3-1/2 inch by 8-inch floor joists that extend approximately 10-1/2 inches beyond the original east frame wall.
Figure 24 - Original roof rafter and plate of frame house at far right. Later roof lies above.
The connection of the lower end of the rafter at the cornice would have held true for all other rafters of this roof; however, the upper end or ridge end connections would have been somewhat different. Because the rafter found is an end rafter, its upper end terminates at the chimney and is connected at that point to framing built around the chimney. On the other hand, an interior rafter's upper or ridge end may have been half-lapped and pinned into the ridge end of an opposite rafter, or the two opposite rafter ends may have been connected to a common ridgeboard at the ridge. Either of the ridge conditions would have been typical for a house during that period (see figure 26). From the spacing of ghost marks and nail holes found at what remains of the rafter plate, it is conceivable that the rafters were spaced about 2 feet apart.

On top of the rafters were found ghost marks and nail holes that indicated sheathing spaced to accommodate wood shingle roofing. The ghost marks reflect that the sheathing was approximately 2 inches wide and spaced approximately 5 inches on center. A few pieces of a sawed shingle were found in the vicinity of the rafters, but it is not known whether these are original to the 1798 roof or leftovers from the later roof above. Nevertheless, it is conceivable that a wood shingle roof was constructed on the 1798 frame house as determined by the evidence found on the rafters. It is most likely that the shingles were hand-split; however, they may have been sawed, since Albert Gallatin did own a sawmill at one time.

Remnants of a later roof rising above the original roofline were also found in the northeast corner of the frame house (figures 24 and 25). It is not known when this roof was constructed; however, the rakeboard at the north gabled end is very similar to those of the 1823 stone house's gables (see figures 27 and 28) and the roof's slope relates to that of the 1901-02 south bedroom wing, 1789 brick house, and existing two-story verandah at the east elevation. This roof can also be seen in an 1880s photograph (figure 29).
Figure 25 - Original roof of 1798 frame house and later roof above. Scale: 1" = 1' 0"

LATER ROOF (SEE DAY DRAWINGS 1841-42)

RAKBOARD RESEMBLING THAT OF 1823 STONE HOUSE'S RAKEBOARD IS ATTACHED TO OTHER SIDE OF THIS MEMBER. SEE 1823 RAKEBOARD AND PHOTOS OF THIS ONE.

1" x 11" SHEATHING ON ROOF WITH 16" SHINGLES. SHINGLES HAVE 1/4" BUTTS AND 5" EXPOSURES. THEY ARE LAYED OVER BUILDING PAPER. CUT NAILS MEASURING 1 1/2" AND 2 1/2" USED TO ATTACH SHEATHING TO RAFTERS.

VERTICAL SAWN SHEATHING

GHOST MARKS AND CUT NAILS SHOW APPROX. 2" WIDTH SHEATHING ON RAFTERS @ 5" O.C. SHEATHING SPACING INDICATES WOOD SHINGLES USED.

1 1/8" x 6 1/2" PLATE

3 1/2" x 8" JOIST

5 1/2" x 7 1/2" GIRT 10 1/2"
Rafters and posts were framed into a series of modified queen post trusses. As each truss was raised and put into place, horizontal purlins were added to support the common rafters. Some large buildings had diagonal braces in the roofing system, but at Wetherburn's Tavern, the purlins and the wood shingle lath sufficed as bracing elements.

Figure 26 - Possible roof and wall framing at 1798 frame house. Drawing of Wetherburns Tavern, an 18th century frame house. Drawing taken from Charles E. Peterson, Building Early America, 1976.
Figure 27 - Rakeboard at north elevation of frame house. It resembles rakeboard of the 1823 stone house (Figure 28).
Figure 28 - Rakeboard of 1823 stone house at east gable.
The rakeboard is constructed of four 3/4-inch by 3-1/2-inch tongue-and-groove members that run parallel to the roof slope. The rakeboard's top and bottom edges are trimmed with moldings that are part of the top and bottom tongue-and-groove members. These protrude approximately 1-5/8 inches beyond the rest of the rakeboard. Although the brackets are now broken off, there are places on the remaining rakeboard where the brackets were once attached. The spacing and sizing of vertical boards for the brackets is very similar to the spacing and sizing of brackets at the 1823 stone house. The fire has badly charred all of the paint on the rakeboard's outer and inner faces so that no suitable areas are left to take paint samples. However, beyond the surface once containing paint is seen vertical or sash sawed marks on the wood. Portions of the rakeboard and its supports are nailed together with cut nails.

The supports are hewn and pit-sawed rafters measuring 2-1/2 inches by 4-3/4 inches, attached to a group of 1-inch by 6-inch studs that serve as framing members for the wall below. These studs are spaced 24 inches on center, with the first member positioned approximately 23 inches away from the frame house's east wall framing. They are made flush with the inner edge of the rakeboard through the application of wood scabs that are cut the exact depth and thickness of the rafters. The scabs are spaced the full distance between the vertical framing members, and because of irregularities in the dimensioned boards, their union gives the appearance of a rabbeted piece of lumber when viewed from below. The vertical members fitting between the boards help form a lap joint.

The combined rafter and the scab make up one 2-1/2-inch by 4-3/4-inch rafter at the end gable. Farther down along the rafters over the porch are remnants of wood shingles and sheathing that once covered the roof (figure 30). The sheathing is 1-inch by 11-inch closely spaced boards, and the shingles are 16 inches with a 1/4-inch butt. The shingles were placed over building paper and had a 5-inch exposure. Both 1-1/2-inch and 2-1/2-inch cut nails were used to attach shingles and sheathing to one another and to the rafters.
Figure 29 - 1891 photograph showing stone house and 1798 frame house's north gable in background at far right. Notice rakeboards of stone and frame houses. They are similar.
Figure 30 - Remnants of later roof. Sheathing and shingles shown.
Below the rakeboard and the outside face of the vertical framing is attached, radially sawed 1/4-inch by 1-1/4-inch wood lath. The lath supports a gray stucco resembling the stucco at the east elevation of the house; however, unlike the stucco at the east elevation, it contains animal hair as a binder. Its texture is much like that of the ochre-colored stucco, suggesting that it may have been installed around that time. However, the extent of its application is only seen above and flushed to where the original roof of the second-story passageway once stopped and below and flush with the bottom of the rakeboard. The plaster lath does not appear to have been trimmed to accommodate the roof or rakeboard but was applied only after the roof and rakeboard were installed. This plaster is not scored or penciled and is probably predated by the ochre-colored stucco at the east elevation.

2. Walls

The wall construction on the east and west exterior walls of this house consists of half-timbered framing members with brick infill. The timber members appear to be handhewn members that measure 4 inches by 6 inches to 8 inches by 8 inches in cross section. The framing is constructed with horizontal and vertical members to form windows, doors, sills, and some intermediate members for rigidity. Cross members are placed along the corners of the frame for bracing (figure 26). Members of the frame are connected with nails and some wood dowels in the mortise-and-tenon joints. The brick infill is placed above, under, and to the sides of the door and window openings to form a solid wall. Some lath is attached to the interior walls that received a plaster finish. The exterior exposed walls of the east and west elevations were finished with clapboard siding nailed directly to the wood framing with early cut and handwrought nails.

The clapboard siding is approximately 3/4 inch thick and ranges from 7 inches to 8-1/2 inches in width. A 1/2-inch bead was placed at the lower edge of each board, and the boards overlap one another by approximately 3/4 inch. The siding appears to be handplaned after being pit sawed. This siding is seen only at the east elevations.
At the west elevation the clapboard siding is not in place, but the evidence left by nail holes and ghost marks on the framing indicates that it was once applied. The existing wall consists only of the exposed wood framing and brick infill which is currently covered with plastic. The brick appears to be soft, and it is evident that it was never intended to be exposed to the weather. Deterioration due to weather has set in on the brickwork, and if not arrested promptly may degrade the structural integrity of the wall.

The only exposed portion of the west elevation wall is the area above the east gable of the stone kitchen (figure 31). The gable of the kitchen tightly abuts the frame house's west wall. It is conceivable that under these circumstances the portion of the clapboard siding was removed and replaced by the stone wall when the 1824 stone kitchen was constructed; however, this is not conclusive.

The south wall was never clad in an exterior siding because it has always abutted the north wall of the brick house. Nevertheless, some unusual features are on this wall. It seems to be pieced together with framing members made of scrap materials from other buildings with no brick infill, but the exact origins of the scrap materials were not identified.

Evidence consisting of nail holes and ghost marks on the north wall indicate that clapboard siding was once applied. This occurred before the plaster finishes were installed and certainly before construction of the original one-story passageway that once connected the frame house and the 1823 stone house. It is likely that the siding was terminated at the sides of the original chimney because there is no evidence of nailers in the brick chimney stack. The chimney protrudes 3 inches beyond the plane of the siding, making it impossible to run the siding continuously across the wall. The clapboard siding was trimmed with 5-inch corner beads at the corners of the structure.

At the northeast corner of the house two major areas were investigated on the exterior wall: the corner where the east wall of the
Figure 31 - Photograph showing from left to right: state dining room addition passageway, frame house, brick house, servants' quarters, and stone kitchen in lower center of page. See exposed brickwork of frame house above stone kitchen gable.
frame house intersects the state dining room wall, and the north wall under the first-floor baseboard of the state dining room passageway.

At the intersection of the frame house and state dining room area walls of the first-floor passageway, one to two layers of stucco containing cement were found. These were applied over the ochre-colored stucco that contained animal hair. At this location there was no scoring or penciling in the stucco to give it the appearance of ashlar stonework. The stucco was attached to diagonally placed handsplit lath that was attached directly to the frame wall. This appears to be the same stucco found on the east wall of the brick house, and there was no clapboard siding found in this location as was the case at the exterior level of the second floor directly above.

On the north wall of the same corner, baseboard was removed from the passageway area of the state dining room. Under the baseboard was plaster on sawed lath held in place with wire nails. This lath was attached to studs and behind those studs was a plaster wall (two coated) attached to split lath and to the framing of the frame house. The surface of the plaster was whitewashed (gray now) and the plaster was the ochre color. Because this plaster was exposed to the exterior side of the frame house wall and sheltered, it is assumed that this was an interior plaster of the earlier one-story passageway which once connected the frame and stone houses. The structural frame members appeared to be in surprisingly good shape. A wood floor was found which was approximately 4 inches below the existing finished floor. Its surface looked chalky as if it had been whitewashed at one time.

The investigation of the northwest corner of the frame house revealed that there was sound handsplit lath that held the plaster which would have been an interior finish of the frame house before the cupboard adjacent to the fireplace was installed.

The investigation of the frame house walls revealed that most, with the exception of the west wall, are structurally stable but should have future repairs.
This 2-1/2-story structure has three floors; the first floor, second floor, and attic floor or what is left of it.

3. **Attic**

The attic space (room 306A) is formed by the intersection of the temporary roof rafters (top chord) and the attic floor or second floor ceiling joists or bottom chords of truss rafters. Most of the original and secondary roof rafters and floor joists have burned away, leaving mainly the bottom and top chords of the temporary roof's truss rafters in place. These are supported from below at center span by a post and beam prop which is supported by the second floor. The members of the truss rafters are sized the same as other structural members of the temporary roof.

a. **Floor**

Between the temporary roof's bottom chords and the frame wall are remnants of the original floor joists. The remnants measure approximately 12 inches in length and sit on the frame wall's top plate. Typical to these walls are the 3-1/2-inch by 8-inch joists found in the northeast corner of the frame house. Most of the flooring was destroyed by the fire; however, pieces of a later flooring survive above the joist remnants. The surviving flooring measures approximately 1 inch by 3 inches and spans an area no more than 12 square feet. This flooring is bordered on three sides by the intersection of the floor joists and rafters at the east elevation, the chimney at the west elevation, and the wall at the north elevation. From the appearance of the flooring and the portion of the north wall that survives, it is conceivable that this area may have been used as a finished space. The flooring appears to have extended to the south where the room was entered from an entryway cut into the north attic wall of the brick house. Most of the area around the wall is heavily charred and the rough masonry opening is partially chipped away. No finished jambs within the opening survive.

b. **Walls**

On the north wall of the frame house the interior finish that survives adjacent to the surviving attic flooring is plaster.
Figure 32 - Attic Room 306A above and second floor Room 209 below.
The plaster appears to be applied in one 1/4-inch coat on a sawed lath attached with wire nails to the wood framing of the wall. The plaster finish is covered with a wallpaper that had been heavily charred so its color cannot be detected. A 5-inch beaded baseboard with toe molding trims the base of the finish wall.

Based on the examination of the fabric on the walls and flooring of this area, it is conceivable that the finish fabric is representative of a later alteration to the frame house attic. Furthermore, the finishes of the knee walls and the remnants of an attached partition suggest that the space may have been used as a small office or maybe another finish room of that sort. The area may have gained light through a two-windowed dormer as seen in Unrau's report. Because of destruction of the flooring and its framing by fire, no additional evidence of the dormer remains.

The chimney that passes through this space shows evidence of alterations. Its stack was moved off-center of the original roof ridge of the 1798 house about + 5 feet to the west. When examining the chimney, it was concluded that the present chimney stack accommodated the location of the later roof ridge, and the alterations to the chimney may have occurred only during construction of the later roof. This is the same roof which was earlier finished with wood shingles, as seen from the physical evidence, and later finished in asbestos cement shingles. The chimney stack does not protrude beyond the roof at this time but shows in the earlier photograph. It is likely that the chimney may have collapsed during the fires of 1979 and was never rebuilt when the temporary roof was constructed.

4. **Second Floor**

On the second floor (room 209-figure 32) most of the fabric has been left badly damaged, destroyed, or exposed. This results from the continuation of the fire down to this floor.

5. Ibid., p. 182.
a. Ceiling

Most of the ceiling that was once supported by the former floor joist of the attic is burnt away. When examining the remnants, it was discovered that this is a later and not the original ceiling. What appears to be the first or original ceiling of the house is a plaster ceiling. What little remains of it was found just below the flooring remnants in the northeast corner of the room. The plaster appeared to be a lime plaster applied in two coats. The first coat was about 1/4 inch thick and was placed over a handsplit lath nailed to the floor framing with sprigs. It contained some animal hair as a binder. The second coat of plaster, or the finish or skim coat, appears to be merely a 1/32-inch coat of gypsum. One could make out that it was white; however, it was as badly charred as the ceiling paper that covered it. The paper appeared to have been applied in two layers; however, the colors or designs of the paper were not identifiable. There was no crown molding found near the remnants of the original ceiling.

Remnants of a later ceiling were also found in the northeast corner of the room. This ceiling suspended about 5 inches below the original ceiling on 1-inch by 7-inch scabs which were attached to the sides of the original joists. There is sawed lath attached to these scabs with wire nails. The lath supports a plaster that has less lime in it than the plaster of the first ceiling. This plaster is applied in several coats with the finish or skim coat composed merely of gypsum. There are several layers of wallpaper over the finish plaster coat, however, these too are charred, and their colors or designs are not identifiable. It is not known exactly when the later ceiling was installed, but it can be seen clearly that it relates to the fireplace mantel and the cornice molding. In relation to other areas of the room, wire nails were used in the ceiling construction as compared to the handmade cut nails used elsewhere. This does not conclude that the alterations to the ceiling and the installation of the cornice and fireplace mantel took place at the same time; however, it is conceivable that they were original but were installed at a later time. The nail holes do not appear to be reused, and there are no indications that the components of the members were taken from other locations in the house. The construction techniques used on the pieces appear very
modern, and they are very similar to those used at the south bedroom wing and state dining room. The possibility exists that the chimney mantel, cornice molding, and later ceiling may have been installed around the time when the south bedroom wing and state dining room were built.

The crown molding that trims the ceiling and tops of the walls measures approximately 5 inches wide. It is basically an ogee molding trimmed at the lower edge with a double ovolo curve and a frieze of dentils. The architrave trimming the frieze is also designed with a series of ovolo curves so that the trim and the basic design of the cornice are done in the Greek Revival style which carries through to the fireplace mantel. What survives of the cornice is mostly seen on the east wall and portions of the north wall and fireplace mantel. The surviving pieces are heavily charred or burned away.

b. **Fireplace and Fireplace Mantel**

The fireplace mantel on the north wall is constructed of a series of 1/8-inch-thick, 7-inch to 10-inch-wide plies installed over a 3/4-inch base and framing. All are attached with wire nails and run from the floor to the later ceiling. There is no evidence that components were relocated. The mantel, like the cornice which trims it and the ceiling it abuts, appears to be a "turn of the 19th century" installation. The mantel is also designed in what appears to be the Greek Revival style and is described as follows:

. . . Plain pilasters trim the brick jambs and header of the fireplace. These pilasters are trimmed with a very small ovolo molding with the outer and larger molding measuring 1/2 inch and the inner and smaller molding measuring 1/4 inch. The smaller molding is recessed 3/4 inch in from the outermost point of the larger one. To the outside edge of the outer molding is a 1/2 inch x 3/4 inch integrally formed strip which trims the entire fireplace opening and mantlepiece. It is cleared a distance of 12 inches away from the fireplace opening or firebox.

The mantle top rises about 6 inches above the header trim and is similar in appearance to the pilasters. It is trimmed below with a 1/4 inch cavetto molding or bead which is integrally formed into a plain 2 inch frieze. Above the frieze and directly below the mantle top is a 1-1/4-inch bead
projecting 1 inch beyond the frieze. There is also a 1/4 inch-wide by 1/8 inch deep groove between the frieze and the mantle top which projects another 4 to 4-1/2 inches beyond the bead. Its edges are bullnosed and above the top is a full arched pediment which connect with the two pilasters and placed over the vertical plys. The bottoms of the pilasters are plain and to some extent imitate the pilasters of the mantelpiece area below the top. However, the top half of the pilaster is more decorative. It is constructed with a series of reverse curves (ogee) approximately 1/2 inch wide, with the number of curves totaling seventeen. A series of beads with dentils below them trim the bottom edges of the pilasters and mantle while the continuous ceiling cornice trims the top.

The fireplace appears to have been relined with a brick veneer similar to that used in the fireplaces of the state dining room, the servants' quarters, and the 1789 brick house. The veneer has been applied over an older fireplace that appears to be original. A cast-iron grate sits in the firebox to accommodate the wood or coal used, and a gasline has been installed. The brick veneer and mantelpiece of the fireplace are loose and require immediate attention. The hearth of the fireplace has also been altered. Evidence on the floor shows that the floor was cut back to repair the old hearth or to install a new one. The present hearth does not appear to be original.

c. Cupboards

Cupboards are located on the north wall between the fireplace mantel and the west wall. The outer appearance of the cupboards looks like those in the 1823 stone house but their construction is fairly modern. They are put together with wire nails and are constructed within the framework of the fireplace mantelpiece. No evidence indicates relocation of components. It is most likely that these cupboards were installed at the time of the fireplace mantelpiece.

d. Walls

The interior plaster wall finishes of this room are badly damaged, and most of the existing evidence has been destroyed. The east wall (or what is left of it) is heavily charred, leaving the wallpaper barely identifiable. Plaster beneath the wallpaper is a lime plaster and contains large amounts of animal hair. It is plaster applied in
approximately three coats, with the scratch and base coats measuring about 3/16 inch and the finish coat about 1/8 inch. The finish coat contains less animal hair and has approximately two coats of white paint (Munsell 10PB 9/1) applied to the surface. A wallpaper is applied over the paint. The paper has a pink and green flowered background and appears rather modern. Its texture is like a woven piece of cloth but is much thinner. This wallpaper has been found on all four walls of the room covering the same lime plaster as described above. It is conceivable that the bulk of the plaster and paint found on all four walls is original, but the wallpaper is a later installation. The paint and plaster run behind the later crown molding, but the wallpaper does not. It is most likely that the wallpaper was installed after the crown molding or around the time when the south bedroom wing and state dining room were built.

Other walls of the structure have virtually the same stucco as the east wall. This stucco has suffered severely from fire and moisture damage, and most of it has deteriorated and fallen. Wallpapers have gone through the same exposure and they too have deteriorated.

The interior plaster finish of the west wall is damp, has many minor and major cracks, but is basically stable. It appears as though the plaster and wallpaper have been affected by the migration of water onto its surface through the porous, exterior brickwork of the wood frame, brick-nogged wall. What survives of the wallpaper is badly stained and loosened, and it appears to be a later wallpaper. The paper is a pinkish/greenish color embroidered with flowers and structures against the background. It was installed on the wall in long narrow sheets that are beginning to separate from the wall surface. This exposes several layers of the white paint, which appears to have been the finish wall surface before installation of the wallpaper.

Conditions of the wallpaper and plaster on the interior south wall are very similar to that of the west wall except that most of the plaster work has fallen. A large portion of the plaster in the east and west corners of the wall has fallen, leaving exposed the wood framing beneath and the penciled joints in the north wall of the adjacent
brick building. The plaster is applied on sawed and split lath that is attached to the framing with cut nails.

The east interior wall finishes of this area are also stained and damaged by cracks, but they are stable. Finishes are the same as those for the other walls, except that this wall is the only one with windows.

e. Doors, Windows, and Trim
The doors, windows, and their trim look very much like those of the 1789 brick house. The doors are basically paneled with six panels that are secured in place with applied molding strips. This holds true for both the interior and exterior doors. On the door openings along the north and south walls of the second floor, peculiar conditions exist. When leaving the frame house through either of these doors, one must step up to enter the other portions of the building because of the difference in floor elevations. When entering the 1789 brick house, the difference in floor elevation is about 7 inches, and when entering the state dining room addition, one must step up about 14 inches. The door leading to the state dining room was installed when the state dining room was built. Evidence of the 1841-42 Day drawing (figure 15) shows that this door was once a window. Further investigation of the structure has verified this. The transition between the floors at this location and adjacent structures of the main house is made by steps leading up to the doorways. Consequently, the two doors, one at the north and the other at the south elevation, sat higher than the main entry door which leads to the porch at the east elevation. The door at this location is set level with the floor of the room (room 209) and porch flooring. The two floors appear to be at the same elevation. The door frames are basically plain in design and appear to be original, with the exception of the one at the exterior door. The south door frame may be original to 1798 and the north door frame to 1895-1901, or the construction period of the state dining room passageway. The architrave of the door are believed to be of a later period.
Windows of this room and the rooms below are equipped with two-over-two light sash. When examining the construction of the sash frames and the appearance of the glass, it was concluded that the sash are not original but are later additions to the house. The sash have the same appearance as those of the 1823 stone house, 1901-02 south bedroom wing, 1789 brick house, and circa 1895 servants' quarters. The sash in the south bedroom wing and servants' quarters are believed to be original and possibly installed before 1902.

The finished work frames are also an alteration, possibly dating from the same period as the window sash. The rough bucks beneath the frames, however, are believed to be original. Examination revealed that they were built as part of the original structural framing of the house.

All trim surrounding the window and door frames are an exact duplicate of those in the 1789 brick house and are believed to have been installed at the same time. The baseboard trim is plain in design and also duplicates the baseboard trim at the brick house.

f. Floors

There are two floors in this area. The first and most visible of the two measures about 4 inches wide and 1 inch thick. It sits on a second floor that is approximately 5 to 7 inches wide with a similar thickness. The first flooring appears to be in good condition, but there is uncertainty about the condition of the second flooring. All of the existing finish floor surface was not removed to examine the second floor carefully; however, it is possible that it may be original. From the evidence seen near the fireplace, the first flooring was once cut short to receive a new fireplace hearth. The floor cutting may have occurred during the period when the existing fireplace mantelpiece was installed. Under limited loading conditions, the floor appears to be stable at this time.
5. **First Floor**

On the first floor (room 107-figure 33) a number of changes have taken place and many problems exist.

a. **Ceiling**

The plaster ceiling is stable but damp. The paint is blistering, cracking, and peeling, and the wallpaper is falling from the ceiling surface. Moisture has created dark stains on the plaster and wallpaper. Ceiling plaster remains intact, and an examination showed that it is very similar to the plaster in room 209. It is basically a lime plaster containing animal hair that is used as a binder. The plaster is applied in two coats for a total thickness of 1/4 inch. The base coat is approximately 7/32 inch thick and the finish coat is 1/32 inch thick. Several coats of a white-colored paint are applied on top of the finish coat. The wallpaper hanging from the ceiling is colored.

A cornice molding trims the ceiling and tops of the plastered walls. This molding is similar in design to the cornice molding on the second floor, room 209. When examining the cornice in detail, it was revealed that it was machine-made and attached to the intersection of the ceiling and walls with wire nails. The nail holes did not appear to be reused, and there were no other types of nails found in the cornice. This would confirm that the cornice is not original to 1798 and was installed at a much later date. A cornice using this kind of nail (wire nail) would have been installed no earlier than 1850. The crown molding was installed between 1860 and the time that the south bedroom wing, state dining room, and servants' quarters were built (ca. 1895-1902). It is also possible that it may have been installed at a date later than 1902.

b. **Walls**

The interior finishes of the walls enclosing this room, like other interior walls of the main house, are deteriorating. Plaster is cracked or falling, and the wallpapers and paints are blistered, cracked, and falling.
Plaster on the walls is a lime plaster mixed with a course-grained sand and animal hair. It appears to have been applied in three coats, with the finish coat having a finer-grained sand than the scratch or base coats. There is also no animal hair in the finish coat. A white-colored paint resembling Munsell 10YR 9/1 covers the finish coat of plaster and it is applied in several coats. The wallpaper that covers the paint is a beige-colored paper that appears to be modern.

On the west wall the plaster shows cracks running from the floor to the ceiling. The wallpaper has dark moisture stains on its surface and is deteriorating and falling. The framed, brick-nogged wall behind the plaster was examined. It appeared as though the framing was altered, possibly to remove a window or to install the existing door as seen in figure 29. This door does not appear original to this location.

The plaster on the south wall has fallen to expose the brickwork at the north wall of the brick house (figure 11). What remains of the plaster is applied to a sawed lath attached to the 2-by framing with cut nails (sprigs). Portions of the lath are also broken. Entry beyond the finished wall surfaces was made possible by the moisture and fire which burned and weakened the plaster and lath causing them to fall from the wall.

Along the east wall the plaster is stable; however, it suffers from the same problems seen on the other walls. The plaster is damp, charred, and plagued with minor cracks. The wallpaper of the walls is loose and falling.

The north wall of this space is blocked by the fireplace, mantelpiece, and a cupboard that was installed alongside of the mantelpiece's right edge.

c. **Cupboards**

Basic design and construction of the cupboards is similar to that of the cupboards in the 1823 stone house, except that assembled wire nails were used instead of cut nails in the moldings and
wood pegs. These secure the corner joints of the doors. The two doors at the top have three panels and the two below have one panel. The hardware on the doors appears the same as that on the cupboards of the 1823 stone house. The trim along the edges is with an architrave resembling those around the doors and windows. The architrave are, however, mitered from the interior to exterior corner where they are joined at the top, rather than a partial miter and then cut vertically as was done on the doors and windows.

d. Fireplace and Mantel

The fireplace mantel adjacent to the cupboard is ornate in design. A simple trim sits back approximately 12 inches from the fireplace opening along the jambs and header of the firebox to begin the mantelpiece. A square block splits the trim at the head. This block rises and dies into a false mantelshelf which is supported from below by two double scrolled brackets. These are set in about 8 inches from the edge of the mantel edges and rest on the header section of the trim below. Above, and resting on the false mantelshelf and centered on the two doubled brackets, are two pilasters having a simple Doric base. These rise up to and die into the cornice of the room. The pilasters rest upon the same base as the mantel in the room above.

The brick jambs of the fireplace and the firebox are stable, but the brick veneer of the fireplace jamb of room 209 is loose. The brick used at the fireplace jambs appear to be the same brick veneer that was used at the fireplace in room 209 above. A closer examination of the brick veneer revealed that it was the same as the veneer used on the fireplace of the south bedroom wing and state dining room. The fireplaces of the two rooms (rooms 107 and 209) were probably renovated around the same time. Both fireplaces and mantels seem to resemble others of the south bedroom wing and state dining room.

e. Doors, Windows, and Trim

Doors and windows of this room are trimmed with very simple moldings. These moldings appear the same as those of rooms 209 and 214 (see description at brick house doors and windows). The doors and windows are similar to those of the rooms above.
The chair rails and baseboards of this room are the same as those of room 209. The chair rail is very plain in design and is constructed in two sections. The bottom section of the rail measures about 4-1/2 inches wide with its lower edge sitting approximately 3-1/2 feet above the floor. Its bottom edge is trimmed with a simple bead which measures 1/2 inch. At the top edge of this portion of the rail is a double bead, with the top bead measuring 1/4 inch and the bottom bead 3/16 inch. These sit back about 1/4 inch below the top portion of the chair rail to provide the decorative trim. The top section of the chair rail is a very plain piece of trim with its wide (1-3/8 inches) face pointing upward. The only decorative feature of this rail section is its bullnosed molding that protrudes 5/8 inch beyond the bottom trim. The dimension of the projection is included in the total dimension of the top rail section.

The baseboard, like the others in rooms 209 and 214, is simply decorated with a 1-inch bead at the top and a double 1/4-inch bead that falls 1 inch below the top. The upper and lower beads of the double-beaded sections protrude 5/8 inch beyond the uppermost portion of the baseboard that is recessed inward beyond its bottom portion so that the beaded portions and the total baseboard thickness remain flush. The total thickness of the baseboard is approximately 1-1/4 inches. Toe molding trims the baseboard at the floor level. Included in the toe molding width and its simple appearance is a 1/4-inch beveled edge at its top. The west door trim is an early style trim, with pintle hinges in a crudely infilled wall.

f. Floors

The floor of this room appears to be stable and in good condition but slopes toward the west wall. It is made of two floors that rest on framing joists of half-round logs. The existing finished floor is constructed of tongue-and-groove flooring measuring approximately 4 inches wide and sits on what appears to be sleepers nailed over a second floor that may be original. The second floor sits about 4 to 7 inches lower than the first floor and is constructed of wider flooring approximately 5 to 7 inches wide. This floor appears to be whitewashed and sits directly on the floor framing.
Examination of the floor joists and other framing members beneath the first floor revealed that the sill log under the frame house's west wall has been removed. All half-round logs have bark on the exteriors and serve as floor joists. These are located on or above grade and have been notched at the ends on their undersides to receive the sill log that was removed. Careful investigation of the joists' ends and the sill log found in the basement below the state dining room passageway has indicated that when the passageway below the frame house was built the sill log was removed. Because this passageway, which runs from the basement of the 1789 brick house to the basement of the state dining room addition, is located directly under where the sill log was positioned, the east wall of the passageway now serves as a bearing for the floor joists. This condition means that approximately 2 feet of joists are cantilevered and the structural support is questionable for the west brick-nogged frame wall of the frame house.

The finish floor above the framing reflects the structural inadequacy at this wall. The floor slopes downward toward this wall which sags to some extent. The possibility exists that the floor joists supporting the first floor have been reused from a former log kitchen (possibly the lean-to log or frame kitchen which was first attached to the brick house). However, this cannot be confirmed due to the lack of existing physical evidence and documentation. Logs of massive size and with broad axed markings also provide some support for portions of the state dining room, and one appears to be the sill log from this location.

g. Passageway

The east wall of the passageway is built of stone and because of existing stone keys appears to have once extended into the area under the state dining room. However, archeological investigations just beyond the terminus of the wall did not uncover evidence of its extension. Nevertheless, if the wall did extend beyond this point, the

6. Ibid., p. 59.
possibility exists that its extension may have related to an earlier passageway between the 1798 frame house and 1823 stone house or to a possible milk cellar that was never located (see Day drawing, figure 15). The Day drawing shows a small lean-to shed approximately above where the north end of the passageway ends. This lean-to abuts the stone kitchen, and the wall may have related to this structure.

h. Window Sash and Shutters
The window sash, shutters, and framing at the exterior of the frame house are duplicates of those on the brick house and may be described as such (see descriptions of sash, shutters, and frames of 1789 brick house). They appear to be in good condition structurally but need repainting. The paint on the windows is cracked, blistered, and peeling and should be attended to so that the windows can be preserved. The exterior of the doors and door framing are in the same condition.

i. Porches
The only remnants of an earlier porch at the frame house are those found at the building's east elevation along the extension of the roofline to the east. There was no evidence of a porch found on the first or second floor but this does not conclude that one did not exist. Any evidence of an earlier porch at these floors is probably covered by the present porch or may have been completely destroyed when the present porch was constructed. To completely investigate the past existence of an earlier porch, most of the present porch would have to be removed or destroyed. The removal or destruction of the present porch in search of an earlier porch does not guarantee our findings. It is conceivable that an earlier porch did exist and was located on the east of the frame house based on the physical evidence found at the roof, the Day drawings of 1841-42 (figure 15), the photographs of 1880 (figure 29), and the description of a second-floor gallery by Gallatin in 1821-23.7 This information was found in his letters to his son Albert Rolaz telling him how the two houses (frame and stone) would connect or relate to one another at the second floor.

7. Ibid., p. 79.
C. 1823 Stone House

This house appears to be the most lavish of all Gallatin's houses and certainly the most talked about. In his letters to his son Albert Rolaz, from 1821-24, Gallatin described some unique features of the house during its construction. His descriptions are very clear and lead one to believe that a lot of what we see today is original. There have been several modifications or improvements to the house by subsequent owners through the years, but these have not significantly altered its historic appearance.

The stone house stands 2-1/2 stories high and is spread out over an area of 1,400 square feet. The floor area is made up of three major floors and a basement, with an attic crawl space. The house is north and east of the frame house and abuts it at the northeast corner of the existing two-tiered porch. Its area is covered by a gable roof with two massive stone chimneys protruding above the ridge.

1. Roof

The roof finish of the house is not original, but the sheathing and framing rafters are. The roof finish consists of deep red asbestos cement shingles that are laid in a diamondlike pattern. These lay over building paper and closely spaced, sash-sawed sheathing made of 3/4 inch by 8- to 10-inch-wide boards. They are anchored to the boards with wire nails and are a later addition to the house. Written evidence does not state exactly when the asbestos roofing was installed, but it does state that the roof was there in 1925. A 1909 photograph shows wood shingles in place so the asbestos roofing would not have been installed before that time.

Roof framing supporting the roof finish and sheathing is made of 5-inch by 7-inch handhewn rafters that are joined and secured at the ridge by the use of half-lapped joints pinned together with wood

8. Ibid., pp. 73-89.
10. Ibid., p. 183.
dowels (figure 36). Their lower ends are nailed to a rafter plate that is anchored to the attic floor framing. Careful examination of the roof framing rafters and sheathing revealed that they are original to the 1823 stone house and once supported the original wood shingle roof. Remnants of the wood shingles are suggested by nailing patterns found on the sheathing. A few of the cut nails are currently covered at the heads by the present roof finish, but their shafts can be seen within the attic space. Unrau's study states that wood shingles were purchased around November of 1821 to be incorporated in the construction of the stone house. Further evidence of the wood shingles can be seen in a later photograph of 1909, and the Day drawings of 1841-42 suggest that wood shingles were used (figure 15).

The present asbestos roof and its framing are stable, but it appears that the roof has leaks. Water spots are seen on the third-floor ceiling, mainly around the areas of the dormers.

2. Walls

The massive stone walls of the building are stable and measure about 2 to 2-1/2 feet thick. The stone used in these walls is an ochre-colored limestone that was quarried along the banks of the Monongahela River. The present condition of the stonework is good except for a few expansion cracks along some of the mortar joints that are also deteriorating. Further deterioration is seen in some of the stonework along the lower section of the wall and around the window wells. Careful examination of the stonework shows that there is spalling of the exterior layers of the stone, mostly near the lower edge of the building. The mortar joints in this area are also deteriorating. From the appearance of the stonework at the lower portions of the walls and the apparent dampness of the stone, it is conceivable that the problems caused here may be attributed to moisture. The bulk of the moisture problems can be seen in the basement wall and wall openings (see figure 59).

11. Other evidence suggesting that the shingles once covered this roof is contained in NPS, Unrau, p. 82.
Figure 34 - Second Floor, Room 202

Figure 35 - Second Floor, Room 202

Figure 36 - Roof Framing of 1823 stone house

Figure 37 - Third floor door
Further examination of the walls shows that they were once covered with a thin parge coat of stucco. Remnants of this stucco can be seen around the window wells and in several other areas protected by the porch overhang. This pargeting is ochre-colored, resembling the ochre-colored stucco on the east wall of the 1789 and 1798 houses. When the two stuccoes were closely examined and compared, both appeared to match and were probably applied to imitate an ashlar stone. The rough stonework of the stone house was made to resemble ashlar stonework, possibly for the purpose of matching the east elevations of the 1789 brick and 1798 frame houses earlier. It is conceivable that the ochre stucco was applied to the three houses around the same time; however, the evidence is inconclusive.

Below grade the basement or foundation walls are very damp and the mortar joints are deteriorating. The problem, as evaluated, appears to be attributed to groundwater or the improper functioning of the subterranean drainage system. One of the noticeable things about the dampness in the walls and basement floors is that it seems to increase rapidly after a heavy rain or snowfall. The soil percolation rate around the building appears to be very low. There may be broken pipes or spillovers in water-collecting areas which could be contributing to the drainage problem. Further study of the subterranean drainage system is recommended.

Above grade at the roof and cornice, some drainage system problems are apparent. Built-in gutters of the roof in many areas are plugged with debris or deteriorating so that the water they collect does not flow properly to the downspouts. This results in the buildup of water in some areas of the gutters which overflows and dumps on the building walls. Such heavy amounts of water being dumped from the height of the gutters on the building walls over a period of time produces enough continuous pressure to erode the mortar joints of the stonework. Improper drainage from the gutters, heavy rains, and the effects of time on the mortar have contributed to mortar deterioration in the walls. The wood cornices themselves are deteriorating from water damage. Inspection of the cornices show that there are leaks in the built-in gutter system.
These leaks contribute to spillover of water into the cornices which act as a trough. This stagnant water in the presence of oxygen contributes to the decay of the cornice's framing and finish moldings.

3. Attic
   a. Roofing and Windows (Figure 36)
      In the attic space formed by the intersection of its roof and floor joists, the structural rafters, structural floor joists, and finish flooring are stable and in good shape. The flooring, however, shows some dampness and staining caused by the leaking roof above. The leaking roof has dampened sheathing that has shown many signs of decay. Some of the dampness has spilled over to the rafters and gabled end stone wall which have not shown any major effects from the exposure.

      In the stone wall sits a window that has an open sash which contributes to the infiltration of moisture in the space. The window and its framing appear original and play a very important part in providing proper ventilation. They do, however, need to be secured so that the rain or snow cannot be blown directly into the space to settle on the floors.

   b. Floors
      Several floorboards have been removed in the attic. These 1-inch by 8- or 10-inch boards sat above the structural framing of the floor which measures approximately 4 inches by 8 inches. These are handhewn, and like the rafters, sheathing, and floorboards, they appear to be original. The vertical sawed/ handplaned floorboards are nailed to the floor joists with cut nails.

4. Third Floor (Figures 37-45)
   a. Ceilings and Walls
      The third floor of this stone house is comprised of rooms 301, 302, 303, 304 and the uppermost portion of the staircase which is referred to as room 305. A noticeable thing about the rooms in general is that their ceilings are heavily stained and damaged by moisture.
Closer examination of the ceiling revealed that the damage was caused by a leaky roof which, in some instances, caused water to shed not only on the ceiling fabric but on the fabric of the walls as well. Plaster of the walls and ceilings is cracking and falling from the lath, and the wallpaper is also loose and falling. The plaster is a lime plaster composed of a coarse-grained sand and animal hair as a binder. It is applied in what appears to be two coats to a handsplit wood lath. The wood lath is attached to the structural wood framing of the knee walls, ceiling joists, and rafters with early cut nails (sprigs). Further examination of the walls, ceilings, and their supports suggests that the plaster work and its supports are original. The supporting lath, nails, and plaster are suitable for the 1823 period of construction and do not appear to be altered or modified. The plaster is applied flush with the trim of the windows and doors and its application is not patchwork. The plaster was originally finished with a skim coat of gypsum and then painted with approximately two coats of an off-white paint. The painted walls and ceilings were later covered with wallpaper which does not appear to be original. Judging by the makeup and size of the paper, it appears to date later than 1835.

b. Doors, Windows, and Trim

Most of the windows and doors, along with their trim and framing, appear to be original although a few have been modified. On the west gable in the stairhall, the window as seen is believed to be the only original double-hung window sash remaining in the building. The bottom sash are damaged (figure 45). The muntins are missing and the sash lights appear to have been broken. These original sash have six-over-six lights which measure approximately 5-1/2 by 7-1/2 inches. The remaining glass lights are highly distorted and appear historic. These may very well be the original lights. The muntins are rather narrow, and the profiles resemble sash profiles of the early 19th century. The panels in the window jambs are wide, raised panels trimmed with an applied double ovolo molding to secure them to the frame. This panel design carried through to all door panels that are also secured in the same manner. The panels sit in the door and window jamb framing which is secured with wood pegs, and the moldings are attached to the edges of
Figure 42 - Third floor door

Figure 43 - Third floor closet door

Figure 44
Third floor dormer window

Figure 45 - Third floor window, possibly original to 1823 stone house
the frame and panels with sprigs. All of the architrave around the windows and doors are constructed with a plain 3/4-inch by 5-inch piece of lumber with a bead at the inside. The outside is trimmed with a backband that duplicates the trim around the panels. The baseboards are also plain and duplicate the window and door trim. They have no toe molding at the intersection of the wall and floor.

The dormer windows (figure 44) have the same profiles as their corresponding parts on the stairway window, except that they have a casement sash, and portions of the trim have been altered. Below the springline of the arched portion of the window, the vertical trim (architrave) appears to have been removed, patched, and then reinstalled. The trim that is presently in place does not appear original, and therefore leads one to question whether or not the casement sash are original. If the window trim and jamb once continued vertically at the same width as above the springline, the sash widths would have to be similar. Examination of the jambs, trim, and the wire nails holding them reveal that there are modifications at the window. The fanlight above the casement sash is believed to be original, but the casement sash are not. The original sash are believed to have been double-hung like the original sash at the west gable or as seen in the dormers in the 1880s photograph (figure 29).

The doors have eight panels with a frame constructed of 4-1/2-inch stiles and rails of various widths (bottom rail 10 inches, top rail 4-1/2 inches, and lock rail 12 inches). All framing members are about 1-3/4 inches thick and are connected with mortise-and-tenon joints held together with wood pins. The hardware is of cast iron and appears to be from late 19th century. Most hardware appears to be original to the doors, however, there is an area at one of the doors that appears to have had earlier hardware removed. The hardware and workmanship of the closet doors are basically the same, except that these doors have only two panels.
c. Floors
The flooring and structural framing of the third floor appear to be in good condition. They are however, stained and dampened by the falling plaster from the walls, ceilings, and the water leaks which permeate from the roof and attic into the space. This tongue-and-groove flooring measures approximately 1 inch by 4-1/2 to 5 inches and sit atop the approximately 4-inch by 8-inch framing joists. The flooring and joists appear to be original. Examination of the flooring revealed that the boards were vertically sawed then handplaned on the finished surface. It appears as though the flooring was never disturbed from its present location, and there was no indication of another earlier floor. Except for some swelling of individual flooring boards, the floor and its structural supports appear to be stable.

d. Fireplaces and Mantels
Fireplaces of rooms 301 and 302 are on the west wall and are the only two fireplaces in the third-floor rooms. Their fireboxes are lined with brick that is covered by darkly painted coats of cement stucco. Examination of the stucco shows that it is not original but was applied at a much later date. This stucco extends from the firebox to the outside at the fireplace jambs and header. Sitting back about 12 inches from the fireplace jambs and header is a simple mantel built of 1-inch by 21-inch-wide pieces of wood which are trimmed with pilasters mounted on center atop their surfaces. The pilasters are not lavishly decorated but are built of 1-inch by 5-inch boards with double beads on the top surfaces. A reverse curve (ogee) architrave at the top of these pilasters trims the bottom of a plain frieze that is about 1-foot-wide. The frieze is then trimmed at the top by a beaded cornice which trims the bottom of the mantelshelf. At the frieze above the lower pilasters on either side is a more decorative pilaster cap which terminates at the lower architrave and cornice. Careful examination of the fireplace and its mantel suggests that they may be original to the third floor of this house.

5. Second Floor (Figures 34, 35, 46, and 47)
a. Ceilings
On this floor are two rooms and the second floor portion of the stairhall which leads to them. The two rooms and stairhall
are to be referred to as rooms 201, 202, and 203 respectively. Room 201 is on the northeast corner of the building and was historically used as Mr. Gallatin's chamber. The plaster ceilings of these rooms are approximately 12 feet above the finish floors and are basically stable at this time. The paint finishes of the ceilings, however, are cracked, blistered, and peeling. A small crown molding trims the ends of the ceiling and the upper portions of the wall and appears to be intact. It measures about 2-1/2 inches wide and has a very plain design.

b. Walls

Walls of the room contain several layers of wallpaper that are peeling. The peeling seems to be caused by dampness on the walls and invariably by the age of the paper and glue. Some deterioration of wallpaper has also set in. The top layer of paper is on two sections of the wall. At the upper wall between the chair rail and the crown molding is a green-colored flowery wallpaper attached to the wall in approximately 3-1/2- to 4-foot strips. The lengths of the sections vary; however, the shortest length is about 3 feet high. Judging from the quality of bleached paper, the method used in applying the designs, and the size of the paper, it is concluded that the wallpaper on this section of the wall is not original. The same is true for the wallpaper at the lower portion of the wall between the chair rail and the baseboard. This wallpaper is an off-white. Beneath these top layers of wallpaper is another layer that has a beige to brownish color and a machine-printed flowery design on the surface. The size, paper, and design techniques incorporated in the production of this wallpaper suggest that it also was produced later than 1835 and is not original to the Gallatin period. This second layer of wallpaper appears to be applied directly to the painted wall plaster of the rooms.

The plaster is a lime plaster consisting of coarse-grained sand and animal hair as a binder. It appears to be

13. Ibid.
Figure 46 - Second floor, Room 201
Figure 47 - Door leading to balcony, Room 203. Door constructed into a previous window opening.
applied in three coats. The first two coats are about 3/8 inch thick and consist primarily of coarse sand with animal hair like the plaster above. The third finish or skim coat has no animal hair in it and is made with a finer grained sand. The plasters are all applied to masonry walls. Plasters of the interior partition walls are applied to brick, and those of the exterior walls are applied to stone. An examination of the walls and the area where the plaster abuts the window, door, and other wall trim revealed that the plaster has not been disturbed. Judging from this evidence, the composition of the plaster and its aging are indicative that it is very old and may be original. At the present, most of the plaster is stable but cracked in several areas. It, like the wallpapers, is damp. One area of the plaster walls that deserves special attention is that located on the interior partition wall between rooms 201 and 202. This interior bearing wall has large diagonal cracks of which one opens up about 1/4 to 1/2 inch and runs from 6 to 8 feet across the plaster surface. These stress cracks have developed in the vicinity of the door header and appear to run a depth equal to the thickness of the brick wall. The wall and door frame sag in this area along with the floor that appears to sag from 1 to 5 inches or more. The sagging appears to be caused from the failing archway support lintel that spans the first-floor door opening and provides support to the second floor and the wall above. Due to the unknown extent of damage in the archway support that is concealed in the wall, the problem presents a delicate and hazardous situation. Aside from the sagging lintel and cracked plaster in this area, the remaining plaster of this and the other walls is sound from base to finish coats. To cover the finish coat of plaster is a white paint applied in two to three layers. The layers of paint appear to be very close in color; however, the variable aging affecting the various layers makes it difficult to detect the true colors. This paint, like that of the ceiling, is blistering, cracking, and peeling from the wall.

c. Doors, Windows, and Trim

Doors and windows are in good condition; however, the window sash are not original. All windows of rooms 201 and 203 are on the north side of the room and those of room 202 are on the south side with one window at the east elevation. These windows measure about
3 feet 4 inches wide by 6 feet 10 inches high. The sash are double-hung, two-over-two lights fitted to a jamb with 1-3/4-inch-thick members and a 4-inch-thick sill. The window jambs may be original, but the sash have definitely been changed. The sash, with its large, modern-looking glass appears to be later than the 1823 to 1832 time period. The individual lights each measure about 16 inches by 35 inches.\textsuperscript{14} The Day drawing shows what appears to be two, six-over-six sash in the first- and second-floor windows of the north elevation.\textsuperscript{15} If the drawing is accurate, the original sash would probably have matched the sash found at the third floor's west wall window. The six-over-six double-hung sash is very old and is believed to be the only original double-hung sash remaining in the windows of the 1823 stone house.

The frames of the present windows are in good condition and have a prominent bullnose profile at the exterior end of the jambs and headers. The sills protrude 2 inches beyond the jambs' edges. The jambs and headers are constructed to receive not only the present sash but another set of sash as well. There are sash guides to the rear of the jambs which appear to have housed former sash or interior shutters. Sash weight pockets are also in this area. Other than what can be seen in the window frame construction, no additional evidence verifies that a double set of sash was ever used in the window or what the second set of sash may have looked like. Although the window was constructed to receive a double set of sash, possibly only a single set was ever used. At the sides of the interior jambs are panels, doors, and slots. These doors are interior shutters folded out of view.

Trim around the windows, doors, and cupboards measures about 6 inches wide and is designed with a series (three) of pointed beads trimmed by an integrally double-beaded molding on either

\begin{itemize}
\item[14.] Charles E. Peterson, \textit{Building Early America}, 1976. A single light or window glass of that size may not have been available at the time the house was built. A piece of window glass that size may not have been available until around the late 19th century.
\item[15.] Other evidence suggesting that the present two light sash are not original is the "Day" drawing, 1941-42 (figure 18).
\end{itemize}

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side. The trim around the doors and windows appears original; however, the trim around the cupboards appears to be installed at a later time. The beads of this trim are more pointed than the trim around the doors and windows which appears original. These appear to be produced by an advanced technological means surpassing those used to produce the other trims. Most of the trim has a design that is characteristic of the Gothic Revival style. The thinness of the moldings and their pointedness are characteristic of moldings in this style.

Doors are also believed to be original to this area but appear to have had their lock boxes changed. These are eight-paneled doors that measure 3 feet 6-1/2 inches wide by 7 feet 5-1/3 inches high by 1-1/2 inches thick. Raised panels of the doors are trimmed with double-beaded applied moldings attached to the door with sprigs. The door edges are all decorated with grooves, and the door is hung using cast-iron butt hinges measuring 3 inches by 4-5/8 inches. Other hardware of the doors, their knobs, and mortise locks are also made of cast iron but appear to be a later addition. There are areas where the door frames have been repaired with wood plugs, which suggests that patchwork was done to hide the location of an earlier door knob, lock, etc. The doors, as they appear on the second floor, are also typical to the first floor. All door openings of the second floor appear to be in their original locations except for the door of the stairhall, room 203, leading to the south or Lafayette balcony (figure 47). Evidence shows that this door was once a window, but it is not known exactly when the conversion was made. If historical events are taken into account for the use of the balcony during Mr. Gallatin's time, it is quite possible that the conversion of the original window to this door may have occurred then. There has been no evidence found to contradict this theory. The doors of the cupboards are similar in design to the major doors but are smaller and contain from one to two panels.

The chair rails and baseboard moldings of the first and second floors are also similar. These are simply beaded mouldings with most of the beads produced on the upper edge of their faces. The chair rail measures 4 inches and is constructed with a beaded top
protruding 7/8 inch beyond its face. A small pointed bead trims its bottom about 1/2 inch from the edge. The baseboard molding is beaded at the top for the first 2-1/4 inches. Remaining areas along the face of the baseboard are plain. The total height of the baseboard is 11 inches.

d. Fireplaces and Mantels

Fireplaces in rooms 201 and 202 are along the east wall. These are basically stone fireplaces as seen from their chimneys on the roof. Their fireboxes are lined with brick veneer to give them a more uniform appearance and to provide a true edge for the fire frames. The fire frames are constructed of cast iron and have the appearance of an arched tunnel or doorway. The arched heads of the fire frames add some charm to the fireplace opening and provide some support for the cast-iron grates in the firebox and to the marble mantelpieces out front. The fireplaces are equipped with gaslines that once provided fuel for the fires.

Mantelpieces of the fireplaces protrude about 12 inches out from the plaster walls. These pieces are constructed of beautifully cut white marble that has little or no ornamentation. The faces of the mantelpieces are plain but have two lined decorations at the top which trim the firebox openings. In room 202 a figurehead or mascaron that looks like a ram or dragon is centered at the top of the mantel, splitting the head jamb. In room 201 a coat of arms is centered on the mantel. The mantelshelf is plain but is curved to add some decoration to the mantelpiece. Its edge is beaded with a single bead at the bottom. Jambs of the mantelpiece are trimmed at the floor with an integral baseboard-like trim having double beads at its top. The mantel opening around the fireplace opening is also beaded and recessed to fit the cast-iron fire frame. The tile hearths of the fireplaces have loose tile, and the brick lining of the fireboxes is also loose in spots. Further inspection of these areas has shown that some moisture has set in, and it can be clearly seen that alterations to the mantels have taken place. The mantels appear to date around the 1880s, much later than those installed by Mr. Gallatin.
e. **Floors**

The finish flooring of the second floor appears to be in good condition, although the integrity of its structural framing below is questionable. The wood flooring measures approximately 3-1/2 inches wide and 3/4 inch thick. It is tongue-and-groove flooring, radially sawed with a mahogany-stained finish partially worn off the wood surface. The floor is currently covered with old rugs and burlap that help to protect what is left of the finished surface. This floor sits over another finished floor that appears older and may very well be original. The earlier finished floor was examined and found to measure approximately 1 inch thick by 4 to 5 inches wide and resembles the second flooring placed over the first-floor area below. This flooring is believed to be an original floor because of its relationship to the original baseboards along the walls and the construction techniques used to produce it. The floor does not abut the sides of the baseboards like the floor above but falls beneath them in a planned and orderly fashion. These baseboards appear to have never been removed from their present locations.

The condition of the structural framing supporting the floor is not really known; however, the floor does deflect toward the interior partition wall between rooms 201 and 202. Contributing to the unevenness of the floor is the eroding structural condition of the brick partition wall. The wall condition is described under the wall descriptions text for rooms of the first and second floors.

6. **First Floor (Figures 48-51)**

On the first floor of the stone house are rooms 101, 102, and 103. These rooms appear to have once been lavishly decorated; however, they are currently dilapidated because of time and the environmental conditions affecting the house.

a. **Ceilings**

Ceilings are constructed of plaster and are all painted an off-white. The plaster of the ceilings appears to be stable, but the off-white paint finish does not. Paint is blistering, cracking, and peeling from the plaster finish beneath. This paint appears to be applied in two or three coats. The ceilings stand approximately 12 feet above the floor.
Trimming the bottom corners of the ceilings and the tops of the walls in rooms 101 and 102 is a large, simply decorated cornice that measures about 1 foot 6 inches down from the top of the walls. The cornice is constructed in four sections, and the basic aesthetic features and simplistic design give it the appearance of the cornices designed in the Federal period. This cornice with modillions trimming the upper portion add a touch of dignity to the rooms when contrasted with the wallpaper and painted ceiling finish. The cornice is in very good condition at this time except that it needs repainting. Examination of the plaster around the cornice, the methods used in attaching it to the walls, and its design and construction suggest that it may be original. Evidence was found which indicates that the cornice was never removed from its present position; the wall finishes have not been disturbed which would mean that the cornice was not reinstalled at a later date. It is conceivable that the wood cornices and most of the plaster wall finishes were installed during the same period of construction and are both original to the 1823 construction period.

b. Walls

The walls of this floor are stable but like other walls and ceilings of the building, they have been greatly affected by problems resulting from moisture, stress, and expansion in the building materials. A plaster finish covers most of the interior walls, but the compositions of the plaster finishes vary. At the northeast corner of the north wall of room 201, a medium strength cement stucco was found applied to a metal lath. Further examination at other areas along the wall showed that the entire wall finish may have been altered or restored at one time. The cement stucco on the metal lath suggests that it and all other finishes (paint, wallpaper, etc.) applied to it are later additions to the north wall of the room. This new plaster and metal lath apparently replaced the original plaster and wallpapers that were allegedly separated from the stone wall by a dead air space. An account of the original wallpaper and wall finish was given by Rev. William Hanna in 1842. 16 The interview

Figure 48 - First floor, Room 101
Figure 49 - First floor, Room 102
Figure 50 - First floor, arched door opening between Rooms 101 and 102.
Figure 51 - First floor, Room 103
went on to say that the reverend further commented on some of the architectural details of the former "magnificent stone residence of Albert Gallatin" as follows:

It had been originally finished in the most approved French style - the stone wall being plastered with French cement, with network of copper wire suspended from the ceiling to floor, two inches from the wall to prevent dampness. This network was broken and the paper torn at the time of my visit.

The wall was examined, keeping the reverend's accounts of the historic wallpaper and network of copper wire in mind. No evidence of the wallpaper or copper wire was found in front of nor behind the newly applied cement stucco and metal lath. However, behind the metal lath was found an ochre-colored stucco resembling that on the east elevation of the 1789 brick and 1798 frame houses. It was a lime stucco, which contained animal hair like the others, and was applied directly to the stone wall. In reading through the accounts of Rev. Hanna, this is believed to be the French cement that was plastered to the stone wall. The cement appears to be very old and may be original, but further study of it is necessary.

A similar situation to the one above is seen on the other exterior walls of the rooms. No evidence of a network of copper wire suspending a wallpaper was found either in front or in back of the finish coats of plaster. The plasters of these walls, however, appeared much older than that of the northeast corner and was not on metal lath at the west wall of room 101. Room 101 has this coat of plaster applied over another coat which was finished with a wallpaper that definitely appears old. The wallpaper appears to be painted on ragstock that has designs stamped on its surface. The wallpaper was applied to a lime plaster that contained animal hair. The plaster also appears to be very old. Because the wallpaper and plaster appear to be very old and have not been disturbed, they may be original. However, insufficient amounts of the paper were located, and a study to determine whether or not it is original could not be conducted. The plaster and its wallpaper in front of the stamped wallpaper are definitely a later addition to the walls, for it is not a construction practice to place plaster over wallpaper. Although its
composition is similar to that of the older plaster, it appears to be newer. This newer plaster and the wallpapers are on all other walls of the building, suggesting that all the walls were renovated at the same time. If the latter holds true, then there is no original wallpaper remaining on the first floor, except possibly that on the east wall of room 101. Nevertheless, portions of the plaster finish beneath these wallpapers may still be original. A thorough examination of all the wall surfaces was not made.

On the interior partition wall, between rooms 101 and 102, there are structural problems resulting in cracked plaster and a sagging lintel above the door opening (figure 50). The structural problem is a continuation of the one on the interior partition above, and when viewing the conditions from these rooms below, the problem seems to lie within the lintel construction. The doorway's finish panels were examined and found to incorporate many modern construction materials (mostly nails). Unlike the panels of the other doors and windows, these are held together with wire nails rather than wood pins. Consequently, this doorway, its trim, and framing are considered to be later alterations. The framing and finishes of the other doors and windows in rooms 101 and 102 are identical in design and construction to those of the second floor and unlike that at this door opening; consequently, they are considered to be original.

It is conceived that the present door opening was constructed by expanding the opening of an earlier smaller door that stood between the two rooms. When the larger or present door opening was constructed, the lintel used was insufficient to bear the structural load of the newly created span. As a result, it sagged and transferred its deformation to the head panels of the jamb. The wall above, which was unsupported, also sagged and created cracks within and on the plaster covering its surface. It is not known exactly when the new opening was constructed; however, it may have been a part of the Dawson or Speer renovations from 1860 to 1905. An examination of the wall surrounding the opening suggests that the wall and its plaster finish may not be original but are later alterations. The same holds true for
the interior partition wall which separates rooms 101 and 102 from the
stairhall. The plaster in this wall is a lime plaster applied in two to
three coats. It is very similar to the plasters of the second and third
floors above and is painted likewise. Moreover its wallpaper finishes are
similar to the wallpapers of the floors above and are believed to be a
later addition to the rooms. In the stairhall on the northeast wall that
contains the existing door out of room 101, remnants of an earlier door
opening were found. This opening is believed to have been closed
earlier, and the present opening and door may have been installed in its
place. This may have simply been an error during construction.

c. Doors, Windows, and Trim

Interior doors and windows of the first floor are
identical to those of the second floor, except that the first-floor windows
are larger. Most of the interior doors, window/door framing, and trim
are believed to be original, but the window sash like those of the second
floor are obvious replacements made at a later time. Unlike these, there
are several interior and exterior doors that are later additions to the
building. These are in the stairhall (room 103) at the main entrance and
exit elevation (north and south elevations) and at the elevation (west
elevation) leading to the state dining room addition.

The doors on the west wall of the stairhall leading to
the state dining room addition on the second floor (room 203) are also
later additions, including their framing and trim. Examination of the
doors, framing, and trim as a unit revealed that they are identical in
design to other interior doors in other rooms of the 1823 house, but the
method used to join and secure the framing members are different. As
previously noted, the interior doors, their panels, and frames of rooms
101 and 102 are joined with mortise-and-tenon joints that are secured with
wood pins, whereas those mortise-and-tenon joints of the stairhall doors
and their paneled frames are secured with wire nails. Examination of the
door framing and moldings showed that they were also produced by
machine. The above techniques used in producing the door components
and joining and securing them suggests that the doors and paneling had
been constructed after 1823 and most likely not until the construction of
the state dining room area. Although Mr. Gallatin owned a sawmill and there were a few others around the country, the widespread use of machine-produced moldings and sawmill lumber was rare before 1835. The widespread use of wire nails was also less prevalent before the 1850s.

A photograph that dates around 1880 (figure 29) confirms the fact that most of the doors were not original to the west elevation of the 1823 stone house and shows that the state dining room was not constructed at this time. The photograph shows two windows on the west wall; one on the first floor and the other on the second floor directly above it. These windows were converted to the existing doorways that currently lead from the stone house to the state dining room. Evidence of the conversion shows up in the door panels that have been spliced. A portion of the panel belongs to the old windows and the other to the existing doors. The doors themselves are entirely a post-1823 or non-Gallatin addition. In the southwest corner of the second floor the same holds true for the door and its components. When the state dining room was built, a new opening was cut through the stone wall to make way for the new door and its components. No window existed in that location before that time. On the first floor directly below that area, however, it is conceivable that a door opening was always there, even though the present door and its panels are not original. The opening is believed to be the door that Gallatin wrote of in his letters to his son during the time that the stone house was under construction. The door was to lead from the stone house into the passageway and also align with the door leading out of room 102. The passageway shows up in the 1880 photograph and also in the Day drawings of 1841-42 (figures 15 and 29).

The exterior doors leading to the porches from the stairhall of the stone house has also been changed. The interior set of exterior doors are basically double French doors. They are constructed with diagonal muntins that form a series of diamond-shaped lights within the glassed area. These muntins are constructed with simple moldings that are also common to the edges of the door frame which is mortised and tenoned together and secured with wire nails. All wood of the doors
appear to be machine sawed and planed and are painted a deep purple-red. Each door of the double-door system measures 2 feet 2-1/4 inches wide, giving the combined door system a total width of 4 feet 4-1/2 inches. The doors stand 8 feet 1/2 inch high and are constructed with framing consisting of 3-1/2 inches and 3-3/4 inches by 1-3/4 inches at the top rails and stiles, respectively, and a 1-3/4-inch by 10-3/4-inch member at the bottom rail. Its knobs are 3 feet 2 inches above the floor.

Four inches above these doors is a transom framed in 1-3/4-inch by 2-inch and 2-3/4-inch members at its rails and stiles, respectively. The total transom stands 1 foot 11-1/4 inches high and is 4 feet 4-1/2 inches wide. The light in the transom measures 20-3/4 inches by 47-1/2 inches and is divided with diagonal muntins that form diamond patterns across the glass much like those in the door below. The muntins are also constructed with simple moldings.

On the exterior of the doors above is a pair of screen doors equipped with a plain glass transom. Each screen door measures 2 feet 4-1/4 inches wide and 8 feet high. The screen door is constructed with a simple frame that has beveled interior edges and is connected with mortise-and-tenon joints held in place with wire nails. Open spaces enclosed by the framing are fitted with a light wire screen. These doors, like the double French doors of the interior room, are not original to the stone house but are a later addition. It is conceivable that they were added after or around 1891. Neither of the set of doors is present in the ca. 1891 photograph (figure 29). The basic construction techniques used to construct the doors are relatively modern and much later than 1823. The trim or architrave surrounding these doors on the exterior and interior frames are similar and appears to be original. They are the same as the original interior trim on the first and second floors and around the exterior dormer windows. The trim on the glazed bookcase doors also appear the same but have a more pointed profile like those of the second-floor cupboards. It is conceivable that these, like those of the second-floor cupboards, were added at a later date. Other trim along the chair rail and baseboards of the rooms appear original and are similar to their counterparts of the second floor. These are in good condition.
d. Floors

The floors of this area are stable and consist of three layers of flooring. The top layer is tongue-and-groove and measures about 1 inch by 2-1/4 inches. This layer sits perpendicularly atop a second layer of tongue-and-groove flooring which measures 1 inch by 3 to 3-1/2 inches wide and appears to be handplaned. This floor joins the baseboards along the walls. The last floor below the second layer is also handplaned but is not tongue-and-groove or splined. It appears to be a subfloor and not the original finish floor. It sits directly on top of the floor framing below and is nailed to it with early cut nails. This floor appears to be vertically sawed and handplaned but does not appear to have a painted finish surface like the first floor. The flooring measures about 1 inch by 6 inches wide.

The framing that supports the flooring above consists of 3-inch by 8-inch joists. These are supported at mid-span by an 8-inch by 8-inch summer beam bolstered at its center by an 8-inch diameter round column. The column has a rectangular capital that measures 6 inches by 30 inches and is beveled at its long ends. This and other framing members supporting the flooring appear sound and stable but are affected by moisture like other areas of the building. Whitewash applied to the members is cracking, blistering, and peeling.

e. Stairs (Figure 51)

The stairs of the first and second floors relate to the second layer of finish flooring and are believed to be original. However, further examination of the finish fabric is needed to verify this assumption.

7. Basement (Figures 59-73)

In the basement (rooms 001, 002, and 003) the floor that rests directly on the framing that makes up the basement ceiling is left exposed. Hanging from the exposed ceiling and its framing are shelves that may have been used to store bottles, etc. It had been said that this area of the basement was used as a tavern and the shelves may possibly relate to the tavern operation, which was not uncommon, especially during
prohibition. A few old bottles can still be seen in the basement area. The massive masonry walls of this area measure approximately 2-1/2 feet thick and are constructed of a local sandstone that was reputedly quarried along the banks of the Monongahela River. The walls are currently stable, but the joints and stonework are not impervious enough to resist water penetration. Dampness in the basement walls and floors appear to be attributed to subsurface and surface water penetration that enters the walls through deteriorating mortar joints, pervious stone, and other openings, such as windows and doors of the basement. The cellar doors that are fitted at the bulkhead opening do not close properly. They allow moisture to penetrate cracks between them and their jambs as well as along the astragal between the door's interior edges. These metal doors also allow moisture penetration within portions of their deteriorating frame. Windows of the basement are boarded up with plywood, and some of them have missing panes in the sash. A few of the sash are not fitting properly and this, along with the missing panes, allow moisture to enter into the basement. Window jambs are damp but are currently in good condition. All of the frames and sash appear to be original, but some of the frames are fitted with vertical bars and a few sash are missing.

In addition to the water penetration made possible by the leaky walls, door, and window openings, the concrete paved deck at the south end of the building is also attributable to moisture in the basement. This hard surface is damaged, impervious, and improperly sloped, causing retention of water runoff and travel into rather than away from the building. If this concrete deck is to remain around the building, it should be repaired and sloped properly to divert water runoff away from the building walls.

Floors of the basement are earth floors and are dampened like other areas of the space. The dampness also shows as water vapor on the ductwork which is housed in the space. These ducts run from the furnace below the state dining room and once served floor registers that supplied heat to the first floor of the stone house.
8. Porches

Porches of the 1823 stone house are currently stable but in need of immediate repairs.

At the north and east elevation is the one-story porch that appears to wrap around the house in an L-shaped plan. Examination of the existing porch and historical records revealed that there may have been many changes.

According to the Day drawing (figure 15) and a later photograph (figure 29), the original porch during Mr. Gallatin's time was a U-shaped porch in plan, or distinctly an L-shaped porch abutting a linear porch at the west elevation. These wrapped around three sides of the building at the north, east, and west elevations. The porch appears to have had a wood shingle roof with cornices and an architrave that appear much broader than the cornice and its architrave that exists today. The porch columns also appear broader and are enclosed with a balustrade running along the three elevations. The grade below the finish porch flooring seems to be much lower than the difference in the grade, and the porch flooring is spanned by a picket enclosure attached to the edges of the porch. Access onto the porch appears to have been gained from another direction rather than from the existing steps at the north elevation. Most evidence of the original porch is gone except for the stone piers beneath the existing porch floor.

The existing porch is entered from steps at the north elevation and has no balustrade enclosing it in any direction. The columns appear less broad and are trimmed with decorative moldings at the edges, below the capitals, and above the bases. In addition the distance between columns are spanned by a beam trimmed at the underside with a decorative molding. Also attached to the bottom of the beam and column capital are tudor-arched shaped stucked braces supporting scrolls at their outer edges. These stucked braces and their scrolls resemble decorations used on houses of the Gothic Revival style and are very effective in giving the porch a Gothic appearance. The porch columns and the cornices that surround the flat-seamed metal roof
also add to its Gothic appearance. A close examination of the finish molding on the columns and beams revealed that the moldings were basically pointed and narrow. These are certainly some characteristics used on moldings of the Gothic Revival style. Further examination reveals that the moldings were machine made and applied to the columns and beams with cut nails. The columns are boxed columns that measure approximately 8 inches by 8 inches and are made of 3/4-inch members. The beams are boxed and made up of the sized members. They do, however, measure only 6-1/2 inches by 6-1/2 inches and support 2-inch by 6-inch rafters and joists at the porch roof framing and ceiling framing respectively. These joists support 1-inch by 6-inch soffit boards at the porch ceiling, and the rafters support 1-inch by 6-inch sheathing and metal roofing at the roof. Both the roof sheathing and soffit boards are pitched to the rafters and joists and are attached to them with cut nails. The metal roof is secured with nails and tar applied at the seams.

Approximately 13 feet to 16 feet below the porch roof is the porch floor. The floor is constructed of 3/4-inch by 3-3/4-inch tongue-and-groove boards that are currently covered by a 3/4-inch plywood deck for protection. The floors are supported by 1-1/2-inch by 7-1/2-inch joists spaced 7 feet 6 inches on center at the interior porch and 5-1/2 inches on center below the porch columns. These span the distance between the stone piers below which are spaced approximately 10 feet on center and measure about 2 feet in width. The porch framing is deteriorating and needs major repairs. Major repairs are also needed at the porch columns that have deteriorated bases. They are currently supported by plywood bracing. The deterioration of the porch column bases has caused the porch to sag at the other edges and pull away from the stone house at the inner edge.

Standing two stories high at the southwest corner of the stone house's south elevation is a tall and narrow porch. This porch is believed to be the Lafayette balcony named after the Frenchman Lafayette who supposedly spent the night at the Gallatin home and later spoke to a crowd from the second story of the porch above.
Figure 52 - Lafayette Balcony, 1903. Photograph shows Painter House construction crew standing on what appears to be a new porch and stairs.
The porch is in a dilapidated state, and its present appearance may be far from what it appeared originally. An earlier 1903 photograph shows what appears to be a newly constructed porch and stairs (figure 50). It is not known how much this construction changed the original porch appearance or if it is a new porch altogether, independent of the style and location of the original porch or balcony. The only evidence found which relates this porch to an old one is the door that leads to the porch from the second-story stairhall of the stone house. The porch is conceivably an addition or alteration made by the Speer family. Its floors, stair, and railings are deteriorating and are in need of immediate repair. The porch has some decorative molding around the edges of the columns, a feature that does not appear in the newly constructed columns of the porch in the 1903 photograph.

D. 1824 Stone Kitchen (Figures 54 and 58)

To the rear or west elevation of the 1798 frame house, is the 1824 stone kitchen. The kitchen rises from 12 feet 3 inches at the north and south elevations to approximately 17 feet at the east and west elevations along the ridges of the gable ends. These massive stone walls are approximately 2 feet thick and surround a kitchen floor area of approximately 275 square feet. The walls are constructed of the very same sandstone used in the 1823 stone house; however, the condition of these walls is very poor. The stone and mortar joints of these walls are deteriorating, and most of the stucco has fallen.

1. Roof

The 1979 fires destroyed the roof on the stone kitchen. The latest roof was a standing seam metal roof as seen in photographs just after the fire and the remnants of the roof remaining around the chimney and along the upper corners of the outer walls. At the outer walls are remnants of a frame wall which leveled this building to the height of the servants' quarters and supported the extension of a similar roof to that of the servants' quarters on its exterior shell. This roof covered an extended second story to the frame house and was probably not installed until the servants' quarters were added, or at a later time. This roof would have covered the living room of the servants' quarters.
Figure 53 - State dining room addition, Room 105

Figure 54 - Stone kitchen, Room 108

Figure 55 - Servants' Quarters, Room 109

Figure 56 - Servants' Quarters, Room 111
Figure 57 - Servants' Quarters, archway

Figure 58 - Stone kitchen chimney

Figure 59 - Bulkhead and doors, 1823 stone house

Figure 60 - Bulkhead and doors, 1789 brick house
which was constructed on the second story just above the stone kitchen at that time. Just before the servants' quarters were constructed, the stone kitchen would have consisted of only 1-1/2 stories which were probably covered by a wood shingle roof. The half story above the kitchen was probably just attic space entered by a stair constructed along the east wall. What appears to be a shingle roof above the kitchen shows up in the Day drawing of 1941-42 (figure 15).

Remnants of a second floor can be seen in the interior of this building. These remnants are seen in the suggested detailing left from the location of the joist pockets along the north and south walls and the ghost marks of a stair along the east wall. On the north and south walls, the joist pockets rise 7 feet 7 inches above the remaining brick floor. These pockets measure 9-1/2 inches deep, 3 inches wide, and are recessed 7 inches into the wall. The joists are 3 feet 11 inches from the top of the north and south walls and approximately 8 feet 2 inches from the ridge of the east and west gables. The distance between the remaining wall plaster at the top of the first floor to the lowest point on the second floor is 1 foot 9 inches. This indicates, to some degree, the space once occupied by a 1-1/2-inch floor and a 10-1/2-inch baseboard at the second floor. Wood nailers were also left in the 10-1/2-inch space in the stonework. A rational pattern of nail spacing in the remaining pieces of the joists indicates that the floorboards were approximately 5 inches wide.

2. Walls

Most of the walls of this space have openings. The west wall has two openings that lead into the upper rooms of the servants' quarters. One of the openings, the northernmost opening, appears to have remained a window whereas the southernmost opening of this west wall appears to have been converted into a door. The alteration of the stone into steps at the lower or sill end of the window indicates that the door with its steps led down to the second-floor space above the stone kitchen. It is conceivable that the windows of the west wall are original to an attic space or half story which was original to the 1824 stone kitchen; however, the true second floor or full story above the first floor
of the stone kitchen did not exist before construction of the servants' quarters. This evidence can be seen in the historic Day drawing and in the remains of the windows along the north and south walls. Evidence shows that the window openings on the second floor were later cut in the stone walls, and the framing and sash of the windows were crudely installed. The height of these windows above the floor and their widths seem to relate to the windows of the servants' quarters. What little that remains of the frames also seems to relate to the servants' quarters. The relationship of these windows may be seen most clearly in a photograph taken of this section of the house right after the fire.

From the first-floor room of the stone kitchen (room 108), many things about the building can be seen. The joist pockets above are spaced approximately 1 foot 9 inches on center; however, there is not enough evidence left to ascertain whether or not the first-floor ceiling was plastered or left unfinished.

Walls of this room are typical to this structure throughout. Both stone and mortar joints are deteriorating but are stable at this time. In all elevations there is either a door or a door and window which appear original to the structure in their present locations, except at the east elevation.

To the south of the stone chimney along the west wall of room 108 is a door opening. The frame (jamb and sill) survives; however, the door has been removed. Surviving framing at the opening is painted the bright purple-red color like the other trim of the main house, and it resembles the finish door and window framing of the 1823 stone house's first and second floors. The framing appears to be in fair condition and has some charring and burned away pieces at its surface. The present sill is the original stone sill to the opening and refinished in concrete.

The stone chimney and fireplace along this wall are in need of immediate repair (figure 58). Some stonework has collapsed from the chimney in areas, which may contribute to the structure being
weakened. Many openings in the stonework have made it a haven for bees and other insects. At the face of the fireplace one can see remnants of a later brick facing, metal flues, and the finish wood trim that was once around the opening. Not enough of the wood trim survives to allow reconstruction around the fireplace opening. A piece of an earlier log lintel survives on the south end of the chimney. The hearth of the fireplace is constructed of brick that is laid in a herringbone pattern. The brick appears to be in stable condition but is beginning to react to the moisture that sometimes settles in the space.

3. Windows

All windows in this space are so badly damaged that the frames and sash are burned beyond repair; however, remnants of the windows make it possible to conjecture the design of sash and frames for possible reconstruction. The remnants show that the sash used in this area were of the casement type. Each sash stands approximately 3 feet 9 inches high and are 1 feet 2 inches wide. The sash contain two lights, each measuring 20-1/4 inches by 10-1/4 inches. These double casement sash are overlapped at the center of the windows and divide the window openings into two half sections. The sash appears to have swung toward the building's interior when they were operating. They have beads at their interior edge and the muntins measure 3/4 inch by 1-3/8 inches. The sash stiles and rails are 1-3/8 inches thick.

4. Doors

Three door openings lead to the stone kitchen from other portions of the house. All doors of these openings swing open into the other rooms, except for the door at the north wall which swings open into the stone kitchen. This door does not appear to be original to this location. It has strips added to the left and right jambs and ghosting of a former lock box. The door is hinged to the door frame and opening with cast butt hinges. The strips added to the door jambs are attached with cut nails. The door frames and the backbands attached to the architrave of the frame are also assembled with cut nails. All door panels are applied with "L" head cut nails. The frame and door hinge do not show any signs that they were used in any other locations other than this opening.
There is a large stone sill under the door which is laid into the stone wall. When removing some of the plaster from the exterior of the wall around the sill, the evidence indicated that the stones were originally positioned to form this opening. Judging from the evidence found, it is conceivable that this door opening is original to the stone kitchen.

5. Stairs

Along the east wall are remnants of an old stair. The ghosting of the old stair is brought out by the remaining plaster that seems to outline the former stair carriage and treads. The evidence is not conclusive; however, it is conceivable that these remnants along the east wall are from the original stair which led from the first floor to the attic space of the stone kitchen. The stair terminates just above the east wall's door header and within 7 inches short of the probable floor finish of the second floor. The difference between the top of the last stair tread and the finish-floor height is indicative that the last riser was located there.

The door beneath this stair leads to the frame house. It has three steps up to the present floor of the frame house; however, the original floor of the frame house can be seen below. The steps are all put together with wire nails that are original to their present position and the boards used to construct the steps are radially sawed. This evidence would indicate that the steps are a later addition to the door opening in the frame and brick houses, but other evidence suggests that the opening in the stone wall may be original. Evidence is inconclusive at this time. This opening measures 8 feet 11 inches high by 2 feet 7-1/2 inches wide.

6. Floor

Surrounded by all the stone walls is the concrete slab floor of room 108. This is obviously not the original floor to the stone kitchen but a later addition. An archeological investigation beneath the concrete slab revealed that there was broken brick and gravel used as a porous fill. The broken brick resembles the brick at the hearth of the fireplace and may have been used in a similar capacity. This statement is
not conclusive; however, it is not uncommon for historic kitchens of this type to be finished with a brick or earth floor. There was no other evidence found to ascertain the kind of floor that was historically used in the kitchen.

E. 1901-02 South Bedroom Wing (Figures 61-63 and 65-68)

Three later additions to the main house are the south bedroom wing, the state dining room, and the servants' quarters. The south bedroom wing was constructed in 1901-02; however, the construction dates of the other two structures are unknown. After an extensive field investigation of the three structures, it was discovered that they have a lot in common and their dates of construction may be very close. The design of various building elements are the same and so are the use of materials for similar purposes. The construction techniques appear to be of the same period.

South of the 1789 brick house, the south bedroom wing stands 2-1/2 stories high and has a full basement beneath it. This building occupies a fairly sizable area and contains approximately 1,100 square feet of floor space on four floors. The first and second floors contain two rooms, a bath, and a portion of the stairhall. The basement and attic consist of an undivided space. This structure is brick and is covered with the same beige-colored Portland cement stucco much like the other structures of the main house. The structure is also covered with the temporary roof. The floors of the interior may be described as follows:

1. **Attic**

   Immediately below the temporary roof of the south bedroom wing is the attic area. It has no finished ceiling or walls, only the structural framing of the roof, the framed knee walls, and the brick walls at the gabled ends. The ceiling consists of 2-inch by 10-inch rafters and 2-inch by 4-inch collar ties spaced approximately 2 feet on center. The framed knee walls are constructed of 2-inch by 4-inch studs having the same spacing as the rafters and collar ties. These walls are braced at the joists and the floor with single-angled braces constructed of 2-inch by 4-inch boards. Both the stud walls and the rafters are further
Figure 61 - South bedroom wing, Room 117
Figure 62 - South bedroom wing stairwell, Room 215. Bath shown in background, Room 216.
Figure 63 - South bedroom wing, Room 218
enclosed with plywood sheathing at the exterior edges. The floor is a wood floor constructed with 1-inch by 8- to 10-inch flooring covering 2-inch by 10-inch floor and ceiling joists. The floor is currently stable, but there are holes or large openings throughout. These holes are a result of the 1979 fires that left the finished flooring heavily charred in some areas. This floor also has remnants of previous dormers and the existing posts which help to support the temporary roof above. Remnants of the dormers show only the form of toe mouldings and wood-formed tracks in which the interior dormer walls were once fitted. No other evidence of the interior dormer walls survive. At the north end of the floor is an opening where the stairs from the second floor below are located. The brick wall of the south end contains a window and is left unfinished on its interior surface.

2. Second Floor
   a. Ceiling

   On the second floor, the two major rooms (rooms 217 and 218) are painted green and yellow, respectively. Room 217 has green-colored walls and ceiling with doors, windows, and fireplace mantel trimmed in beige. Its plaster ceiling is installed on a wood lath. The plaster appears to be a Portland cement plaster mixed with a coarse-grained sand which contains very little animal hair as a binder. Along the north and east wall of this room, a portion of the plaster has fallen, exposing the wood lath and ceiling joists. The lath is attached to the joists with wire nails and both are sawed. The joists are constructed from dimensional lumber measuring 2 inches by 8 inches. Plaster on the ceiling appears to be applied in three coats which measure approximately 3/8 inch from the scratch and base coat and 1/8 inch from the finish coat. The finish coat is made of gypsum and is covered by a thin layer of a plain brown wallpaper that has been painted. Approximately two coats of paint are applied to the wallpaper; the first coat appears to be an off-white or beige paint and the last coat is green. The paint is cracked, blistered, and most of it is falling. The plaster, joists, and lath were first burnt by the fire and later weakened by moisture.
b. Walls
Walls in this area are very similar to the ceiling in construction and also have deteriorating plaster and paint. However, the deteriorating plaster at this time is limited to cracking and staining. No major areas of the walls have fallen; however, the wallpaper and paint have been stained by moisture and portions are cracked and falling. The tops of the walls are trimmed with a plain wood crown molding that is currently intact.

c. Doors, Windows, and Trim
The doors have six panels and are believed to be original. The door frame and trim are likewise categorized. No indications of any alterations have been observed. The doors, trim, and baseboard of this room are basically plain and are identical to those used in the state dining room's upper floors and room 214. It appears that there was a deliberate attempt to duplicate the moldings from one structure to the other.

There are four windows in room 217; each has two-over-two light sash. The window frames and trim are duplicates of the frames and trim of rooms 204, 205, and 214, but the muntins of the sash are smaller. Although the trim of rooms 204 and 205 duplicate that of room 214, the trim of room 214 is joined somewhat differently at the corners. These are joined using a full miter at the corners, whereas the others have a partial miter and are further squared. The connections of the full and partial miters are made with wire and cut nails, respectively. All windows, their frames, and trim are painted beige and are believed to be original.

d. Floors
The floors of this room are 1-inch by 3-1/2-inch tongue-and-groove flooring and are in good condition at this time. They are laid on 1-inch by 5-inch subflooring held together with wire nails. These appear to be radially sawed. The construction techniques used in this and other rooms of the south bedroom wing are very typical to the construction techniques used for residences of the early 1900s.
e. Fireplaces and Mantels

The fireplace mantels have trim that is very similar to the door and window architrave of the 1823 stone house. One difference between the two is noticed only in the degree of sharpness of the molding profiles. The molding profiles in the stone house are sharper and appear to be original. Their originality was ascertained after a thorough investigation of the fabric and its components. The trim of the fireplaces of the 1901-02 south bedroom wing are also believed to be original. The fact that these profiles are not as sharp as those of 1823 lies only in the workmanship and tools used to produce them. It is conceivable that the fabrication of this trim was an honest attempt to reproduce the molding patterns used on the architrave of the stone house. The rest of the mantel has a plain design; however, the mantel shelf, like the trim, has pointed moldings. The basic design of the mantelpiece appears to resemble those used in the Greek Revival style. This design carries through to all the other fireplace mantels of the south bedroom wing. Their brick fireplaces are built with small openings fitted with coal grates and gaslines.

f. Room 218

Room 218 is in the southwest half of the second floor of the south bedroom wing. Rooms 218 and 217 are similar in many ways, but room 217 is a little smaller and its walls and ceiling are painted a bright green. Doors, windows, door and window frames, and the architrave around them are painted green and are very similar in detail to those of the state dining room's second floor and room 217. The walls, ceiling, doors, windows, and trim are intact; however, there are minor problems such as the paint and paper of the walls and ceilings that are damp, cracked, and peeling. The baseboard trim is also intact but has loose paint on its surface. This and the other rooms are equipped with electrical outlets along the baseboards, and the heat registers are along the interior wall that divides the two main rooms. This room's floor is intact and identical to the floor of room 217.
g. Room 216

A bathroom that serves the second floor is adjacent to the northwest door of room 218 and to the stairhall. This bathroom (room 216) is behind the stairhall and may also be entered through the door which leads from there. The bathroom is equipped with a tub, sink, and toilet, but these fixtures are not operating because there is no running water in the building. Water supply piping is rusted and does not appear usable. The plaster walls and ceiling of this room are painted yellow and green. The ceilings and upper walls are yellow whereas the lower walls are green. These lower walls are covered with a 4-foot-high wainscot constructed of 3-inch tongue-and-groove beaded boards. Doors, windows, and their trim are also painted green. The wainscot is trimmed at the floor with a quarter-round toe moulding, and at the upper ends are hanging towel racks.

h. Stairs

The stairwell rises from the first floor to the second floor and terminates at a 3-foot by 7-foot landing that leads to the stairhall. The 15 risers of the stairwell are each approximately 7-1/2 inches high, and the 14 treads are approximately 10 inches wide. The nosing makes up about 1-1/4 inches of the riser height and 1-1/4 inches of the tread width. The stairwell spans approximately 14 feet from landing to landing and is believed to be safe; however, it is weakened and sags at the landing in the attic because of charred flooring and weakened structural framework. The structural integrity of this area is questionable. The balustrade running along the stairwell is constructed of a dark oak handrail and turned balusters. This balustrade and the stairs are believed to be original. The second floor is constructed of 1-inch by 3-1/2-inch tongue-and-groove flooring as used in the other rooms of the house. This floor appears to be original and is stable and sound at this time. The stairwell leading to the first floor from the second is similar to the latter and may be original to the 1901-02 south bedroom wing.
3. **First Floor**

The first floor of the south bedroom wing is laid out identically to the second floor. It also consists of two main rooms, a bathroom, and a portion of the stairhall. For the purpose of discussion, these rooms are referred to as rooms 116, 117, and 118.

a. **Ceilings - Room 117**

The ceilings are currently in fair condition but are heavily stained from moisture. Some of the paint, paper, and plaster has been loosened and cracked, however, they remain intact to some degree. The moisture stains on the ceiling have blackened it to an extent that the blue-painted ceiling barely shows through. A simple crown molding trims the edge of the ceiling and top of the walls. This crown molding has very fine ridges in the surface and convexes upward to form a moon-shaped profile. The molding is painted the same blue as the ceiling.

Room 117 is in the southeast half of the structure and may be entered by making a full left turn from the stairhall immediately after entering the main entry door of the stairhall from the exterior of the house. This room is currently painted a bright blue applied over a plain brown wallpaper. The paper is applied to the plaster walls and ceiling. The wood trim, doors, and windows are also painted blue.

b. **Walls - Room 117**

Most of the walls are stable in this room; however, one wall, in particular, shows its instability through cracking and staining of the falling paint and wallpaper. The rest of the wall is plainly designed without a chair rail or other niceties such as wainscot, full wall paneling, etc. These walls are fitted with windows or doors which complement the plain design. The walls and the ceiling are constructed of the same plaster as the walls and ceilings of the second floor. The plaster appears to be applied in the same number of coats with the same thickness and sequence as on the second-floor walls above.
c. Doors, Windows, and Trim - Room 117

Interior and exterior doors, the windows, and the door and window trim are identically located in respect to those in room 217 above. The windows and doors of this room and those of room 217 are also identical in appearance. Their trim, however, is remarkably different. Window and door trim of this room are the same as those of the state dining room's first floor. The architrave are constructed of a plain 3/4-inch by 6-1/8-inch wood piece having two identical backbands. These backbands measure approximately 1/2 inch by 2-3/16 inches and are constructed with a series of beads. The backbands are applied flushed with the edges of the plain wood architrave at either side. Along the walls at the floor are the baseboards. These are 5/8-inch by 9-3/4-inch boards with a large 3/4-inch bead at the top and a series of smaller beads from 2 inches to 2-5/8 inches from the top of the baseboard. The remainder of the baseboard is left plain. This baseboard is the same as that of the state dining room.

d. Floors - Rooms 116, 117, and 118

Flooring measures 3/4 inch by 3-1/2 inches and is constructed of tongue-and-groove boards. These boards are laid atop and anchored to 1-inch by 5- to 6-inch subflooring placed over the 2-inch by 8-inch framing joists. These and other members are anchored together with wire nails. The joists span from east to west and rest on the stone bearing walls of the basement. From the observations made, the floor finish and framing members appear to be in good condition and original.

e. Room 118

Room 118 appears to be in good condition and has most of its original materials intact. It appears as though its original ceiling, walls, windows, doors, trim, and floors have all survived through the years. The greatest changes in the room have occurred only in the repainting of the walls, ceiling, doors, windows, and trim. These areas are painted as follows: the walls are all painted a bright yellow and the ceilings, doors, windows, all trim, and fireplace mantels of this room are painted green. Wallpaper and paint on the ceilings are cracked and
peeling in some areas, whereas the walls show less of this deterioration as a whole. Major deterioration of the walls appear only on the north wall at the corner leading to the northeast corner door.

f. **Room 116**

The bathroom (room 116) is located to the rear of the stairwell and may be entered from the door leading from the stairwell, room 115, and the northwest door leading from room 118. In the bathroom the walls, ceiling, and floor are stable. The ceilings and walls are constructed of plaster; however, half the walls are covered with wainscot. This wainscot is constructed of 3-inch tongue-and-groove boards just like the one in the bathroom above and also painted green. The walls above it are painted yellow, and the doors, windows, and their trim are painted green.

4. **Basement**

Downstairs beneath the first floor rooms is the basement of the south bedroom wing. The only entrance to this room (room 007) is the entry gained from the basement in the 1789 brick house which must be entered from the exterior bulkhead entrance at the west elevation. Conditions in the basement show that there is an immediate need to control moisture. Exterior stone masonry walls of this area remain damp, and during periods of rain or melting snow, some areas of the walls and floor are left saturated. Observation of the drainage around the house during a rainy day revealed that some gutters and downspouts around this building were not operating properly. Gushing rain fell to the ground and penetrated the basement walls after percolating through the subgrade in the area of the malfunctioning gutter and downspout. On the interior wall of the basement in this area, the running water fell along the walls onto the floor. From this observation and others, it is obvious that subsurface drainage and the malfunctioning gutters and downspouts are two of the major reasons for moisture in this basement. Other reasons may be attributed to the poor percolation rate of the soil or its tendency to retain moisture for long periods. A soil percolation test performed by the park in the other areas of the site revealed a soil percolation rate of zero. This test does not conclude that the soil
percolation is zero around the structure or in every other area of the site; however, the possibility does exist. As long as the walls remain dampened and stained, a continuous presence of moisture is conceivable. It is necessary that future soil percolation tests be performed around the structure to ascertain the amount of residual moisture in the vicinity.

Further examination of the basement area revealed that it is in fair structural condition. Its cement-pargeted ceilings are damp, suggesting that the cement-covered structural members are dampened also. The dampness has probably affected their structural integrity, making it necessary to reinforce them from below. The cement plastered ceiling and the structural members are reinforced through the use of secondary beams bearing on steel pipe columns that are supported by concrete bases. These rest on the concrete floor.

Windows of this area appear original and are currently kept closed, conceivably restricting proper ventilation. Proper ventilation is needed to help remove dampness from this area. There are some broken windows that are boarded up; these should be repaired. All windows should be made operable for the future.

F. Circa 1895-1900 State Dining Room Addition (Figures 68-72, 73, 74, and 75)

Like the 1901-02 south bedroom wing, the state dining room is a later addition to the main house and shares similar building design elements, use of materials, and common construction-period techniques. This house is currently covered with a temporary roof similar to other portions of the main house. The temporary roof terminates at the building walls without an overhang. There are no cornices left in place except for a 1-foot section of the original cornice found at the northwest corner of the west gable end. To help drain the roof temporarily, gutters and downspouts have been attached to plywood that is nailed over the original fascia board up against the building wall. These gutters do not appear to be functioning properly because water is draining to the rear of them and up against the building walls.
Figure 68 - State dining room addition, state dining room, Room 104.
1. Exterior

These exterior walls are brick and currently covered with stucco. This stucco is a beige-painted Portland cement stucco that is common to other areas of the house. The stucco surface is covered with vegetation stains, and stains contributed to the moisture problems around it. The stucco and brick walls beneath it appear stable and somewhat resistant to moisture penetration; however, the exposed stone walls at the basement level do not appear to be moisture proof. Joints of these walls are deteriorating and some areas of the walls show the effects of moisture.

There are 11 one-over-one sash windows on the exterior walls of this structure. These windows and walls surround this two-story building that has a full basement underneath. This basement extends beneath the state dining room passageway which also has two floors. The passageway connects the state dining room, the frame house, and the stone house. This passageway and state dining room are located to the north of the frame house and west of the stone house.

2. Second Floor

On the second floor of the state dining room are two rooms. Room 205 is on the west end and room 204 is on the east end. To enter the rooms from the 1823 stone house requires one to walk down a flight of steps having five risers through one of two doors, one of which was converted to a door from an original second-story window opening of the stone house. This door leads into the passageway while the other leads straight into room 204.

a. Walls and Ceilings

These rooms are in bad condition, mostly because of the fire. For the most part the ceilings are badly damaged, leaving exposed their original structural framing joists and a view of the newly constructed temporary roofing (1979) and its rafters. The ceiling joists are heavily charred and most of their structural cross sections have been destroyed. These joists measure 2 inches by 8 inches and are spaced approximately 2 feet on center. They span 22 feet 3 inches from wall to
Figure 73 - Stone house basement, Rooms 001 and 002

Figure 74 - State dining room addition basement, Room 004

Figure 75 - State dining room passageway to basement. Room 005

Figure 76 - South bedroom wing basement, Room 007
wall and appear to be unstable at this time. What remains of the original ceiling are small pieces of sawed wood lath and deteriorating plaster. Portions of the lath appear to be salvageable whereas the plaster does not. Because the plaster is badly cracked and very loose in some areas, it would be much easier to remove what is there and replace it in kind. The plaster appears to be a very sandy cement plaster that was applied to the wood lath in what appears to be three coats. The first two coats are about 3/8 inch thick and have most of the cement/sand content. A small amount of animal hair has been used as a binder. On the other hand, the third or finish coat appears to be a thin coat of gypsum approximately 1/8 inch thick. Several layers of a white paint finish were applied to it. In addition, several layers of wallpaper have been applied. A grayish, lightly decorated wallpaper was placed directly on the painted surface of the plaster and the other, or top layer was a plain off-white. The remains of these wallpapers are falling from the ceiling at this time.

Although stable, the walls and their finishes in these rooms are bearing the effects of neglect and decay. The effects are shown through dampness, stains, cracking, peeling, and falling of the plaster and its finishes. The plaster appears to have the same composition as that of the ceiling and is invariably applied in a like manner. Finishes that are applied to it are similarly sequenced in their application but are totally different in their design. These finishes may be further described as follows:

**Paint**—the paint appears to be the first finish material applied to the wall. It is an off-white applied in several layers. This condition is true for rooms 204 and 205.

**Wallpaper--First Application**
Room 204 - Plain green wallpaper
Room 205 - Striped pink and gray wallpaper

**Wallpaper--Second Application**
Room 204 - Pink and gray flowery wallpaper
Room 205 - Gray wallpaper with red and green roses

**Wallpaper--Third Application**
Room 204 - Gray wallpaper with green and gray flowers and pink roses
Room 205 - None
b. Doors, Windows, and Trim

The doors, windows, and trim, and the baseboard along the walls are in good condition. Doors of these rooms are six-paneled doors much like those of the south bedroom wing and other areas of the house. The door hardware is the same as that used in the south bedroom wing and appears to be original to the doors of this addition. Window hardware appears to be original and is similar to that used in the south bedroom wing. The door and window trim of these two rooms and of the second-floor passageway are very simplistic in their design. These architrave or trim measure approximately 1 inch by 5-1/2 inches and are constructed of two integrally formed stepped sections and a third stepped section which is an applied 3/4-inch by 2-inch backband. All of the stepped sections are beaded. A double-beaded, quirked ovolo molding is seen at the second step while the first step remains plain. The applied backband that makes up the third step is molded trim. Its molding appears to be an ogee curve that terminates into a flat bead on the higher edge and a tapered bead at the lower edge. The appearance of these architrave and the doors and windows they surround are similarly styled with the Colonial Revival details that were typically employed in buildings from 1900 to 1920. This does not, however, conclude that the state dining room was built at this time. The same style of detailing also carries through to the 1-inch by 9-inch-high baseboards of all the state dining room addition and to the fireplace and mantels of rooms 204 and 205 especially. The neoclassical detailing is also seen in various elements in the architecture of the south bedroom wing. It is seen in the window and door trim, the baseboards, and fireplace mantels of all the rooms.

3. Second-Floor Passageway - Rooms 206, 207, and 208

a. Walls and Ceilings

The second-floor passageway has a number of problems. These are primarily inherent to the ceilings and to a lesser degree the walls. The passageway is divided into two major sections; the first section to the east is referred to as room 206/207 and the second section to the west is referred to as room 208. Ceilings of room 206/207 have plaster finishes that are falling, leaving wood lath and structural
joists exposed. The finished plaster ceilings survive only in spots, and the surviving areas are loose. They are plagued with moisture stains and stains of soot or smoke resulting from the fire. A closer examination of the plaster revealed that it is cement-based and applied in three coats. The scratch and base coats are each about 3/16 inch thick and contain a coarse-grained sand and animal hair in small quantities. The finish coat measures about 1/8 inch and is constructed with gypsum. Further analysis and comparison revealed that this plaster is a true duplicate of the plaster in rooms 204 and 205. The same holds true for the walls of this room and the others. The original walls and ceilings appear to have been finished in several coats of an off-white paint; however, a layer of wallpaper was applied later. This wall and ceiling wallpaper is colored blue and has a decorative motif of structures embedded in its finish. It is currently stained with water and smoke. Lath beneath the stucco finish is sawed wood lath applied to the ceiling joists with wire nails. It is also stained with smoke, heavily charred, and broken away in many areas. The remaining original ceiling joists are heavily charred and have lost most of their cross section. When new, these joists measured 2 inches by 8 inches like those of rooms 204 and 205. They are currently aided in supporting the temporary roof by new joists installed alongside them. The new joists also have 2-inch by 8-inch cross sections.

Room 206/207 consists of a space of about 272 square feet, including four closet spaces. This is the main passageway area that connects the major second-floor entrances and exits of the 1798 frame house, the 1823 stone house, and the state dining room addition. To the rear of this section is room 208, which is a bathroom at the rear of the passageway. When examining the structural framing, it was found to be integrally related to the easterly sections of the passageway, leading one to believe that they are part of a single construction and were most likely constructed at the same time. The construction materials and methods seem to match well and so do the corresponding architectural features. Windows, doors, and trim all match one another as well as other windows, doors, and trim of the state dining room's second floor. A close examination of the exposed structural framework of the west half of the passageway showed that its south wall covered up what used to be
windows in the second floor of the servants' quarters. It is conceivable that these windows were in place before construction of the passageway because it is unlikely that windows would be constructed only to be blocked off by an existing structure and never used for their intended purpose. The evidence uncovered in this area suggests two things: The servants' quarters were constructed before the state dining room and its passageway; or the rear area of the passageway was an addition to its original area and therefore covered the windows of the servants' quarters, which were never meant to be covered.

When examining the structure carefully, it became evident that the servants' quarters were constructed before the state dining room. The examination revealed that the main building of the state dining room addition was purposely built to receive the passageway or some other connecting structure along its south elevation. This structure was built as a two-walled brick structure with brick walls built at its north and west elevations and its east elevation abutting and being formed by the west wall of the 1823 stone house. Its south elevation was never enclosed by a wall but was left open as if another building was to be added. This building is conceivably the present passageway which is a frame structure that fits against the corner of the west brick wall, the stone wall, and the open area as if these areas were originally designed to receive it. There are no signs of later alterations. The wall between the passageway and the state dining room addition is a wood balloon-framed bearing wall that supports the floor joists and roof rafters of both the state dining room addition and the passageway at that location. It also serves as housing for both swinging doors and a pocket sliding door on the first floor. For the most part, it appears structurally stable, but its paint and wallpaper are peeling like other walls and ceilings of room 206/207, the main passageway, room 208, and the passageway bath. This bath is equipped with a lavatory, a tub, and a toilet; all three are inoperative at this time. Three walls and the ceiling of room 208 were nearly destroyed by fire and made it possible to examine the walls and window areas of the adjacent structures. Most of these are temporarily supported with 2-by framing, which also helps to support the new temporary roof. Temporarily supporting members range from 2
inches by 4 inches for the vertical members to 2 inches by 10 inches for the horizontal members. Portions of the former plaster walls are temporarily covered with plywood, whereas portions of the lower walls retain the original wainscot. Remnants of the original wood lath and studs remain, but the studs are heavily charred so that the structural integrity is somewhat questionable. The floors are trimmed along the walls with only a quarter-round toe molding, while the floors in the other areas of the second floor are trimmed with baseboards. The window sash is torn from the window, and the window is covered with plywood.

b. Floors
Floors in this and other areas of the second floor are in fairly good condition. The flooring is basically constructed of 3-1/2-inch tongue-and-groove members; however, there are some variations in some rooms. In room 204 there is a combination of the 3-1/2-inch and 5-inch tongue-and-groove flooring, but there does not appear to be any changes. The boards appear to be in their original positions and are conceivably the original floorboards to the second floor. The entire second floor of the state dining room addition requires one to ascend five steps to the 1823 stone house and descend two steps to the 1798 frame house.

4. First Floor
The first floor of the state dining room addition contains the first-floor passageway, rooms 105, 106 (butler's pantry), 106A, and the state dining room (room 104). This area is currently stable; however, a great deal of moisture damage can be seen on the ceilings, walls, and the finish floor.

a. Windows
The state dining room is a large sprawling room covering 780 square feet with ceilings rising 8-1/2 feet above the finished floor. This room (room 104) has five of the 11 windows; and all are in good condition. These have one-over-one light sash set in a plain window frame that is trimmed with an architrave having a molded backband applied to each edge. The backbands are identical and are very similar
to those on the windows of the second floor. Those applied to trim the window opening at the head and jambs do not meet at the top window corners but terminate on a square corner block designed with a molded surface of concentric beads. The architrave, with applied backbands and squared corner blocks, are representative of window trim used in Colonial Revival detailing. They are trimmed with beaded bases, and the windows have paneled sections just beneath the sills.

b. **Fireplace**

Another example of Colonial Revival detailing in the state dining room is seen in the large mantelpiece surrounding the fireplace. The fireplace and mantel are located symmetrically between two windows on the west wall and appear colossal in scale when compared to other architectural elements of the room. The mantelshelf is held up by two fluted Ionic columns that stand in front of the brick fireplace jambs. Both the mantelpiece and jambs appear too massive for a fireplace opening of this size (see figure 68). The fireplace hearth is made of clay tile and is basically even with the wood floors. A few of the tiles are loose and in need of repair.

c. **Ceilings**

The plastered ceilings appear to be intact but are sagging because of previous exposure to water. They have cracking plaster and paint which is blistering, loose, and falling. Water stains on the paint and plaster are partially concealed but contribute to the deterioration of the original plaster and paint. The ceiling plaster is a cement plaster much like that of the rooms on the second floor. It is also applied in three coats of similar consistency, but only paint is used as a finish-wall material. The paint is an off-white paint and appears to be applied to the ceiling in at least two coats. It appears to be applied over a plain, unbleached wallpaper attached to the finish or skim coat of stucco. Behind the finish coats of paint and wallpaper, the ceiling stucco is applied over wood sawed lath that is attached to the ceiling joists with wire nails.
d. **Walls**

Walls are also finished in plaster and paint much like the ceiling and have the very same finish color. They are stained with moisture but appear much cleaner than the ceiling. Most of the plaster and paint of these walls is stable, but there are areas where the paint is loose. The affected painted areas appear to be in areas where moisture may have settled. These areas reflect more surface staining than any other areas of the walls. These walls are fitted with a chair rail at the window sill and a baseboard where the walls meet the floor. Both the chair rail and the baseboards are fitted with moldings that resemble those used at the window and door architraves. These moldings are also Colonial Revival in style.

e. **Floors**

The floors of the state dining room are in good condition but have minor flaws throughout. The flooring is constructed of 1-inch by 3-1/2-inch tongue-and-groove boards that have been finished with several coats of a wood stain. This flooring rests on diagonal subflooring that measures about 1 inch by 6 inches and is attached to the structural joists below. These joists have been weakened by the moisture conditions in the basement as well as from fatigue and minor decay. They are currently assisted in their structural capacity by additional structural supports. These beams are approximately 8 inches by 10 inches in cross section and rest on columns and piers at the basement level. The finish flooring, subflooring, and structural framing of beams and columns are the same beneath the passageway as they are beneath the main state dining room area.

5. **First-Floor Passageway**

The first-floor passageway as it appears today is made up of three rooms--Room 106, the butler's pantry, room 106A, the closet of the butler's pantry, and room 107, the main area of the passageway that brings together the interior entrances of the state dining room addition, the 1823 stone house, and the 1798 frame house.
a. **Ceiling**

In the main area of the passageway the ceiling shows moisture damage much like the ceilings of other rooms in the house. The ceiling is damaged to such an extent that it is cracked and several portions have fallen. Beneath the fallen ceiling plaster is sawed wood lath attached to the ceiling joists with wire nails.

b. **Walls**

Walls, like the ceiling of this area, are painted off-white much like the walls of the state dining room and contain the same plasters. The plasters are applied to wood lath attached to the wall with wire nails.

The area between the north wall of the frame house and the existing passageway was examined. Just to the east and above the frame house's north door were found remnants of the original one-story passageway that existed during the Gallatin years (see Day drawing, figure 15). The remnants were that of a ledger attached to the frame house's north wall. It contained mortises and a broken tenon that appears to be left over from the passageway roof. The existing ledger measures approximately 4 inches by 8 inches and 3-inch by 4-inch mortises are cut within. From the appearance of the mortises and the ghost marks left around them, it is conceivable that the joists measured approximately 3 inches by 7 inches and were spaced about 2 feet on center. No evidence of the former roofing material remains; however, the Day drawing shows what appears to be a wood shingle roof. The height of the roof ledger was approximately 8 feet above the floor of the present passageway. When other areas between the walls were examined, no additional remnants or evidence relating to the original passageway was found.

In rooms 106 and 106A of the existing passageway the finished ceiling, walls, and areas behind the walls were further examined. The north frame wall of the 1798 house was examined and believed to be original. The lath and finish interior plaster behind the cupboard of this wall was also believed to be original. The plaster on the walls of rooms 106 and 106A is stained and cracked and portions are falling.
composition of the plaster appears to be the same as other plasters of this structure and painted in a similar way. The paint is cracking, blistering, and falling from the walls at this time. One window in this area is in good condition, but the other has been boarded with plywood because of a broken window sash.

6. **Basement**

The basement, room 004, presents many problems to this structure. One problem, in particular, is that moisture is present throughout. There is moisture in the walls and on the ceilings and floors, and it seems to be at its worst during the winter snow or rainy season. From the observations made around the building during snowy and rainy periods, moisture was detected entering the building through broken windows and the deteriorating masonry walls below grade. Exterior observations of the improperly functioning gutters and downspouts showed that water was expelled along the perimeter of the building and was saturating the surface and subgrade in these areas. Most of this water appeared to be percolating through the subgrade and basement walls into the basement area where it remained for long periods of time. An apparent reason for its prolonged retention in this area is because of poor ventilation and no means to drain the water sufficiently. There are no functioning drains or other means in the basement to divert the water from the space. The soil at the floor of the basement is almost impermeable, and the depressions in the uneven floor trap the water; consequently, some standing water, up to 1 foot deep, is sometimes found in this area.

Another problem in this area may be linked to the effects of time. It is seen in the integrity of the structural members and finishes of the space. Most of the structural beams, columns, and piers in the basement have moisture damage and are apparently weakened. Most are deteriorating and sagging and do not function at their full-load potentials. Some are bolstered by temporary structural members that are helping to carry the load. In addition to deterioration, some members, such as the columns and piers, are leaning because of improper support in the moisture-laden soil. This has contributed to sagging in the beams
that support the floor above. The columns are approximately 8 inches in diameter and the beams are 10 inches by 12 inches. Some piers are constructed of two tiers of brick. Other signs of deterioration are seen at the stone walls. They have blistering, cracking, and peeling whitewashed interior surfaces and deteriorating mortar joints. Signs of more moisture are revealed by the icicles on the ceiling and ductwork in this area.

In addition to the above problems, some interesting features are found in the basement. These are quoted from the archeological field report as follows:

Excavations were conducted in the basement beneath the late 19th century dining room addition, north of the wall in question. (It had been suggested that a subterranean passage connected the 1798 structure and the 1823 stone house prior to the construction of the late 19th century dining room.) Natural bedrock was encountered beneath clay which had accumulated in the basement; it was not possible to determine whether a passage foundation once stood upon bedrock, and the case at present is unproven. A late 19th century milk cellar was located along the north basement wall beneath the dining room. This milk cellar had been cooled by spring-fed water and had continued in use well into the 20th century to judge from the concrete central pad and concrete-lined water channel.

What remains of the milk cellar are portions of a shallow brick wall surrounding the steps that lead down to the concrete floor slab. The water channel or trench to which the water from the spring flowed was about 5 inches to 6 inches deep and 6 inches to 10 inches wide, and water seemed to be applied to this inlet from a bubbling underground inlet. This inlet was at the southeast corner of the slab near the base of a column. An overflow pipe was placed along the west side of the slab and routed below grade toward the foundation wall of the west elevation. It is not known where this pipe terminates.

The total area of the milk cellar measures about 35 square feet, and the remaining walls are constructed of a hand-surfaced brick and bonded with Portland cement joints.

Another area of importance in the basement (room 004) is the area beneath the passageway along the frame house. Remnants of stone walls have been discovered, which are believed to be the foundation walls of the original one-story passageway. Most of this area has been filled in with clay and rock fill; however, what appears to be stone foundation walls were approximately 6 to 8 feet away from, and parallel to, the north wall of the frame house. No excavation has been made in this area, however, archeological investigation is recommended in the future. This existing stone wall seems to coincide with the perimeter of the present passageway and possibly the original one-story passageway as seen in the Day drawing of 1841-42 (figure 15).

G. Circa 1895-1900 Servants' Quarters (Figures 55-57, 77-80)

To the rear and west of the 1824 stone kitchen is the servants' quarters. This two-story structure is constructed of brick covered with stucco and has a standing seam metal roof. This 965-square-foot building appears to be a late 19th or early 20th century structure that has suffered heavily from the 1979 fires. The building had a total of 29 two-over-two light sash windows distributed throughout the rooms.

The standing seam metal roof is painted the bright purple-red color used in other areas around the main house, but the roof is badly damaged at this time. The fire burned away the section that once covered the stone kitchen and left other areas unstable. These areas are weak and show signs of deterioration resulting from the fire and oxidation of the unpainted sections throughout. The cornices, built-in gutters, and downspouts are also deteriorating and are not efficiently discharging water away from the building. As a result, some of the water is infiltrating to the interior of the structure and along the exterior walls where it is affecting the finish wall surfaces.

On the exterior walls, the finished stucco is heavily stained and cracks have developed in many areas. Most of the stains are from penetrating moisture; however, some were caused by ivy that once covered the walls. These are gray to black in color and hide the true finish color of the stucco.
This beige-colored stucco is a Portland cement stucco and appears to be applied in three coats. It is currently stable, but the minor cracks in its surface make longevity seem questionable. After examining the stucco closely, it is conceivable that it may only last several years or more before relinquishing protection to the brick walls beneath it. These walls are currently stable, but if the stucco is removed and the hard finished surfaces of the brick are pulled away as a result, it is likely that the brick will begin to decay. This could result in more water entering the building through the exterior walls, which will further damage the plaster and woodwork of the rooms on the first and second floors.

1. Second Floor

Historically the second floor of the servants' quarters consisted of four bedrooms and a bath at the west end of the archway and a living room over the stone kitchen or the east end of the archway. As a result of the 1979 fires, a large portion of the second story, mostly the area above the stone kitchen, has been destroyed.

Remains on the second story of the structure consist of what appears to be three major areas. There is one large room at the west end of the structure and two smaller rooms at the east end. A passageway from the stairwell below leads to and connects the rooms at either end.

a. Room 212

(1) Ceiling

Room 212 at the west end of the structure measures approximately 324 square feet with a 7-foot 11-inch ceiling to floor height. The ceiling is stable at the moment but has a number of holes throughout its finish surface and wallpaper which is torn and falling. The ceiling finish has been done in what appears to be two coats of plaster, with the first or base coat having a high sand and lime content and small amounts of animal hair as a binder. A second or finish

coat appears to be formed by using a thin coat of gypsum with a layer or two of white paint on top. The paint was later covered with a layer of wallpaper. The wallpaper on the ceiling has a very heavy texture; however, its finished surface is charred to such a degree that the decorative treatment used on its surface is beyond recognition. Holes in the plaster ceiling have made it possible to observe the ceiling framing above the plaster. Lath supporting the plaster is all sawed wood lath nailed to the ceiling joists and intermediate lath strips above with wire nails. These lath strips and the joists are radially sawed dimensional lumber and do not appear to be structurally degraded from the fire. The joists measure 2 inches by 6-1/2 inches, and the lath strips measure 3/4 inch by 3 inches.

(2) **Walls**

Walls of this room are also damaged but not enough to limit a thorough investigation of the existing fabric. Each exterior wall contains two windows, making a total of six windows for the room. The interior or partition wall contains only one door that leads to a closet at its north corner. The wall is plastered with three coats. Two of the coats, the base and scratch, basically consist of a lime and sand mortar similar to that of the ceiling. The finish or skim coat appears to be gypsum. The scratch and base coats measure approximately 3/16 inch, whereas the finish coat is only 1/8 inch. It has received several coats of white paint over the years, and the paint is now covered with what appears to be at least three different layers of wallpaper. The first layer of wallpaper adjacent to the plaster appears to be a solid dark pink-colored paper on the interior partition wall and a brownish-pink flowery paper on the exterior walls. The brownish-pink flowery paper is the second layer of paper on the interior wall, whereas the second layer of wallpaper applied to the exterior walls is a solid green. Atop the second layer of wallpaper on the interior and exterior walls is the third and final layer of wallpaper; however, it has been painted blue. Its original decorative finish is indistinguishable. Along the exterior walls, all the plaster and its finishes are set in about 3/4 inch to 1 inch from the exterior brick walls. The plaster is secured to 3/8- by 1-1/2-inch sawed wood lath applied to 3/4- by 3-inch furring strips as on the ceiling. All
furring strips are spaced about 16 inches on center with wire nails used to secure the wood lath.

(3) **Windows**

Window sash in this room are intact and operable but have minor cracks in the glass. These have two-over-two lights and resemble those sash of the 1901-02 south bedroom wing. Sash of this room and the south bedroom wing are believed to be original to the construction of the buildings in which they are installed. The frames to the windows are also believed to be original except for the two at the west elevation. These are the only two in any portion of the main house that resemble the window frames of the 1823 stone house. They have the rounded jambs (bullnose) like the frames of the stone house windows and are believed to have been taken from an earlier set of windows that were once installed at the stone house's west elevation. A comparison of the frame dimensions to the probable dimensions of the rough window openings from which they may have come has supported the possibility that the frames were relocated and reused. Although the reused windows from the stone house to the second-floor bedroom is possible, it is by no means conclusive. An examination of the paint layers on the frame also supported to the theory.

(4) **Doors**

Doors of the closet and hallway stair are two-over-two panel doors that appear to be in their original locations. These have raised panels and integrally designed moldings much like those fashioned on the door framing of colonial houses. The doors, however, are not fashioned to the Colonial architecture period nor were they intended to imitate Colonial Revival period doors. In comparison to the colonial doors, these are out of scale and lack the necessary hardware. The present cast-iron hinges and knobs of the door appear to be original and never removed from their present locations. Cabinet doors of this room are paneled doors and appear as if they are of an earlier construction period than the cabinet doors of the 1823 house. The cupboard is constructed with oversized, raised panels that are crudely finished and are typical of late 18th and early 19th centuries. It is not
original to this location and does not match construction techniques used elsewhere in the main house. It is possible that it was reused when the 1789 brick house or the 1798 frame house was remodeled. A three-panel door closes off the two-shelved lower cabinet that is adjacent to a chase wall housing the protruding chimney flue from the fireplace below. The cabinets and chase walls are both on the north wall of the room.

Architrave or trim are all intact on the window walls and along the floors. The window and door trim is beaded and measures 3/4 by 3-3/4 inches. The apron below the window stool is very similar. Baseboard mouldings are beaded at the top third but become plain at the bottom two-thirds. They stand about 8 inches from the floor and are trimmed along the bottom with a 1-inch quarter-round toe molding. At the intersection of the south and west walls and extending about 6 feet 11 inches along the south and 5 feet 8 inches along the west wall is a wainscot. The wainscot stands about 3 feet 1 inch above the floor and is constructed of 1/2-inch by 3-inch beaded boards. From the appearance of the wainscot, the area once served as a washroom or wash area. A lavatory stands in the corner of this space, with piping servicing it from the first floor. Another pipe runs along the west wall toward the sink but terminates 2 feet from the lavatory supply pipes before making the connection. This pipe is capped off.

(5) Floors
This floor is constructed of random width tongue-and-groove flooring that is about 3/4 inch thick and is laid on the floor in 2-1/2-inch, 3-1/4-inch, and 4-1/4-inch widths. This flooring appears to be original and is only disturbed in the area near the lavatory. The disturbance or broken pattern in the flooring was probably made to permit the installation of piping for the lavatory. Supporting the flooring are 3-inch by 8-1/2-inch joists that appear to be structurally sound and in good condition.

b. Room 210 and Room 211
Rooms 210 and 211 of the second story were badly damaged by the fire and survive mostly with the boundaries formed by
the existing room framing. Most of the framing in these rooms is temporary and supports the metal roof above. In Room 211 two of the original wall finishes barely survive. On the west frame wall the plaster remains but is badly charred. Examination of the plaster revealed that it is much like the plaster of room 212 in composition and is secured to the wall by the same means. This plaster was finished with wallpaper that is now burned beyond recognition.

The north wall of room 210 is constructed of brick furred with wood like the walls of room 212. Walls are deteriorated with large holes that are broken into the plaster. A window frame and its two-over-two sash in the wall are badly burned, but enough details have survived so that the window can be compared to the others in the structure and possibly reconstructed. A comparison to the window architrave in room 212 reveals that these architrave and those of the window above are similar. The same applies to the baseboards and floors. The south wall is a frame wall and has plaster conditions similar to the others. Three steps up a small stair and to the east is the third room or space that partially survived the fire. The floors have survived in some areas but most of the structural members are exposed. The joists are exposed and heavily charred, with most of the structural cross section destroyed. The surviving floor is very similar to the floors of rooms 211 and 212, but it is constructed of tongue-and-groove members measuring 3/4 inch by 4-1/4 inches wide. All exterior walls of this room have been burned and their framing left exposed by the fire, but remnants of their finishes can be seen. It can be clearly seen that the wall finishes are similar to those of rooms 211 and 212. They cover a brick wall at the north and south elevations and a stone wall at the east elevation. The west wall divides this room from the others. The ceilings of room 210 and 211 are exposed. Charred rafters, joists, and the metal roof above are visible. Four windows are in this room, with one converted into a door for entry into the former area above the stone kitchen. There appears to be a step leading from this door to that section of the kitchen that was formerly used as a living room for the servants' quarters. Not much is left of this space, except for remnants of its windows in the north and south brick walls. Portions of the frame walls also survive near the northwest corner at the west gable end.
2. **First Floor**
   a. **Room 111**

   (1) **Walls and Ceilings**

   On the first floor of the servants' quarters, wood detailing is used extensively. This dark stained wood is used as an interior wall finish in room 111, which is the largest room on this floor. The ceiling is constructed of 4-1/2- to 5-inch tongue-and-groove boards that are also used at the upper portion of the wall above the windows. The boards on the upper walls and ceilings are approximately 3/4-inch thick and are applied horizontally. There is a small crown molding on the upper wall and its intersection with the ceiling, and a plain beaded molding separates the upper from the lower wall. The lower wall is also constructed of tongue-and-groove boards with similar dimensions to those of the ceiling and upper wall; however, its boards are applied vertically. The wall is trimmed at the floor with quarter-round toe moldings. All paneling is applied over battens that are attached to the three brick masonry exterior walls and a wood partition wall at the west which encloses the stairhall.

   (2) **Floors**

   The floors of room 111 and that of the hallway (room 110) are concrete slabs on grade. These floors are stable but have small cracks in the upper surfaces. They are also susceptible to moisture penetration that shows heavily on the surface during prolonged periods of rainy or snowy weather. It was suspected that most of the water may have entered through the large fireplace of room 111; however, an examination and observation of the fireplace during a rainstorm did not show that any substantial amount of rainwater was entering the room at this point. It is conceivable that the water on the floor slab has been caused mostly by rising damp (capillary action) from the ground below. The water has spread over the entire floor area.

   (3) **Fireplace**

   Standing along the north wall of room 111 is a large brick fireplace. Its opening measures 4 feet 10 inches high by 5 feet 2 inches wide. The total width of the chimney measures 7 feet 3-1/2
inches and extends from the finish floor to the finish ceiling, 8 feet 9 inches above.

This chimney tapers off after passing through the ceiling and runs along the north wall of the second floor, room 212. At the top of the fireplace opening is a stone lintel measuring 19 feet 4 inches high. It appears to be a retrofit to replace the original lintel that may have failed. Evidence of the retrofit can be seen at the ends of the lintel where brick has been altered to allow for its installation. The mortar used around the lintel also differs from mortar in other areas of the chimney brickwork.

(4) Doors and Windows
The doors and windows appear to be in good condition but need restoring. They have a high paint build-up and some have swelled in the frames because of moisture content. The swelling has made many of the doors and windows difficult to close or open. Some deterioration is shown in the exterior doors and windows. The interior doors are basically raised paneled with 1-3/8-inch framing trim and a simple bead. The exterior door at the west elevation has four panels and stands 6 feet 9-1/4 inches high. It is the only door on the first floor of this building which has a transom. The transom measures 10 inches and has only one light enclosed in a simple frame. The entire door is enclosed in a simple frame and has a screen door on its exterior. Other doors of this room are very similar except for the door beneath the stairwell that is a dutch door. All of the doors and windows are trimmed with solid 7/8-inch by 3-5/8-inch architrave having a multibead surface. The rounded beads of the architrave are Roman-styled in character, much like the doors and windows of the second floor.

The windows of the second floor are furnished with two-over-two light sash that resemble those of the south bedroom wing. Comparison of these two areas revealed that the windows of this room are relatively shorter than the others, although their basic design and hardware are quite similar. The hardware of these doors and the doors of the south bedroom wing are also similar. All of the doors, windows, and wall finishes of this room appear to be original.
b. **Room 109**

(1) **Ceilings and Walls**

In room 109, there is a wood ceiling similar to that of room 111. All four walls are brick, including the south wall that divides this room from the passageway. The walls are furred, then plastered with a cement stucco that has moisture damage much like the paint. This paint is cracking, blistering, and peeling, and appears to be applied in three or four coats. The walls are covered with three coats of plaster that are similar to the plaster in room 212. This plaster is also applied to sawed wood lath held in place with wire nails. The plaster finishes are painted with several coats of green paint.

(2) **Doors and Windows**

There is one door and one casement window in this room and both swing toward the room's interior. The window has four lights in its casement sash and the door has four panels. The window and door are framed and similarly styled to their counterparts in the other rooms, but this door has been cut short. The door was apparently cut short to allow for the increased floor height of this room. Both doors and windows have trim similar to that in room 111.

(3) **Floor**

The floor is wood and is raised approximately 1 foot above the other floors. It sits on wood joists that are approximately 2 inches by 10 inches in cross section. The floorboards measure about 1 inch by 5 to 7 inches in width and are currently damp and decaying. The joists are also decaying from moisture in the space.

c. **Room 110**

(1) **Walls and Ceilings**

Outside rooms 109 and 111 is the passageway, room 110. It connects the two rooms and provides access in and out of this structure. The basic interior of this room is the same as that of room 109, except that its ceiling has a patch finish. The room finishes are subjected to similar problems described in the other rooms and require attention. This area is the only room of the first floor furnished with
baseboards along the walls. These baseboards measure 1 inch by 8 inches high and have a simple molding at the top. A quarter-round toe molding trims the bottom of the baseboard.

(2) Doors and Windows

The doors and windows of this space are similar to those in the rest of the building, except that double doors were used. These lead to the exterior of the structure and are the main entry doors into the house from the arched exterior passageway (porte cochere). They each measure 7 feet 11 inches tall by 22 inches wide and have three panels. Evidence around the hinges shows that the doors were either reworked, fitted with a new set of hinges, or removed from another location. The doors do not appear original to this space.

3. Archway (Figure 57)

Outside the double doors of room 110 is the archway (porte cochere). It is 6 feet 4 inches high from grade to the springline and another 5 feet from the springline to the crown of the arch. The width of the archway opening is 10 feet 2 inches. This opening is trimmed at the base with 10 inches of the stone water table that extends from the adjoining stone kitchen and the first-floor level of the servants' quarters. The water table extends into the archway as a part of its interior walls. At the interior of the archway the walls are those shared with the stone kitchen and the brick servants' quarters. These were covered with stucco. The west wall that is shared with the servants' quarters has an arched opening which terminates in the shape of an eyelid. This opening has been filled in and stuccoed; however, its outline can still be seen. The outline of this opening can also be seen from the inside of room 109. The use of the opening is unknown, but it has been said that it was used for ticket and refreshment sales when the house was open for tours. This opening is adjacent to the double doors.

The ceilings of this area are wood, constructed of 4-1/2-inch to 5-inch tongue-and-groove boards. These show moisture and minor fire damage and are sagging in some areas. They are supported by a post and beam prop extending from the ceiling to the masonry floor.
This floor is constructed of brick that is uneven in areas caused by settlement. Water is retained in the uneven areas during inclement weather.

H. 1954 Garage

To the north of the servants' quarters is a three-car detached garage. The garage measures approximately 20 feet by 36 feet and is constructed of frame walls covered with rustic wood siding. The walls are covered by a green-rolled tile roof. Three elevations of the garage are exposed, mainly the north, east, and west elevations. The north elevation has a gabled end that increases the height of the structure from 7 feet 4 inches on the east and west elevations to 14 feet 11 inches on the ridge of the gable. The east elevation contains the doors or openings to the garage, and entry is gained into the bays at this point.

The garage roof appears to be stable but there are leaks within. It is framed with 2-by-8 rafters that have deteriorated at the ends. These are covered with a rough wood sheathing which is covered with the green-rolled asphalt roofing that appears to be original to the garage roof.

Walls of the garage are frame and sturdy at this time. They are covered with a rustic wood siding that appears to have been taken straight from the tree to the sawmill and used in the construction. The siding is not dressed in any way; chunks of bark and sap remain on its outer and inner surfaces. Framing of the walls appear to be in good condition; however, there is not much of a foundation for support. If the garage is retained, it is suggested that it be underpinned and a new and continuous perimeter foundation be installed. The roof should also be repaired and a slab-on-grade floor should be constructed. The garage currently has an earth floor that is not level, and moisture is allowed to stand on the floor at times.
IV. ENGINEERING REPORTS

A. Mechanical Systems

The main house was formerly heated by two natural gas, warm-air furnaces located in the basement rooms 004 and 007, with ducts extending to the following rooms: 101, 102, 103, 104, 113, 114, 115, 116, 117, 118, 204, 205, 206, 208, 216, 217, and 218. The natural gas was supplied from a natural gas well on the property that has now failed and cannot be used in its present condition. The furnaces are unusable because of rusting and deterioration of the casings and the burners. Conditions of the furnaces and outdoor gas lights indicate a high sulphur content in the natural gas that may have formed sulphuric acid which would accelerate corrosion. Natural gas was piped to all fireplaces in the house. All gas piping should be removed.

Domestic hot and cold water was piped in through galvanized steel piping, and the water was heated by a natural gas water heater. The piping is in poor condition and unusable. The drain, water, and vent piping is generally cast iron with some vent piping of galvanized steel. All of this piping is in poor condition and should be removed.

Drainage for the basement is now provided by a sump pump in room 007, discharging through a temporary plastic pipe into the swimming pool.

After an evaluation of the main house, Mechanical Engineer Dwight Wendell made the following interim recommendations on December 2, 1982. (See section VIII of this report for final recommendations.)

Remove all domestic cold and hot water piping, generally galvanized steel. The interior of the piping is heavily mineralized, shows leaking, and has been previously repaired and in poor condition.

Remove all waste, drain, and vent piping, generally cast iron repaired with plastic piping. Remaining piping is in poor condition. Properly cap any piping that leaves the building.
Install copper tubing with soldered joints for domestic hot and cold water, cast-iron piping for underground waste and drain, and cast-iron piping or copper tubing for drain waste and vent piping aboveground. The water supply must be tested and a proper treatment system installed to furnish acceptable potable water.

Remove existing furnaces. Existing natural gas furnaces are badly deteriorated, with casings rusted through and controls and heat exchanges severely corroded.

Existing sheet metal and galvanized steel ductwork is in good condition and can be reused where appropriate by properly insulating the ductwork. Special attention must be given to insulate ductwork in all spaces to prevent condensation in and on walls if air conditioning is installed.

It will be possible to extend environmental control to the second floor of the 1823 house, rooms 201 and 202, by using existing cabinets and fireplace flues or modifying masonry walls as chases for the required ductwork.

Combustion for heating can be kept out of the historic areas of the house by placing a hot water heating boiler in the area of the servants' quarters and piping hot water to the air handling units in the basement of the historic areas.

If a sufficient source of water with acceptable quality is available, a water source heat pump(s) should be investigated.

The use of solid fuel for heating in a historic structure generates dust and smoke in the building, and the firing rate cannot be as accurately controlled as with other types of fuel, so it is not recommended as an option. A direct fired oil furnace with refrigeration coils is an option.
Remove all existing natural gas piping, including piping to fireplaces.

Existing floor and wall registers can, in general, be used.

The basement drainage can be improved by lowering the present sump pump in room 007 approximately 16 inches and by installing an additional sump pump in room 002.

B. Electrical Systems
   1. Gallatin House

   The existing electrical systems at the Gallatin house are generally old and deteriorated and should be replaced.

   The electrical service is 120/240 volts, single phase, from pole-mounted transformers located approximately 85 feet west of the house. All branch circuits are served from a 200-ampere panelboard in the southeast corner of the servants' quarters.

   The branch circuit wiring consists of exposed and concealed nonmetallic sheathed cable (Romex). The cable is generally deteriorated and should be replaced.

   Illumination in the basement is currently provided by porcelain sockets and temporary lighting fixtures. The servants' quarters illumination is provided from fluorescent lighting fixtures. Area illumination is provided by pole-mounted, mercury vapor yard lighting fixtures. The branch circuits to area lighting fixtures run through trees and porch support poles. The branch circuit for area lighting fixtures should be relocated.

   The existing receptacles are 15 ampere, 120-volt grounding type throughout the building. These receptacles should be removed and new receptacles added as required.
After an evaluation of the main house, Electrical Engineer Quentin D. Smith made the following interim recommendations. (See section VIII of this report for final recommendations.)

If, after further design, the electrical service is of sufficient size, then it should be reused.

The area light fixtures should be retained, but their branch circuits should be installed underground.

All existing wire should be removed, and new branch circuits should have new conductors installed in conduit. Any existing electrical equipment that remains in the building should be served with new branch circuits.

Because the existing structure does not have a fire alarm system and there is fire damage, it is recommended that a fire detection/alarm system be installed. The system would consist of a combination of ionization and rate of rise detectors, control/annunicator panel, and telephone dialer. The dialer would be used to notify park personnel that a fire has been detected in the structure.

2. **1823 Stone House**
   a. **Illumination**

   Alternative 1 - Illumination would be provided by daylighting only.

   Alternative 2 - Illumination would be provided by daylighting and early period floor lamps. The floor lamps would only be used when daylight illumination was inadequate.

   Alternative 3 - Illumination would be provided by adding cove lighting. This method would not be typical of the Gallatin era.
Interim Recommendation: Alternative 2 is the preferred method of providing illumination in this area.

b. Receptacles
   Alternative 1 - Receptacles would be added on each wall so that any area would be within 6 feet of a receptacle.

   Alternative 2 - Receptacles would be installed only in remodeled walls and concealed areas. All receptacles would be installed out of the visitors view. Minimal receptacles would be installed to meet the needs for artificial lighting, audiovisual equipment, etc.

Interim Recommendation: Alternative 2 is the preferred alternative.

3. 1789 Brick House
   a. Illumination
      Alternative 1 - Illumination would be provided by daylighting only.

      Alternative 2 - Illumination would be provided by a combination of daylighting and floor lamps. The floor lamps would only be used when illumination from daylighting was inadequate.

      Interim Recommendation: Alternative 2 is the preferred alternative.

   b. Receptacles
      Alternative 1 - Receptacles would be added on each wall so that any area would be within 6 feet of a receptacle.

      Alternative 2 - Receptacles would be installed only in remodeled walls and concealed areas. All receptacles would be installed out of the visitors view. Minimal receptacles would be installed to meet the needs for artificial lighting, audiovisual equipment, etc.
Interim Recommendation: Alternative 2 is the preferred alternative.

4. Circa 1895 State Dining Room
   a. Illumination
      Alternative 1 - Illumination would be provided by daylighting only.

      Alternative 2 - Illumination would be provided by a combination of daylighting and floor lamps along with displays.

      Alternative 3 - Modern ceiling-mounted fluorescent luminaries would be installed to provide adequate illumination for assembly.

      Interim Recommendation: Alternative 2 is preferred.

   b. Receptacles
      Alternative 1 - Receptacles would be added on each wall so that any area would be within 6 feet of a receptacle.

      Alternative 2 - Receptacles would be added as required for audiovisual equipment, floor lamps, etc.

      Interim Recommendation: Alternative 1 is preferred.

5. 1901-02 South Bedroom Wing and Circa 1895 Servants' Quarters
   Illumination would be provided by modern ceiling-mounted luminaries.

   Receptacles would be added as required to conform to National Electrical Code latest edition.
C. Structural Engineering

This section contains the structural evaluation of the main house at Friendship Hill National Historic Site and is divided into three parts. The first part describes the existing structural condition of each component of the house. The second part includes the analysis of the existing structural conditions and, where necessary, recommended steps for preservation, restoration, or reconstruction. The third part describes the load-bearing limits of the structure with respect to the proposed uses and present standards. All parts are divided into the various building components that combine to form the main house. Drawings indicating the existing structural systems and conditions of the house are shown on sheets 24 to 27 of the drawing set.

1. Existing Structural Conditions
   a. 1789 Brick House

      The structural system of the 2-1/2-story brick house consists of stone basement.foundation walls, brick exterior walls, and wood-framed floor and roof systems. Structurally, the brick house is in poor condition. The roof was destroyed by fire, and a temporary roof currently covers the structure. Other areas of structural disrepair are as follows:

      The wood columns in the basement are "spongy," and rot is occurring because of the high moisture content.

      The second-floor framing system, consisting of two summer beams with joists mortised and tenoned into the beam sides, has deflected because of the failure of the tenons shearing from the joists at the summer beam.

      The second-floor cantilevered porch at the west elevation has failed and is temporarily supported by shoring.

      The stairs between the second and third floors are out of level from settlement of the outside stringer and landing.
b. **1798 Frame House**

The structural system of the two-story frame house consists of stone foundation walls, wood-framed exterior walls partially filled with brick masonry, and wood-framed floor and roof systems. A crawl space occurs under the first floor. Structurally, the frame house is in poor condition. The roof, attic floor, and some wall framing were destroyed by fire. A temporary roof now covers this area. The log sill plate was removed from beneath the joist ends at the west wall as adjacent additions were completed. The condition of the log joists could not be determined because the crawl space is inaccessible.

c. **1823 Stone House**

The structural system of the 2-1/2-story stone house consists of stone basement/foundation walls, stone exterior walls, and wood-framed floor and roof systems. Interior brick and stud bearing walls transmit loads to the foundation. Structurally, the stone house is in fair condition. The following structural problems exist:

Decay is present in many of the first-floor framing joists. In the northeast corner of structure, several new scabs have been added to the floor joists to supplement the deteriorated joists. Advanced decay has occurred in the first-floor framing and basement window lintels at the southeast corner of the structure.

The lintel at the first floor door opening between rooms 101 and 102 is severely deflected at midspan. This occurred because of a second-story brick-bearing wall located directly above.

As a result of the lintel deflection below, the second-story brick-bearing wall has settled and cracked.

d. **1824 Stone Kitchen**

The 1-1/2-story stone kitchen was severely damaged by the fire. The original structural system consisted of stone foundation walls, stone exterior walls, first floor on grade (currently concrete slab), and wood-framed attic floor and roof systems. The only remaining portions are the exterior walls and concrete slab.
e. **Circa 1895-1900 State Dining Room**

The structural system of the two-story state dining room consists of stone foundation/basement walls, brick exterior walls (north and west elevations), and wood-framed floor and roof systems. The roof and attic floor framing were severely damaged by fire. A temporary roof now covers the structure. Structurally the remaining portion of the state dining room is in poor to fair condition. The first-floor framing contains many posts in the basement area, some of which are rotted and out-of-plumb. The posts, of various sizes, are randomly placed and obviously were added to support an undersized and decayed beam. The second-floor framing (first-story ceiling) has a noticeable deflection at midspan.

f. **Circa 1895-1900 Servants' Quarters**

The structural system of the two-story servants' quarters consists of stone foundation walls, brick exterior walls, first-floor concrete slab on grade (except for a small wood-framed room), and wood-framed second-floor and roof systems. The roof framing to the east side of the interior stair was destroyed by fire. Other areas of the structure remain open to the weather. Structurally, the remaining portion of the servants' quarters is in fair condition.

g. **Circa 1901-1902 South Bedroom Wing**

The structural system of the 2-1/2-story south bedroom wing consists of stone and brick foundation/basement walls, brick exterior walls, and wood-framed floor and roof systems. Structurally, the south bedroom wing is in fair condition. Steel pipe columns, supported on concrete pedestals, have been installed in the basement to support the first-floor framing. Surface rust is present on the columns. The gabled roof framing has been destroyed by fire to within 8 feet of the south wall. A temporary roof now protects the structure.

h. **1954 Garage**

The structural system of the one-story garage consists of a concrete or stone foundation, wood-framed exterior walls, and a wood-framed roof. Structurally, the garage is in good condition.
i. **1823 Stone House Porch**

The one-story, wood-framed porch appears on the north and east elevations of the stone house. The structural system consists of stone foundation walls, wood posts, and wood-framed floor and roof systems. The wood posts and floor framing bear on a series of stone walls. Structurally, the stone house porch is in poor condition. While the stone walls are in good condition, the wood framing is in poor condition. The following wood deterioration was observed:

- decay of the floor joists
- decay at the bottom of the wood posts (some have been repaired)
- decay at some of the roof beams and excessive settlement at all corners of the porch roof
- pulling out of the rafter ledger at the east wall, south end
- deterioration of the floor decking

j. **1900 East Porch**

The two-story east porch is wood framed and extends along the entire east facade of the frame house, brick house, and south bedroom wing. The porch extends onto the stone house at the southwest corner. Structurally, the east porch is in poor condition. The fire destroyed a large portion of the roof, and a temporary roof now covers the area. The first-floor framing members are rotted in many areas. Although the second-floor joists are in good condition, the end connection at the exterior beam is weak and has failed in some areas. Temporary shoring has been installed in three bays at the exterior beam to resupport the second floor. The porch, as it extends onto the stone house, has settled.

2. **Structural Analysis and Recommendations**

The following structural work is necessary to rehabilitate the components of the main house:
a. **Brick House**

Reconstruct the roof.

Replace the deteriorated wood columns in the basement with either pressure treated wood or steel.

Reconstruct the second-floor framing system.

Reconstruct the second-story cantilevered porch.

Repair the stair from the second to third floor, particularly the outside stringer connections.

b. **Frame House**

Reconstruct the areas destroyed by fire—the roof, attic floor, and some walls.

When practicable, perform destructive investigation to determine the condition of the first-floor framing system.

c. **Stone House**

Repair the decayed areas of first-floor framing by the use of scabs, new members, or consolidation.

Perform destructive investigation to determine the condition of the lintel over the interior first-floor door opening.

Strengthen the lintel as necessary to support the bearing wall above. If this work is not performed in the near future, provide temporary shoring to support the lintel.

Repair the cracked brick bearing wall at the second story, after the lintel has been strengthened.

d. **Stone Kitchen**

Reconstruct the attic floor and roof systems.

Repair the damaged stone masonry exterior walls.
e. **State Dining Room**

Reconstruct the roof and attic floor.

Repair the first-floor framing by replacing the posts in the basement.

Perform destructive testing to determine the condition of the second-floor framing and repair as necessary.

f. **Servants' Quarters**

Reconstruct the portions of roof and wall destroyed by fire.

g. **South Bedroom Wing**

Reconstruct the portion of roof destroyed by fire.

Clean and repaint the steel pipe columns in the basement.

h. **Garage**

No major structural work is necessary.

i. **Stone House Porch**

Remove and replace the floor framing system with pressure-treated wood.

Remove and replace the wood posts with pressure-treated wood.

Remove decayed roof beams and replace with pressure-treated wood. This will allow the roof to be leveled for satisfactory drainage.

Refasten the ledger to the stone exterior walls.

j. **East Porch**

Remove and replace the first floor framing system with pressure-treated wood.

Repair the connections of joist to exterior beam at the second floor which may require replacement of some joists and removal of decking. This repair will allow removal of the existing temporary shoring.

Repair the second-floor framing at the southwest corner of the stone house.
3. Load Analysis

This section contains additional structural work that may be required if the proposed uses for the main house are implemented. It describes load-bearing limits of the floor and roof systems. The floor load analysis will be covered first, followed by the roof load analysis. Recommendations will be made for each. Lateral loads (wind and seismic) are not critical for a structure of this scale.

a. Floor Load Analysis

Proposed uses for the various areas of the main house are contained in the architectural data section. In summary, all first-floor areas, except the south bedroom wing, are proposed to be used for public visitation. The south bedroom wing, first floor, and all second- and third-floor areas are proposed for office/support use.

Minimum floor live loads as listed in the 1981 BOCA Basic Building Code serve as the standard for comparison.

<table>
<thead>
<tr>
<th>Occupancy or Use</th>
<th>Minimum Live Load (PSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public assembly</td>
<td>100</td>
</tr>
<tr>
<td>Office/support areas</td>
<td>50</td>
</tr>
<tr>
<td>Attics</td>
<td>20</td>
</tr>
</tbody>
</table>

The typical residential floor design live load minimum is 40 PSF.

A summary of the floor load analysis is shown in table 1. The following conclusions can be drawn from the table and by comparing the analysis with the minimum live load standards:

Generally, all future public assembly areas will not meet minimum live load requirements.

Future office/support areas will not meet minimum live load requirements.

These findings are not surprising in view of the fact that the structure was intended to function primarily as a residence, not for public assembly or office use. (Table 1 indicates that many areas meet the minimum residential live load requirement.)
Because of the potential for floor overload, either the floor systems must be strengthened to accommodate the additional loading or use of the space must be limited. In the latter case, this requires limiting the number of people in tour groups for public assembly areas or for office areas and limiting the number and/or location of heavy office furniture.

Based on the above findings and analysis, the following recommendations are made:

Those floor systems that have been destroyed by fire will be reconstructed for a minimum live load of 50 PSF.

In public assembly areas, tour groups will be limited to 15 to 20 people in lieu of trying to strengthen the existing floor systems to 100 PSF live load.

In office/support areas, heavy office furniture (e.g., files) will be located at the perimeter of the space. These areas should not be used for storage of heavy items.

Because of the poor condition of the stone house, second floor; state dining room, second floor; servants' quarters, second floor; and east porch, second floor, these areas will not be used until appropriate repairs are completed.

b. Roof Load Analysis

The minimum roof live load (snow load) from the BOCA code is approximately 20 PSF (the exact value is dependent upon the individual roof slopes). Comparison with table 2 illustrates that all intact roof areas meet the roof live load requirements, except for the stone house roof. Recommendations are as follows:

Those roof systems that have been destroyed by fire will be designed and reconstructed to meet the minimum live load standard of 20 PSF.

New roofing material will be evaluated to ensure that the roof live load capacity is not decreased significantly.

The existing stone house roof framing system is undersized by today's design standards as shown in table 2. The roof appears stable only because the factor of safety (used in today's design standards) has been reduced significantly. To increase the capacity of the roof system, it is recommended that additional members be added to supplement the existing framing. This may require removal of historic fabric at the third story and attic.
<table>
<thead>
<tr>
<th>Building Component</th>
<th>Allowable Total Load (PSF)</th>
<th>Existing Dead Load (PSF)</th>
<th>Allowable Live Load (PSF)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Brick House</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>63</td>
<td>9</td>
<td>54</td>
<td>Joist to summer beam connection failed. Joists notched at summer beam.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>51</td>
<td>17</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>c. Attic Floor</td>
<td>24</td>
<td>14</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>2. Frame House</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>55</td>
<td>6</td>
<td>49</td>
<td>Condition of members unknown.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>51</td>
<td>17</td>
<td>34</td>
<td>Framing destroyed by fire.</td>
</tr>
<tr>
<td>c. Attic Floor</td>
<td>51</td>
<td>14</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td><strong>3. Stone House</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>63</td>
<td>9</td>
<td>54</td>
<td>Joist size and spacing assumed.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>64</td>
<td>17</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>c. Third Floor</td>
<td>48</td>
<td>14</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>d. Attic Floor</td>
<td>36</td>
<td>14</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td><strong>4. Stone Kitchen</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>N.A.</td>
<td>--</td>
<td>Will support 100 PSF public loading</td>
<td>Concrete slab on grade.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>--</td>
<td>--</td>
<td>Destroyed by fire framing unknown.</td>
<td></td>
</tr>
<tr>
<td><strong>5. State Dining Room</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>102</td>
<td>9</td>
<td>93</td>
<td>Joist size and spacing assumed. Ceiling below deflected.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>23</td>
<td>17</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>6. Servants' Quarters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>N.A.</td>
<td>--</td>
<td>Will support 100 PSF public loading</td>
<td>Concrete slab on grade. Small area of wood framing-Room 110.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>29</td>
<td>17</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>7. South Bedroom Wing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>63</td>
<td>17</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>55</td>
<td>17</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>c. Third Floor</td>
<td>55</td>
<td>17</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td><strong>8. Garage</strong></td>
<td>N.A.</td>
<td>--</td>
<td>Will support 100 PSF public loading</td>
<td></td>
</tr>
<tr>
<td><strong>9. Stone House Porch</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>87</td>
<td>7</td>
<td>80</td>
<td>Joists rotted and require replacement in kind.</td>
</tr>
<tr>
<td>b. Second Floor</td>
<td>24</td>
<td>7</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td><strong>10. East Porch</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. First Floor</td>
<td>144</td>
<td>7</td>
<td>137</td>
<td>Joists rotted and require replacement in kind. Connections failed in many areas.</td>
</tr>
</tbody>
</table>
Table 2:
Roof Load Analysis Summary
Friendship Hill National Historic Site
Main House

<table>
<thead>
<tr>
<th>Building Component</th>
<th>Allowable Total Load (PSF)</th>
<th>Existing Dead Load (PSF)</th>
<th>Allowable Live Load (PSF)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Brick House</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Roof destroyed by fire</td>
</tr>
<tr>
<td>2. Frame House</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Roof destroyed by fire</td>
</tr>
<tr>
<td>3. Stone House</td>
<td>19</td>
<td>12</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>4. Stone Kitchen</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Roof destroyed by fire</td>
</tr>
<tr>
<td>5. State Dining Room</td>
<td>41</td>
<td>13</td>
<td>28</td>
<td>Based on existing rafter size which requires replacement due to fire damage</td>
</tr>
<tr>
<td>6. Servants' Quarters</td>
<td>76</td>
<td>12</td>
<td>64</td>
<td>Part of roof destroyed by fire</td>
</tr>
<tr>
<td>7. South Bedroom Wing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Gable Roof</td>
<td>34</td>
<td>13</td>
<td>21</td>
<td>Part of roof destroyed by fire</td>
</tr>
<tr>
<td>b. Shed Roof</td>
<td>64</td>
<td>13</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>8. Garage</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Framing not known</td>
</tr>
<tr>
<td>9. Stone House Porch</td>
<td>35</td>
<td>11</td>
<td>24</td>
<td>Replacement of deteriorated beams required</td>
</tr>
<tr>
<td>10. East Porch</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Roof destroyed by fire</td>
</tr>
</tbody>
</table>

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V. EXISTING CONDITIONS AND EVOLUTIONARY DRAWINGS
NOTE: PHOTOGRAPHS NOT TO SCALE.
NOTE: PHOTOGRAPHS ARE NOT TO SCALE.
NOTE: PHOTOGRAPHS ARE NOT TO SCALE.
VI. SUMMARY

In view of the evidence found during the architectural investigation, many changes have occurred at the main house in Friendship Hill. These changes are so extensive that they have destroyed most of the original fabric on the interiors of the house, and it is not possible to restore these interiors accurately to the Gallatin period without a substantial amount of conjecture. Gallatin's 1789, 1798, and 1824 components of the main house have been affected the most, and the 1823 stone house has been affected to a lesser degree. The non-Gallatin components from 1895 and later have undergone fewer changes and are restorable. These components are recommended for adaptive use as support areas for interpreting the main house as it developed through the Gallatin years and after.

Consequently, the basic recommendations for treatment of components to the main house include restoration of its exteriors and interiors to the latest period of representation before the fires of 1979. Where possible some areas of interior finishes are to be left open so that evolutionary changes can be observed and used as a tool for interpretation. Electrical and mechanical power and equipment are to be installed as necessary to provide comfort to the occupants and visitors and to make the building functional for interpretation and adaptive reuse. Section VIII should be consulted for more detail.
VII. IMPACTS ON THE PROPOSED USES LEADING TO THE RECOMMENDATIONS FOR THE DEVELOPMENT OF THE MAIN HOUSE

The recommendations following this section are partially derived from management's proposals for development of the historic Gallatin house (main house) at Friendship Hill National Historic Site. Other items considered in developing the recommendations were codes and other publications and specifically compliance with NPS-28.

Considerations based on NPS-28 reflect standards for the protection, general treatment, and use of historic and prehistoric structures. Consequently, any recommendations for the protection and treatment of the main house will be exercised to the fullest extent necessary to preserve this structure and to create harmony between its historic fabric and any new fabrics that may be used to preserve, stabilize, or restore it. Care has been taken to preserve the architectural character and structural integrity of the structure in every possible way. There has been no attempt to reconstruct any historical features that have been lost and cannot be faithfully and accurately duplicated, because of the absence or invalidity of previous or existing evidence. Little or no need for conjecture is anticipated.

In consideration of the adaptive reuse and interpretation of the structure, where human occupancy, safety, and comfort comes into play, various codes and publications have been consulted. These codes and publications are interpreted to serve the structure's occupants and to serve the needs of the structure. They will not be used to bring about any irreversible damage to the structure's historic fabric.

Finally, professional judgment combined with the standards and guidelines set by NPS-28, the secretary of the interior's "Standards for Rehabilitation," the codes, and other publications are used to make recommendations that will meet management's objectives for development of the main house. These recommendations are the most economical relative to budget constraints and use of the structure as perceived by management.
A. Proposed Use


In accordance with the approved General Management Plan and subsequent discussions with park management during the architectural investigation, the desired plans and uses for the structure (main house) are cited below:

The proposed level of treatment and development represents a blend of preservation, restoration, and adaptive use of cultural resources and development of interpretive, recreational, and administrative facilities. The highest priority for management and use would be the main house, which is the most significant extant cultural resources indisputably linked to Gallatin at Friendship Hill. The park would be responsive to the needs of visitors from distant points as well as regional and local residents seeking nearby recreation.

The exteriors of the Gallatin-period sections of the main house would be restored as accurately and faithfully as possible. The exteriors of the non-Gallatin-period sections would be treated so as to most effectively interpret the architectural evolution of the structure. With the exception of the servants' quarters section once located above the stone kitchen, non-Gallatin-period sections that were damaged by fire would be refinished and repaired in kind. The stone kitchen would simply be stabilized in its fire-damaged condition, because architectural features exposed by the fire facilitates interpretation of additions and modifications to the house.

Interior rooms in the brick, half-timbered, and stone sections would be restored with appropriate interior detailing and wallpaper to their approximate appearance during the Gallatin period, and period furniture and artifacts currently stored at Fort Necessity National Battlefield would be displayed in these rooms. Other Gallatin-period rooms would be used for museum exhibits; in these rooms the existing interior details would be rehabilitated and preserved.

Rooms in non-Gallatin-period sections of the main house would be adapted for park use following the recordation of significant architectural details. Existing architectural details would be preserved to the fullest extent possible. The state dining room, south bedroom wing, and servants' wing would be used for curatorial and research space, display areas, restrooms, and conference rooms for professional, academic, and community activities. Other rooms would be adapted for park offices. A ramp to allow entry by wheelchair-bound visitors would be located in a non-Gallatin wing of the main house. New plumbing and wiring would be needed, and the feasibility
of converting part of a new heating system to local energy sources such as wood or coal would be explored.

The gazebo, swimming pool, and upper barn on the knoll would be stabilized to arrest further deterioration. The pool would initially be fenced and used for fire suppression but would be removed once an adequate fire suppression system was installed.

B. Impacts on Proposed Use

Other documents and considerations that modify the proposals in the General Management Plan for Friendship Hill are findings during the architectural investigation, the "Interpretive Prospectus", codes and code analysis of the structure, energy conservation considerations for the structure, and NPS-28.

1. Architectural Field Investigation

During the field investigation at the main house, the existing physical and historical evidence revealed that the extensive remodeling and interior fires of the 1789 brick and 1798 frame houses have destroyed most of the original or Gallatin-period finish fabrics. Remodeling destroyed the original interior fabric of the 1823 stone house to a lesser extent; however, most of the original interior fabric to the 1824 stone kitchen was completely destroyed by the fires. In the 1789 and 1798 houses all original windows, doors, and interior trim, including chair rails, baseboards, windows, and door casings have been removed. These have been replaced with other windows, doors, and trim dating from a later period, presumably from the 1860s or later. There have also been some alterations to the walls, ceilings, and their original finishes; however, a lot of the original plaster remains. Some of this plaster had been removed from around the door and window openings. Other plaster was burned away by the later fires. What appears to be the original flooring has been covered over by a later floor or altered in spots to patch the areas that were deteriorated. Wall and floor areas near the stairwell have also been altered or destroyed; however, the stairs appear to be in their original location and relate to what appears to be the original floor.
In the 1823 stone house most of the trim along the interior walls, windows, and doors, and the interior doors themselves appear original; however, the window sashes and the exterior doors have been changed. What appears to be the original first- and second-story flooring has been covered with one or two later floors. Some of the plastered walls have been repaired or altered. The stairwell and the windows of the dormer and southwest window of the third floor appear to be original. Fireplace mantels appear to have been replaced.

Most of the original finish interiors and the doors and windows of the 1824 stone kitchen have been destroyed by fires that also destroyed its later roof. It is conceivable that the original roof of the kitchen was removed to accommodate a new full second story that was constructed as an extension of the servants' quarters.

Because very little of the original fabric is believed to have survived in the 1789, 1798, and 1824 interiors of the main house, it will not be possible to faithfully restore these interiors without a substantial amount of conjecture. In contrast, little conjecture is required in restoring the 1823 stone house interiors because only the window sashes and portions of the interior walls have been changed. Original floors are still believed to be in place, but they have been covered by later flooring.

In the later or non-Gallatin additions to the main house, very few changes have occurred, except for repainting and repapering the interiors. The most significant of any changes occurring in these additions were those brought about by fires. The fires destroyed most of the roofs, some walls, and some ceilings and left some other areas unstable. Dampness has also brought changes to these areas, leaving the integrity of some structural and finish members questionable. Most of these structural problems occur in the basement or in areas of the houses that had extensive fire damage.

2. **Interpretive Prospectus for Friendship Hill National Historic Site**

   The "Interpretive Prospectus" is based on the findings of the architectural field investigation, the **General Management Plan**, the
"Historic Resource Study," and subsequent discussions with park management and other members of the Friendship Hill research and planning team. It was written in May 1983 by the Division of Interpretive Planning, Harpers Ferry Center, National Park Service. This document has, to some extent, altered, and carried a step farther the proposed planning of the General Management Plan of 1981.

The "Interpretive Prospectus" proposes to use the rooms of the main house as follows:

<table>
<thead>
<tr>
<th>Rooms</th>
<th>Proposed Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ca. 1895-1900 State Dining Room and Passageway (rooms 104 and 105)</td>
<td>Information/Orientation Area</td>
</tr>
<tr>
<td>Ca. 1895-1900 State Dining Room Passageway Butler's Pantry (room 106)</td>
<td>Entry</td>
</tr>
<tr>
<td>1798 Frame House (room 107)</td>
<td>House Tour (interpretation)</td>
</tr>
<tr>
<td>1789 Brick House (rooms 113 and 114)</td>
<td>House Tour (interpretation)</td>
</tr>
<tr>
<td>1823 Stone House (rooms 101, 102, and 103)</td>
<td>House Tour (interpretation)</td>
</tr>
<tr>
<td>1824 Stone Kitchen (room 108)</td>
<td>House Tour (interpretation)</td>
</tr>
<tr>
<td>1901-02 South Bedroom Wing (rooms 115, 116, 117, and 118)</td>
<td>Administration Offices and Restrooms</td>
</tr>
<tr>
<td>Ca. 1895-1900 Servants' Quarters (rooms 109, 110, and 111)</td>
<td>Audiovisual/Multiple Purpose</td>
</tr>
</tbody>
</table>

Gallatin-period rooms on the first floor only will serve as the primary visitor experience on a tour of the house. First-floor, post-Gallatin rooms will be used adaptively as shown above. Specific uses are not assigned for the second- and third- floor rooms, but generally speaking they will serve as administrative support and special group assembly areas. The general public will not have access to the upper floors. Access for the handicapped on the second floor is difficult because of various floor level changes from one section of the house to the next. To make this entire floor accessible to the handicapped is difficult, if not impossible, and would involve extensive alteration of the original floor elevations in the main house's historic sections.
3. Code Analysis

Based on the uniform building code (UBC) and the commonwealth of Pennsylvania building code, management's proposed use for the main house places its public or interpretive areas and its administration office areas under the building code classifications of "assembly occupancy" for less concentrated uses and "business occupancy," respectively. In consideration of the safety, health, and welfare of future park visitors and staff, and for the protection of the building, minimum standards given by these codes are applied. Other codes and publications that were consulted include the National Fire Code, National Plumbing Code, Life Safety Code, and the American National Standards Institute Specifications for making buildings and facilities accessible to and usable by physically handicapped people (ANSI A117.1). However, because of the historic significance of the main house, not all treatment necessary for the preservation, restoration, or rehabilitation of this structure will conform to code when authorized by the safety officer at the Denver Service Center, National Park Service.

The structure is mostly constructed of load-bearing, exterior masonry walls with the exception of the frame house. The frame house, however, with its brick infilled, heavy-timbered frame walls covered with plaster, has virtually the same fire-resistant characteristics as the rest of the main house. In accordance with the UBC, the structure may only be classed as a type III - no requirements for fire resistance although its exterior load-bearing walls have a three hour fire rating. The interior nonload-bearing walls, doors, floors, ceilings, and roof have less than a one-hour fire rating. Exterior doors and windows also have less than a one-hour fire rating.

Within the two main floors the building has approximately 13,000 square feet of floor area. Approximately 6,500 square feet of floor area are on both the first and second floors, which are broken up into separate areas resulting from the configuration of the main house with its many component houses. Because most of these component houses (1789, 1798, 1823, etc.) all have four exterior walls or a fire-resistant wall between them, each building may be considered an individual unit or
compartment having its own floor area and exterior exits. After subtracting a percentage from the total floor area for displays or furnishings, the net usable area for the first or second floor of each area is as follows:

<table>
<thead>
<tr>
<th>Component Houses</th>
<th>Net Usable Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1789 Brick House</td>
<td>221 square feet</td>
</tr>
<tr>
<td>1798 Frame House</td>
<td>144 square feet</td>
</tr>
<tr>
<td>1823 Stone House</td>
<td>336 square feet</td>
</tr>
<tr>
<td>1824 Stone Kitchen</td>
<td>153 square feet</td>
</tr>
<tr>
<td>1895 Servants' Quarters</td>
<td>153 square feet</td>
</tr>
<tr>
<td>1895 State Dining Room</td>
<td>437 square feet</td>
</tr>
<tr>
<td>1901-02 South Bedroom Wing</td>
<td>348 square feet</td>
</tr>
</tbody>
</table>

If the building code criteria are applied, allowing 15 square feet per occupant in the assembly or interpretive areas and 100 square feet per occupant in the office or administrative areas, the allowable occupant loads for the first or second floors of the component houses would be as follows:

<table>
<thead>
<tr>
<th>Component Houses</th>
<th>Occupant Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>1789 Brick House</td>
<td>14 occupants</td>
</tr>
<tr>
<td>1798 Frame House</td>
<td>9 occupants</td>
</tr>
<tr>
<td>1823 Stone House</td>
<td>22 occupants</td>
</tr>
<tr>
<td>1824 Stone Kitchen</td>
<td>10 occupants</td>
</tr>
<tr>
<td>1895 Servants' Quarters</td>
<td>13 occupants</td>
</tr>
<tr>
<td>1895 State Dining Room</td>
<td>29 occupants</td>
</tr>
<tr>
<td>1901-02 South Bedroom Wing</td>
<td>3 occupants</td>
</tr>
</tbody>
</table>

With the above occupant loads for the individual areas, the total occupant loads for the main house becomes 100. However, since the individual units of the main house may be thought of as separate compartments, it is both practicable and feasible to separately consider their exit, fire, and structural requirements, according to code.

Because each building compartment of the first or second floors has an occupant load less than 50, each needs at least one 44-inch exit leading directly to the exterior porch to meet code requirements for the number of exits. In addition, the doors must swing to the exterior of the building; however, because of the historical nature of the
structure, the doors should not be changed. Moreover, if the second floor is used for public occupancy, it will need a stair and elevator that leads to ground level and the exterior of the structure. Because the first floor of the structure is about 28 inches above the finish grade, provisions for handicap accessibility are sanctioned and handicap parking should be located nearby. It is suggested that handicap accessibility be provided at a significant section of the house but it should not greatly impact the historic setting nor promote any irreversible actions. An existing door should be used and a ramp serving the door should be constructed along the west and north walls of the state dining room. The ramp accessible to nearby parking should be of proper width (minimum 36 inches between rails) and proper slope (maximum 1:12) to meet the standards as prescribed by ANSI A117.1. After entering the main house, the handicapped individual can accomplish horizontal circulation on the first floor without confronting major obstructions in floor elevation changes. The first floors of the different structures of the main house are basically level with one another. The door and passageway widths are acceptable. The basement, second, and third floors of the house, however, would present considerable accessibility and circulation problems for the handicapped because of abrupt floor level changes. To make these areas accessible to the handicapped, major alterations or modifications to the historic fabric of the structure are foreseen.

The need for a handicap-accessible unisex restroom is also essential. If visitors are restricted to the first floor of the main house, only one restroom is available, mainly the park administrative area. Although there are proposals for a restroom near the parking area, another option is to use the garage area of the main house, which could be remodeled into restrooms to serve the handicapped as well as other park visitors. Moreover, the National Plumbing Code provides that a certain number of facilities be provided to serve a structure based on the "occupancy group" classification and occupant load. For an assembly building such as the main house, the minimum facilities desired to serve the building occupants will be as follows:
If urinals are used, one other base water closet should be provided than the number specified.

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urinals</td>
<td>If urinals are used, one other base water closet should be provided than the number specified</td>
<td></td>
</tr>
<tr>
<td>Lavatories</td>
<td>3 for every 36 to 60 men</td>
<td>3 for every 36 to 60 women</td>
</tr>
<tr>
<td>Drinking fountains</td>
<td>1 for every 75 persons</td>
<td></td>
</tr>
<tr>
<td>Water closets</td>
<td>3 for every 36 to 55 men</td>
<td>1 for every 36 to 55 women</td>
</tr>
</tbody>
</table>

At least one set of fixtures will be accessible to the handicapped. The facilities should be divided between the administrative restroom and the garage restroom area. To operate a newly installed facility, sewer lines and an individual sewage disposal system should be installed on-site for further hookup to a municipal sewage disposal plant. Water supply from a newly dug well on-site and later from a municipal water supply system will also be needed. The closest city water supply now sits about a mile away from the site at the intersection of Falling Timbers Road and Pennsylvania Highway 166, near the town of New Geneva. This water supply is owned by the Albert Gallatin Municipal Water Authority, RD-1, Lakelyn, Point Marion, Pennsylvania.

To further protect and serve the occupants and to protect the structure and its contents, a fire detection and fire suppression system are needed in addition to intrusion alarms. For fire detection, ionization or photoelectric smoke detectors should be employed in each structure of the main house to sound the alarm for a fire in its early stages. If a fire should progress, water extinguishers should be used as fire suppression. The water supply for the fire extinguishing systems should be obtained from the swimming pool for now, and then later connected to a more permanent system.

In accordance with the provisions set by the National Fire Protection Association's Life Safety Code and the building codes, a
structure that functions in the capacity of the main house should be equipped with an automatic sprinkler system. This system is highly considered for the main house's fire suppression system; however, because of its visual and physical impacts on the remaining historic fabric, a less intrusive fire suppression system is recommended. An automatic sprinkler system should not be ruled out at this time. An alternative fire suppression system is the type that uses standpipes or individual fire extinguishing equipment. The standpipe and hoses will be supplied with water coming from pipes hooked to a pump and the swimming pool. The pool will temporarily store water for fire suppression.

For protection of the structure against unwanted entry, intrusion alarms should be installed. These should be installed on the first-floor doors and windows so that any interruption of continuity at the doors and windows will sound the alarm.

4. **Energy Conservation**

In consideration for energy conservation at Friendship Hill, we must first use the basic design of the structure and its elements to work as they were intended. These inherent qualities of the structure, if used properly, will allow us to reduce the degree of retrofitting the structure and likewise save on the initial and operating cost for energy during its lifetime.

As an example, the amount of electrical energy needed to provide lighting and power circuitry services to the structure can be reduced substantially if advantage is taken of the natural light brought in through the windows. It is conceivable that these large windows were sized to admit a proper amount of light into each space of the house. If most of the spaces are illuminated by sunlight, the need for artificial or electric lighting would be minimized and to some extent only supplementary. This supplementary light will be needed to illuminate the house during inclement weather when the natural light is scarce. It will also be used to provide lighting for particular office tasks or exhibits in the display areas of the house as needed. Consequently it would be
advantageous to provide receptacles along the walls for "task lighting" and to serve the various appliances and machinery when needed, rather than provide all rooms with "area lighting" which could prove wasteful. The installation of receptacles along the baseboards is also less intrusive on the historic fabric and scene of the structure.

The American Society for Heating, Refrigeration, and Air Conditioning Engineers has established a procedure for determining a "lighting power budget" which has been adopted in some areas as a mechanism for determining how much electrical energy will be allowed for electrical purposes in new buildings (ASHRAE Standard 90-75). Because field investigation has prompted the Park Service to consider installing new electrical fixtures and service in the main house, consideration may be given to using this procedure as a guide. The lighting power budget is intended only as a mechanism for encouraging energy conservation in lighting and is not a design tool. Once the budget has been established, the designer is free to design the lighting system to achieve the best quality lighting within the budget and for the circumstances. Much can be done to conserve energy while staying within the lighting budget. In addition to staying within the lighting budget, all elements of the structure that affect light need to be kept clean. Luminaries, diffusers, lenses, window glass, louvers, blinds, and wall surfaces tend to collect dust, which reduces their light-controlling efficiency. Furthermore the walls and ceiling especially should be of a light color so that they reflect the maximum percentage of the illumination level.

In addition to conserving electrical energy, the windows of the main house may help to conserve mechanical energy as well. They provide ventilation when open, and when closed they help keep out the adverse weather elements. These windows will help to back up the mechanical system in use. The dormer or attic windows were designed to allow air to the structure in the summer, and if these are used in conjunction with an attic fan, the air of the building would be allowed to circulate, and therefore help keep the building cool all summer long. The need for summer air conditioning may be eliminated and may likewise conserve energy at that time. During the winter season, if the windows
of the main house are closed, properly weatherstripped, and caulked they would help to conserve the heat in the house and thereby lessen the strains on the heating system. Double glazing or interior storm windows on the second- and third-floor windows may also be installed if these areas are not used for interpretation, possibly resulting in a great savings of energy.

Aside from the windows, other elements of the main house play an important part in conserving energy. Some of these elements are the roof and its overhangs, porches, window shutters, and the building walls which, in conjunction with the roof, seal the structure's interiors. These elements make up the structure envelope.

The roof of the structure, if properly insulated, helps to keep the sun's rays out of the structure in the summer and helps to keep heat from leaving in the winter. The insulated roof decreases the cooling and heating loads. Overhangs of the roof and the porches are likewise conservers of the structure's energy because they help to keep its walls in the shade in summer, and to decrease their heat again which would eventually move into the interior of the structure and add to the cooling load. In winter they block the winds, helping to decrease the heating load.

The nature of the wall's construction and window shutters also play an important part in conserving energy at the main house. These stuccoed brick and stone masonry walls are from 15 to 25 inches thick. Their mass helps to store the sun's heat in the day and releases it to the structure's interior in the night and early morning when it is needed. This may aid in reducing the start-up time of the heating equipment and the time it takes to first heat the structure during the day. Shutters may also act as shading devices to keep out the unwanted light of the sun or heat gain in the structure during the day.

Although the inherent features of the main house are essential in helping to conserve the energy, they cannot work alone. There must also be an efficient and practical heating or cooling system
that is sensitive to the structure's historic fabric. Several possible systems were explored and analyzed.

a. Fireplaces

The fireplaces were considered as a heating source, but their use will bring about the need for solid fuels such as wood and coal or the use of new gaslines to replace the old ones that are currently left in the fireplaces. The use of these fuels will call for a fire directly into the heated spaces, which is not good for the space and what remains of its historic fabrics. These direct fires into the spaces are first of all dangerous. If not constantly watched, they could cause fire that could possibly destroy the historic space and other spaces nearby. If the structure does not burn, the fuels will still generate dust, smoke, and fumes in the structure which is also harmful to the historic fabric and the occupants. In addition to the dust, smoke, and fumes, the dryness of the fire will accelerate drying of the interior finish woods and plasters of the structure, thereby causing them to split or crack. The use of open flames will also compromise the fire detection system. The firing rates of these fuels cannot be accurately controlled, and it is not recommended that they be used. The use of the fireplaces to provide heat to the spaces without blowers is also an inefficient heating source. Most of the heat generated in the fireplaces goes up through the chimney without giving off very much heat to the space, if blowers are not used.

b. Space Heaters (Electric or Oil)

Heating the structure with space heaters would be expensive and to some degree dangerous. If electric or oil heaters were used in each room, it would take at least two of them per room to provide sufficient heat during the winter. These were used in the rooms during the building investigation and proved to be very inefficient even when adjusted to the highest temperature level settings. To feel the effects of the heat, it was necessary to stand very close to the heaters. Some of the inefficiencies were partially due to an uninsulated structure, however, a lot was due to the size of the room in conjunction with the inadequate heating source. When the oil or kerosene heater was adjusted to higher settings, it released smoke and fumes into the interiors of the structure.
and again compromised a fire detection system. Some fuel also spilled on the floor. If fuel had reached the open fire, a building fire may have started. In these times of high fuel costs, it will be expensive to use these inefficient heating systems.

c. Central Heating and Limited Space Heating

The present central heating system using furnaces and the present ductwork was explored and found to be feasible for reuse. Because most of the ductwork is already in place and is in good condition, it is recommended that it be insulated and retained. The furnace, however, with attaching fuel lines and tank, should be replaced. The new furnaces should be gas furnaces because the availability of gas to the park appears to be plentiful and practical at this time. Columbia Gas Transmission Corporation maintains three gaslines across the park. One was installed in December 1982 and restoration efforts were to be completed in the spring of 1983. These gaslines may be tapped to provide fuel for the main house.

In the non-Gallatin portions of the house, the installation of electric space heaters is feasible when extending the heating system to the unheated areas. The use of these heaters will not significantly affect the structure and will affect it much less than a central heating system if it is extended to these areas instead.

d. Fuel Efficiencies

Aside from the effects of the different heating systems on the structure and availability of the fuels, the fuel efficiencies are considered in selecting a heating system for the main house. Latest tabulations for the "Properties of Fuel" lists their energy contents and combustion efficiencies as follows:

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<th>Fuel</th>
<th>Typical Energy Content</th>
<th>Typical Combustion Efficiency</th>
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<td>Coal</td>
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<tr>
<td>Oil</td>
<td>139,000 BTU/GAL</td>
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<tr>
<td>Gas</td>
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<tr>
<td>Electricity</td>
<td>3,413 BTU/KWH</td>
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</table>
5. **Compliance**

Because the proposed action was developed from the approved *General Management Plan* for Friendship Hill, compliance with section 106 of the National Historic Preservation Act as applicable to it, was completed through the programmatic memorandum of agreement process in the *General Management Plan*. The only remaining step to bring the actions of the "Historic Structure Report" into compliance will be the completion of the XXX form documenting that the proposed work will meet all applicable NPS policies, standards, and guidelines, as certified by the MARO historian, archeologist, and historical architect. However, the proposed use of the servants' quarters is not in accord with the *General Management Plan* and will require separate 106 clearance. The use of the servants' quarters and the handicapped access ramp should be reviewed with the state historic preservation officer, either formally through the 106 process or informally before implementation to determine whether he feels the proposal is within the limits defined by the *General Management Plan*. Because the "Historic Structure Report" is an action document for undertaking at the Gallatin House, Friendship Hill, compliance with NEPA is required because of proposed stabilization, restoration, preservation, or adaptive use that is to be performed. This is especially true for on-site sewage disposal, hookup to an off-site sewage system, a new water well, a new fuel tank outside the building, and new water, sewer, electrical, or fuel lines.
In view of the proposed uses for the main house and the requirements for treatments and occupancy as set by NPS-28, the secretary of the interior’s "Guidelines for Rehabilitating Historic Buildings," and the life, health and safety codes, recommendations for the preservation, stabilization, restoration, and adaptive use of the structure are as follows:

A. Alternative I - Total Restoration of Main House
   1. Exterior Restoration
      a. Roofs
         Permanent roofs should be installed on the 1789 brick house, 1798 frame house, 1895 state dining room addition, and 1901-02 south bedroom wing. Roofs of the 1823 stone house, 1895 servants' quarters, and 1954 garage should be repaired or replaced with a new one. The roof of the 1823 stone house should, in any case, match the permanent roofs of the 1789 brick house, 1798 frame house, 1895 state dining room addition, and 1901-02 south bedroom wing. The ideal situation would be to match the roofs by installing the same asbestos cement roofing as seen on the stone house so that the structure appears as it did before the 1979 fires. However, because of the health hazards associated with asbestos, the availability of asbestos roofing and other products has declined, it may not be possible to obtain the material. Another scheme is to match the roofs of the other structures to the present roof of the stone house by using another roofing material that is painted and installed to resemble or simulate the asbestos material. This could prove to be very expensive, and the initial or long-term results may be unfavorable. A final solution would be to use wood shingles to match the roofs so that the building appears as it did in 1909. Although the wood shingles are not as durable as the asbestos or other shingles, the roof of the building will be more uniform.

A new standing seam metal roof should be installed on the servants' quarters. The stone kitchen should not be reroofed but
stabilized as a ruin and made to drain properly from the inside out. All roof cornices, gutters, and downspouts should be repaired or replaced so that the roof drainage system is functional. The built-up gutter system of the roofs should be retained and restored. All new roofs should be insulated from the attic space. The chimneys above and below the roof should be stabilized.

b. Walls

The exterior walls of the structure should be stabilized and restored. The west brick wall of the 1789 brick house and the north and south exterior walls of the 1824 stone kitchen should be restuccoed. The west wall of the frame should be stabilized and stuccoed. The exterior walls of the 1823 stone house and interior walls of the stone kitchen should be restuccoed. All plaster on the other exterior walls of the main house should be cleaned, restored, and stabilized.

c. Porches

All porches at the north, south, east, and west elevations of the main house, including the two-story verandah at the east elevation, the Lafayette balcony, and the porch surrounding the 1823 stone house should be stabilized and restored, and the west porch of the brick house should be stabilized.

d. Doors, Windows, and Shutters

Exterior doors, windows, and shutters of the first, second, third, and basement floors of the structure should be removed, refinished, weatherstripped, and then reinstalled. Caulking should be placed between rough window openings and frames of windows as needed in an effort to make the building weathertight for energy conservation. Basement sash should be reinstalled so that they could be opened to ventilate the space. Screened, operable louvers should be installed at the interior side of the basement window openings on a case-by-case basis. Sills, thresholds, and any other wood portions that are badly deteriorated will require replacement in kind.
e. **Excavation**

At the foundation of the main house the subterranean soil should be excavated along the perimeter of the north, west, and south walls of the structure as shown in the drawings. The wall surfaces should be cleaned and repointed, and waterproofing should be applied to them. The east wall of the brick house will require underpinning so that portions of the stone foundation wall can be relaid. Perimeter drain tiles should be installed in the excavated perimeter trenches and the trench partially backfilled with about 2 feet of gravel. Further backfilling should be done with soil taken from the trench and the final grade sloped away from the building walls for a distance of about 10 feet. Before the excavation all patio stones in the area should be removed and later replaced at the north end of the structure with a similar stone having a nonslip surface.

f. **Paint**

All walls, cornices, porches, windows, and doors should be repainted.

g. **Garage**

The garage should be retained and restored.

h. **Handicap Access**

An enclosed area at the northwest elevation between the state dining room addition, servant’s quarters, stone kitchen, and the garage should be used to provide at least two parking spaces for the handicapped. A ramp leading from this area along the north wall of the state dining room to the north porch and main north entry of the 1823 stone house should be constructed in accordance with ANSI A117.1 for handicap access into the building. (This location and others for ramps are analyzed in appendix D.) This ramp and the north steps of the 1823 stone house would provide access through the main entry to the state dining room or information/orientation area which will serve as the main visitor contact area before beginning the house tour.
2. **Interior Restoration**

   Treatment of the interiors of the structure should be done in two phases. The first phase should consist of work done in the basement and on the first floor, and the second phase should consist of work done on the second floor, third floor, and attic space.

   a. **Walls and Ceilings**

      The walls and ceilings should be stabilized and restored. Deteriorated and falling plaster, lath, and wallpaper should be removed. The removed lath and plaster should be replaced. Some stabilized areas of exposed lath may be left unrepaired for interpretive purposes. All walls and ceilings should be repainted.

   b. **Interior Doors, Windows and Trim**

      All doors, windows and trim should be refinished. The baseboards, chair rails, wood fireplace mantels and cupboards, and the stairs would be included in the finish work.

   c. **Stairs, Floors, and Ceiling Framing**

      Floor framing beneath rooms 102, 103, 104, 105, 106, 107, 113, 114, 115, 116, 201, 202, and 204 should be stabilized.

      Flooring should be refinished in all rooms of the first, second, and third floors in areas where structural members for floors and ceilings are stabilized. The basement earth floors should be leveled and a sump pump installed in room 004. The sump pump in room 007 should be lowered so that it may operate properly. Beams, piers, and columns in the basement area should be repaired, replaced, or supplemented as needed.

      The interior partition wall and lintel over the door between rooms 101 and 102 should be stabilized.

3. **Electrical Systems**

   The following changes will be made to the electrical systems of the main house.
Remove old wiring and receptacles in all rooms of building and install new wiring and receptacles in rooms 101, 102, 103, 107, 113, and 114.

Install new wiring, receptacles, and area lighting in rooms 104, 105, 106, 109, 110, 111, 115, 116, 117, 118, and all rooms of the second, third, and attic floors. Extend branch circuits to area lighting underground.

Install ionization and rate of rise detectors in all components of the building.

Install control/annunciator panel and telephone dialer in room 117.

Install intrusion alarms on first-floor windows and exterior doors.

Install fans in the attic spaces.

Install lightning rods on structure's roof.

4. Mechanical Systems

The following changes will be made to the mechanical systems of the main house.

Remove existing furnaces and their supporting pads from basement rooms 004 and 007.

Install two new furnaces and supporting pads in the basement, one in room 004 and the other in room 007.

Retain and insulate present ductwork in basement and supplement ductwork and insulation as needed to serve new furnaces.

Connect furnaces to newly installed electrical and fuel (gas) lines which connect to newly installed fuel tanks or gas well.

Replace missing registers and repair damaged ones in all first- and second-floor rooms.

Remove existing domestic hot and cold water supply piping in basement and other areas of the structure.

Remove all existing waste, drain, and vent piping in the basement and other areas of the structure.

Install copper tubing with soldered joints for domestic hot and cold water. Use cast iron pipes for underground waste and drain piping and cast-iron pipe or copper tubing for interior drain, waste, and vent piping. Service all fixtures of the main house.
Connect all water supply lines to well on-site or other water supply.

Connect drain and waste piping to on-site individual sewage disposal system or city sewer.

Remove existing gaslines.

Reuse existing bathroom fixtures of south bedroom wing on the first and second floors. In an adaptive-use situation, the park offices may want to update the fixtures.

Install standpipes with hose racks in stairhall closets and basement area and connect temporarily to piping running underground from the existing swimming pool which is to provide water storage. A pump should be installed in the basement area to pump water from the pool to the standpipes. A means of water supply should also be connected to the swimming pool so that it may be refilled.

Install new fuel (gas) lines and tank to supply fuel to furnaces.

Install electric space heaters in servants' quarters and other noninterpretive spaces.

Install new well with pump or use existing pump to provide water.

Install new individual sewage disposal system.

B. Alternative II - Partial Restoration of Main House
   Same as Alternative 1, except no work would be done to the roof or to the second, third, and attic floors.

C. Alternative III - No Action
   The structure would remain in its existing condition.

D. Recommendation To Perform Work
   It is recommended that the work discussed above be done under separate competitive bid contracts. However, because management presumes that funding for the work may be limited, it is possible to perform small portions of the work by day labor. The work in this case may be limited to portions of the windows and doors and rooms being restored a few at a time. This will keep cost within the park's annual budget constraints.

   In accordance with the requirements set by 36 CFR 800 for proposed actions on historic structures, the above recommendations for
the restoration of the main house should be considered to have no adverse effect. These recommendations are based on the guidelines of NPS-28, the secretary of interior's "Guidelines for Rehabilitating Historic Buildings," and an approved General Management Plan. Moreover, there are no recommended undertakings on the structure that are considered irreversible.

The General Management Plan (GMP) does not discuss removal or proposed use of the garage. Removal would therefore require a 106 case report. Because the GMP does not discuss use of the garage but appears to lump it with other post-Gallatin wings for adaptive use, only a XXX form would be required for any uses other than restrooms that do not affect its exterior appearance. (Restrooms, according to the GMP, will be in the far end of the servants' wing and unless the garage can be construed to be part of that wing, separate 106 compliance would be required for this action.)

Section 106 compliance will also be required should handicapped access, alternative 3, be chosen. The GMP does not discuss removal of historic fabric for placement of a new entrance into the building to accommodate handicap access. Both actions (garage removal and handicap access, Alternative 3) must be considered to have an adverse effect on the resource.
IX. PRELIMINARY DRAWINGS
### X. PACKAGE ESTIMATING DETAIL

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<tr>
<th>ITEM</th>
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<th>COST</th>
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<tbody>
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<tr>
<td>1. Chimneys</td>
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<td>14. Handicapped Ramp</td>
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<td><strong>TOTAL</strong></td>
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**NOTE:** This estimate is valid for FY-84

R. Hinson 09/30/83

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### SUMMARY OF CONSTRUCTION ESTIMATES

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<thead>
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<th>Totals from Above</th>
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<td>B &amp; U R &amp; T</td>
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<tr>
<td>A</td>
<td>Museum Exhibits</td>
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<tr>
<td>B</td>
<td>Wayside Exhibits</td>
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<td>C</td>
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<td>Ruins Stabilization</td>
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**ESTIMATES APPROVED:**

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<tbody>
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**POST PROFESSIONAL SERVICES ESTIMATES AND SCHEDULING ON BACK OF FORM**
XI. RECOMMENDATIONS FOR FURTHER STUDY

Further study is needed to resolve several issues that were not totally explored during the architectural investigation at the main house. As a result, the following recommendations are being made and should be done within reasonable time limits before restoration or stabilization of the main house begins.

The wallpaper in the 1823 stone house should be studied further. The first step would be to remove portions of plaster to uncover wallpaper on the east wall of the first floor.

The possibility of using the present well at the north elevation of the main house for water supply should be studied before digging a new well. This well may be used if it is deepened and a pump is installed. The water supply from the well should also be tested for potability before connecting to the main house. A water treatment system should be provided. If a new well is installed, the location should be studied to make sure that it is out of the way of existing or future sewage disposal areas.

Various layers of coal underlie the park, and there have been discussions concerning possible subsidence beneath the main house because of past mining activities. Further study on the possible subsidence beneath the house should be made and attended to, if necessary, before any restoration or stabilization of the main house begins. An underground mine survey, prepared by Robins and Associates, was completed in April 1984. It verifies that only a portion of the servants' quarters is located over an existing underground mine. Engineering studies will be required for stabilization in this area.
A. Nail Study

At the main house of Friendship Hill, a study of the nails used was undertaken to provide information and to support other data that was gathered and used to determine the construction sequence of the various alterations. Other data used in conjunction with this study are the studies on mortar, paint, etc. The nail study is based on several technical publications that identify the nail type and tell the time period that they were mainly used. The publications also discuss the technologies used to construct or fashion the nail types. For the purpose of this study, the nail types found in the main house will be identified and pertinent data, such as where they were found, how they were constructed, and the time period that they were mostly used, will be discussed.

The following quotes are taken from Nail Chronology As An Aid to Dating Old Buildings, by Lee Nelson (NPS, USDI), November 1968, and The Dating of Old Houses, by Henry C. Mercer, Bucks County Historical Society, 1976.

1. Handwrought Nails

These nails were used throughout the 17th, 18th, and 19th centuries in American building construction.

Several types of these nails were used. These are the "general purpose nails" and as well as the "Sprigs and Brads." The T-head and rose head general purpose nails were used for framing, lathing, and most concealed work, sometimes for hinges, or where the head was used for decorative effect. Other shapes were available for special purposes. Wrought nails continued to be used long after the introduction of cut nails, until about 1820, but generally such use was limited to situations where their superior clinching ability was needed (i.e., batten doors). The sprigs and brads are the term generally used to refer to the headless, T-head, and L-head nails. The smaller sizes 1/2 to 2 inches are referred to as sprigs, and the larger sizes 9d to 24d as brads. These nails were generally used for trim with heads countersunk and puttied. They were also used for flooring. Other characteristics of hand wrought nails: shanks usually taper on both faces; iron fibers run lengthwise; lack of uniformity (especially heads).
2. **Early Machine-Cut Nails with Handmade Heads**
   These nails were used from 1790 to around the mid 1820s.

Very large common nails were used up until the 1830s. Three types of these nails were used; these were common nails, brads and sprigs and lath nails. The heads of "common nails" usually have two facets sometimes more. These were headed in a tool like wrought nails. Earlier nails of this type usually have burrs in two directions along the shank and the later ones have burrs in only one direction. The later ones are more uniform in manufacture. For the "brads and sprigs" the size and shapes of their heads varied because they were forced. Smaller sizes called sprigs (2" or less) and larger sizes called brads, but by early-19th century, all were often called brads. Heads of the "lath nails vary in size and shape, usually flat (no facets) and eccentric to shank. Shanks vary in length and width and often have a sharp point. Bulge under head often present."

3. **Completely Machine-Headed Cut Sprigs and Brads**
   These nails were used from 1805 to 1820.

Curved corners and points are characteristic of this type. These are available in a variety of sizes. The perfected machine cut sprigs and brads were used from 1810 to the present. They were used for trim and flooring. Once perfected, they have changed little, and are not readily dateable except that the direction of the iron fibers offers a general clue. Beveled facets caused by pressure of die, often missing on small nails.

4. **Early Machine-Headed Cut Nails**
   From 1815 to the late 1830s, these nails were used.

Common nails of this period are distinguished by their irregular heads which vary in size and shape, usually eccentric to the shank, though they were more uniform by the 1830s. Nails were irregular in length and width, but more uniform at the end of the period. Nails generally have a rather distinct rounded shank (under head), caused by wide heading clamp. These nails were more readily available than finishing nails, and were often locally modified by hammering the sides of the heads, thus making them into finish nails which could be countersunk. The direction of iron fibers also distinguishes nails of this period from later nails. Sprigs and brads of this period are very similar to those of the early machine-cut nails.
5. Modern Machine-Cut Nails

These nails were used from the late 1830s to the present.

These nails are of three kinds namely; Box or Flooring Nails, Common Nails, and Finish Nails. Heads tend to be uniform in size and shape, depending on nail style. After the 1840s, cut nails were generally made with the iron fibers running lengthwise (and later were annealed), which made them capable of clinching without rupture, thus almost completely displacing the hand-wrought nail for building construction. There are many "modern nail" styles not illustrated here; but after the 1840s, cut nails are not readily distinguished from those made today, so that other factors, etc., are better indicators for dating purposes.

6. Modern Wire Nails

From the 1850s to the present these nails were used.

Several types of these nails are: Flooring Brads, Finish Nails, Common Nails, and Roofing Nails. These nails are usually manufactured from steel wire which is held in gripper dies and headed (producing gripper marks on shanks); then wire is advanced to repeat operation. Earliest wire nails were only available in very small sizes (for picture frames, etc.) Larger sizes were not widely available or used in American building construction until the third quarter of the 19th century. By the late 1880s they were fast superceding cut-nails because of their relative cheapness. Wire nails are not readily dateable, though early examples have bulbous heads that are eccentric to shank. In more recent years, wire nails have been made in a great variety of sizes, head shapes and shank designs (e.g., threaded nails), although cut nails continue to be made for specific purposes.

Because Friendship Hill was located in the frontier of the country at the time of Albert Gallatin's ownership, there was probably a delay in the introduction of new technology. Consequently, the dates for nail use as outlined above may require adjustment because of the location of the main house.
Table A-1: Nails Used in Construction

I. 1789 Brick House

A. Second Floor (rooms and stairhalls)

1. Lath
   a. Ceiling: Wire in trim, handheaded cut in lath
   b. Floor: Wire nails and early cut

2. Trim
   a. Doors: Modern machine-cut
   b. Windows: Modern machine-cut
   c. Chair rails: No chair rails
   d. Baseboards: Wire and early machine-cut
   e. Fireplace mantel: Wire
   f. Floors: Wire and handheaded cut

3. Frames
   a. Windows: Modern machine-cut and early machine
   b. Doors: Modern machine-cut and handheaded machine, also cut wire

4. Stairs

B. First Floor (rooms and stairhalls)

1. Lath
   a. Ceiling: Early cut
   b. Walls: Modern cut (common) - northwest corner at head of door
              Wire in handsplit lath - east and west portion of south wall
              Modern cut in handsplit lath - room of stairhall
2. Trim
   a. Doors Early machine-headed (from backband)
   b. Windows Wire in handsplit lath - east and west portion of south wall
   c. Chair rails Wire in sawed lath (west wall where cupboard may have been)
   d. Baseboards Modern cut in handsplit lath (lath applied in vertical boards)
   e. Fireplace mantels Modern cut in sawed lath (east partition wall to main east door)
   f. Floors Modern cut (main west partition wall)

3. Frames
   a. Windows Modern cut
   b. Doors Modern cut

4. Stairs Modern cut at wall over stair. Early cut in stair

II. 1798 Frame House
   A. Second Floor (rooms and stairhall)
      1. Lath
         a. Ceiling Wire, late cut
         b. Walls Wire and handheaded cut
      2. Trim
         a. Door Wire and handheaded cut
         b. Windows Wire and handheaded cut
         c. Chair rails Machine-headed cut
         d. Baseboards Machine-headed cut
         e. Fireplace mantel Wire machine-headed cut
f. Floors  Late cut

g. Siding  T-head handwrought (flat point)

3. Frames
   a. Windows  Wire and machine-headed cut
   b. Doors  Wire and machine-headed cut

4. Stairs  Wire and machine-headed cut

B. First Floor (rooms and stairhalls)

1. Lath
   a. Ceiling  Modern cut
   b. Walls  Modern machine-cut (common) - south wall
             Modern machine-cut (gray plaster lath)

2. Trim  Exterior backband - modern machine-cut (finish)
   a. Doors  Modern machine-cut finish (from backband)
   b. Windows  Modern machine-cut and wire
   c. Chair rails  Wire
   d. Baseboards  Modern machine-cut and wire
   e. Fireplace mantel  Modern machine-cut and wire
   f. Floors  Modern machine-cut and wire

3. Frames
   a. Windows  Machine-cut, handheaded
   b. Doors  T-head handwrought (flat point)
III. 1823 Stone House

A. Third Floor (rooms and stairhall)

1. Lath
   a. Ceiling Handheaded cut
   b. Walls Handheaded cut

2. Trim
   a. Doors Handheaded cut
   b. Windows Handheaded cut and wire
   c. Chair rails Handheaded cut
   d. Baseboards Handheaded cut
   e. Fireplace mantel Handheaded cut
   f. Floors Handheaded cut

3. Frames
   a. Windows Handheaded cut and wire
   b. Doors Handheaded cut

4. Stairs Nails not examined

B. Second Floor (rooms and stairhall)

1. Lath
   a. Ceilings Handheaded cut
   b. Walls Handheaded cut

2. Trim
   a. Doors Early cut nail with handmade head (sprig) and wire (ext)
   b. Windows Handheaded cut
   c. Chair rails Handheaded cut
   d. Baseboards Handheaded cut
   e. Fireplace mantel Nails not examined
   f. Floors Wire and cut
3. Frames
   a. Windows  Handheaded cut
   b. Doors    Handheaded cut

C. First Floor (rooms and stairhall)
   1. Lath
      a. Ceilings    Handheaded cut
      b. Walls       Handheaded cut
   2. Trim
      a. Doors      Handheaded cut and wire (ext)
      b. Windows    Handheaded cut
      c. Chair rail Handheaded cut
      d. Baseboards Handheaded cut
      e. Fireplace mantels Nails not examined
      f. Floors     Wire and cut
   3. Frames
      a. Windows    Handheaded cut
      b. Doors      Handheaded cut
   4. Stairs     Nails not examined

IV. 1824 Stone Kitchen
   A. Trim
      1. Doors      Machine-headed cut, handheaded cut
      2. Windows    Handheaded cut
      3. Chair rails No chair rail
      4. Baseboards No baseboard
      5. Fireplace mantels Nails not examined
      6. Floors     Modern cut (box or flooring)
B. Frames

1. Windows  Handheaded cut
2. Doors  Machine-headed cut, handheaded cut

C. Steps  Wire

V. Circa 1895-1900 Servants' Quarters

A. Second Floor (rooms and stairhalls)

1. Lath
   a. Ceilings  Wire
   b. Walls  Wire

2. Trim
   a. Doors  Wire
   b. Windows  Wire
   c. Chair rails  No chair rails
   d. Baseboards  Wire (toe molding)
   e. Fireplace mantels  No mantels
   f. Floors  Wire

3. Frames
   a. Windows  Wire
   b. Doors  Wire

4. Stairs  Wire

B. First Floor (rooms and stairhall)

1. Lath
   a. Ceilings  Wire
   b. Walls  Wire

2. Trim
   a. Doors  Wire
   b. Windows  Wire
c. Chair rails  No chair rails
d. Baseboards  Wire (toe molding)
e. Fireplace mantel  No mantels
f. Floors  Wire

3. Frames
   a. Windows  Wire
   b. Doors  Wire

4. Stairs  Wire

VI. Circa 1895-1900 State Dining Room Addition
   A. Second Floor (rooms and stairhall)
      1. Lath
         a. Ceilings  Wire
         b. Walls  Wire
      2. Trim
         a. Doors  Wire
         b. Windows  Wire
c. Chair rails  No chair rails
d. Baseboards  Wire
e. Fireplace mantels  Wire
   f. Floors  Wire

3. Frames
   a. Windows  Wire
   b. Doors  Wire

4. Stairs  Wire (steps)

B. First Floor (rooms and stairhall)
   1. Lath
      a. Ceilings  Wire
      b. Walls  Wire
2. Trim
   a. Doors Wire
   b. Windows Wire
   c. Chair rails Wire
   d. Baseboards Wire
   e. Fireplace mantels Wire
   f. Floors Wire

3. Frames
   a. Windows Wire
   b. Doors Wire

4. Stairs No stairs

VII.1901-02 South Bedroom Wing

A. Second Floor (rooms and stairhalls)

1. Lath
   a. Ceilings Wire
   b. Walls Wire

2. Trim
   a. Doors Wire
   b. Windows Wire
   c. Chair rails No chair rails
   d. Baseboards Wire
   e. Fireplace mantels Wire
   f. Floors Wire

3. Frames
   a. Windows Wire
   b. Doors Wire

4. Stairs Wire
B. First Floor (rooms and stairhall)

1. Lath
   a. Ceilings Wire
   b. Walls Wire

2. Trim
   a. Doors Wire
   b. Windows Wire
   c. Chair rails No chair rails
   d. Baseboards Wire
   e. Fireplace mantels Wire
   f. Floors Wire

3. Frames
   a. Windows Wire
   b. Doors Wire

4. Stairs Wire
**B. Paint Analysis**

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<td>1798 FRAME HOUSE</td>
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<th>Characteristics</th>
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<tr>
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Further Observation, Documentation, Comment or Sketches:

**MOST LAYERS OF PAINT ARE DIRTY AND AGED SUCH THAT TRUE COLORS DO NOT SHOW THROUGH**
# Paint Analysis

**Region:** MID- ATLANTIC  
**Structure:** MAIN HOUSE  
**Sample #:** 2  
**Date Taken:** 5/83  
**By:** JOHN MARSH  
**Date Examined:** 7/83  
**By:** JOHN MARSH  
**Location of Sample:** WINDOWS EAST ELEVATION  
**Structure #:** PORCH (2 STORY)  
**Substrate:** WOOD  
**Top Color:** RED MUNSELL 2SR 3/4

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Further Observation, Documentation, Comment or Sketches:

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### PAINT ANALYSIS

**Region:** MID ATLANTIC  
**Structure:** MAIN HOUSE  
**Sample #:** 3  
**Date Taken:** 5/83  
**By:** JOHN MARSH  
**Date Examined:** 7/83  
**By:** JOHN MARSH  
**Location of Sample:** SHUTTERS  
**Structure #:** EAST PORCH  
**Substrate:** WOOD  
**Top Color:** DARK GREEN - MUNSELL 7.5G 2/6  

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**Further Observation, Documentation, Comment or Sketches:**

"THE PAINT ABOVE APPEARS TO BE THE ONLY PAINT USED ON THE SHUTTERS"
### Paint Analysis

**Region:** Mid-Atlantic  
**Structure:** Main House

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<tr>
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<td>5/83</td>
<td>Trim, balustrade, columns, and cornices</td>
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**By:** John Marsh  
**Date Examined:** 7/83

**Substrate:** Wood  
**Top Color:** Red - Munsell 2.5R 3/4

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<tr>
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<td>3rd</td>
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<td>7.5R 2/2</td>
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**Further Observation, Documentation, Comment or Sketches:**
**PAINT ANALYSIS**

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Further Observation, Documentation, Comment or Sketches:
# PAINT ANALYSIS

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Further Observation, Documentation, Comment or Sketches:
**PAINT ANALYSIS**

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Further Observation, Documentation, Comment or Sketches:
## Paint Analysis

<table>
<thead>
<tr>
<th>Region</th>
<th>Park</th>
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<tbody>
<tr>
<td>MID- ATLANTIC</td>
<td>FRIENDSHIP HILL N.H.S</td>
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<table>
<thead>
<tr>
<th>Structure</th>
<th>Structure #: 1823 STONE HOUSE</th>
</tr>
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<tbody>
<tr>
<td>MAIN HOUSE</td>
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</table>

<table>
<thead>
<tr>
<th>Sample #:</th>
<th>Location of Sample: ROOMS 101 and 102</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>JAMB PANEL OF OPENING BETWEEN THE TWO PARLOR ROOMS</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Date Taken:</th>
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<tbody>
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<table>
<thead>
<tr>
<th>By:</th>
<th>Top Color: DIRTY BEIGE 2.5Y 9/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. JACOBS</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Examined:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7/83</td>
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</table>

By: J. MARSH

### Historic Layer (color, varnish, dirt, etc.)

<table>
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<td></td>
</tr>
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<td></td>
<td></td>
<td>10Y 9/1</td>
<td></td>
</tr>
<tr>
<td>4th Layer</td>
<td>DIRT</td>
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<td></td>
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<td></td>
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<td>5th Layer</td>
<td>OFF-WHITE</td>
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<td></td>
<td>10Y 9/1</td>
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<tr>
<td>6th Layer</td>
<td>DIRT</td>
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<td></td>
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</tr>
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<td>7th Layer</td>
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<td></td>
<td>10Y 9/1</td>
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Further Observation, Documentation, Comment or Sketches:

320
PAINT ANALYSIS

Region: MID-ATLANTIC  
Park: FRIENDSHIP HILL
Structure: MAIN HOUSE  
Structure 8: 1823 STONE HOUSE

Sample #: 9  
Location of Sample: ROOM 101
Date Taken: 5/83  
Interior Door Architrave - West Door
By: S. JACOBS  
Front of North Entry Room 103
Date Examined: 7/83  
Substrate: WOOD
By: J. MARSH  
Top Color: BEIGE 2.5Y 9/2

<table>
<thead>
<tr>
<th>Historic Date</th>
<th>Layer</th>
<th>(color, varnish, dirt, etc.)</th>
<th>Munsell #</th>
<th>Characteristics</th>
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</thead>
<tbody>
<tr>
<td>2nd Layer</td>
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<td>10Y 9/1</td>
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<td></td>
</tr>
<tr>
<td>3rd Layer</td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th Layer</td>
<td>DIRT</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th Layer</td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th Layer</td>
<td>DIRT</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th Layer</td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th Layer</td>
<td>DIRT</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9th Layer</td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10th Layer</td>
<td>DIRT</td>
<td>10Y 9/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11th Layer</td>
<td>LIGHT TAN</td>
<td>7.5YR 9/6</td>
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Further Observation, Documentation, Comment or Sketches:
**PAINT ANALYSIS**

<table>
<thead>
<tr>
<th>Region</th>
<th>MID - ATLANTIC</th>
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<th>FRIENDSHIP HILL</th>
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<tbody>
<tr>
<td>Structure</td>
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<td>Structure #:</td>
<td>1823 STONE HOUSE</td>
</tr>
<tr>
<td>Sample #:</td>
<td>10</td>
<td>Location of Sample:</td>
<td>ROOM 101</td>
</tr>
<tr>
<td>Date Taken:</td>
<td>5/83</td>
<td>Interior door panel sample - original door (west door) left of north entry room 103</td>
<td></td>
</tr>
<tr>
<td>By:</td>
<td>S. JACOBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date Examined:</td>
<td>7/83</td>
<td>Substrate:</td>
<td>WOOD</td>
</tr>
<tr>
<td>By:</td>
<td>J. MARSH</td>
<td>Top Color:</td>
<td>BEIGE 2.5Y 9/2</td>
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<table>
<thead>
<tr>
<th>Historic Date</th>
<th>Layer</th>
<th>(color, varnish description, dirt, etc.)</th>
<th>Munsell #</th>
<th>Characteristics</th>
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</thead>
<tbody>
<tr>
<td>2ND LAYER</td>
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<td>DIRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3RD LAYER</td>
<td></td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
</tr>
<tr>
<td>4TH LAYER</td>
<td></td>
<td>DIRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5TH LAYER</td>
<td></td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
</tr>
<tr>
<td>6TH LAYER</td>
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<td>DIRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7TH LAYER</td>
<td></td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
</tr>
<tr>
<td>8TH LAYER</td>
<td></td>
<td>DIRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9TH LAYER</td>
<td></td>
<td>OFF-WHITE</td>
<td>10Y 9/1</td>
<td></td>
</tr>
<tr>
<td>10TH LAYER</td>
<td></td>
<td>DIRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11TH LAYER</td>
<td></td>
<td>LIGHT - TAN</td>
<td>7.5Y 9/6</td>
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Further Observation, Documentation, Comment or Sketches:
# Paint Analysis

**Region:** MID-ATLANTIC  
**Structure:** MAIN HOUSE  
**Sample #:** 1  
**Date Taken:** 5/83  
**By:** S. Jacobs  
**Date Examined:** 6/83  
**By:** J. Marsh  
**Park:** FRIENDSHIP HILL  
**Structure #:** 1789 BRICK HOUSE  
**Location of Sample:** ROOM 11 - EAST WALL (INTERIOR) ADJACENT TO THE CENTRAL WINDOW  
**Substrate:** PLASTER  
**Top Color:** WHITE 10PB 9/1

<table>
<thead>
<tr>
<th>Historic Date</th>
<th>Layer</th>
<th>(color, varnish description, dirt, etc.)</th>
<th>Munsell #</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Layer</td>
<td>DIRT</td>
<td>2.5Y 8/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Layer</td>
<td>BEIGE</td>
<td>2.5Y 8/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd Layer</td>
<td>DIRT</td>
<td>2.5Y 8/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th Layer</td>
<td>BEIGE</td>
<td>2.5Y 8/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5th Layer</td>
<td>DIRT</td>
<td>2.5Y 8/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th Layer</td>
<td>BEIGE</td>
<td>2.5Y 8/2</td>
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Further Observation, Documentation, Comment or Sketches:
# Paint Analysis

<table>
<thead>
<tr>
<th>Region:</th>
<th>MID-ATLANTIC</th>
<th>Park:</th>
<th>FRIENDSHIP HILL</th>
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</thead>
<tbody>
<tr>
<td>Structure:</td>
<td>MAIN HOUSE</td>
<td>Structure #:</td>
<td>1789 BRICK HOUSE</td>
</tr>
<tr>
<td>Sample #:</td>
<td>12</td>
<td>Location of Sample:</td>
<td>ROOM 114</td>
</tr>
<tr>
<td>Date Taken:</td>
<td>5/83</td>
<td>WEST WALL- N&amp;W CORNER WHEELE VALUE MULTIPLE LAYERS OF COBWEB WAS FOUND</td>
<td></td>
</tr>
<tr>
<td>By:</td>
<td>S. JACOBY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date Examined:</td>
<td>6/83</td>
<td>Substrate:</td>
<td>PLASTER</td>
</tr>
<tr>
<td>By:</td>
<td>J. MARSH</td>
<td>Top Color:</td>
<td>DIRT</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Historic Date</th>
<th>Layer</th>
<th>(color, varnish, dirt, etc.)</th>
<th>Munsell #</th>
<th>Characteristics</th>
</tr>
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<tbody>
<tr>
<td>1ST LAYER</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3RD LAYER</td>
<td>GREY</td>
<td>5PR 3/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4TH LAYER</td>
<td>DIRT</td>
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</tr>
<tr>
<td>5TH LAYER</td>
<td>GREY</td>
<td>5PB 8/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6TH LAYER</td>
<td>DIRT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7TH LAYER</td>
<td>WHITE</td>
<td>10PB 9/1</td>
<td></td>
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</table>

Further Observation, Documentation, Comment or Sketches:

REMNANTS OF FURRING WHICH WAS POSSIBLY USED TO ATTACH A CABINET WAS IN THE OVER PAINTED/PLASTERED WALL.
### Paint Analysis

**Region:** MID- ATLANTIC  
**Park:** FRIENDSHIP HILL

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Location of Sample</th>
<th>Date Taken</th>
<th>Date Examined</th>
<th>Top Color</th>
<th>Substrate</th>
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<tbody>
<tr>
<td>#13</td>
<td>Room 113</td>
<td>5/83</td>
<td>7/83</td>
<td>WHITE 10B 9/1</td>
<td>WOOD 1/1</td>
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<table>
<thead>
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<th>Characteristics</th>
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<tbody>
<tr>
<td>1st Layer</td>
<td>1/17</td>
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<tr>
<td>2nd Layer</td>
<td>WHITE</td>
<td></td>
<td>10B 9/1</td>
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</table>

Further Observation, Documentation, Comment or Sketches:

PAINT APPLIES TO BE INTEGRAL WITH SEPSUM PLASTER.
### Paint Analysis

**Region:** MID-ATLANTIC  
**Park:** FRIENDLY HILL  
**Structure:** MAN HOUSE  
**Structure #:** 1780 BRICK HOUSE  
**Sample #:** 14  
**Location of Sample:** ROOM 114  

| Date Taken | 5/83  
| By: | E. Jacobs  
| Date Examined | 7/83  
| By: | J. Martin  

| Historic Date | Layer | Color, Varnish | Munsell # | Characteristics  
|---------------|-------|---------------|-----------|-----------------  
| 1st Layer | Dust |  
| 2nd Layer | White | 10B 3/1 |  
| 3rd Layer | Dust |  
| 4th Layer | White | 10B 3/1 |  

**Further Observation, Documentation, Comment or Sketches:**

---

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### PAINT ANALYSIS

<table>
<thead>
<tr>
<th>Region: MID- ATLANTIC</th>
<th>Park: FRIENDSHIP HILL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure: MAIN HOUSE</td>
<td>Structure 2: 1895 STATE DINING ROOM</td>
</tr>
<tr>
<td>Sample #: 15</td>
<td>Location of Sample: ROOM 104</td>
</tr>
<tr>
<td>Date Taken: 5/53</td>
<td>SOUTH WALL NEAR WESTERN MOST</td>
</tr>
<tr>
<td>By: S. JACOBSON</td>
<td>Substrate: WOOD</td>
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<tr>
<td>Date Examined: 7/22</td>
<td>Top Color: DIRT</td>
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<td>By: J. MARSHI</td>
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<th>Characteristics</th>
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<td>1PB 0/1</td>
<td></td>
</tr>
<tr>
<td>2ND LAYER</td>
<td>DUST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3RD LAYER</td>
<td>WHITE</td>
<td>1PB 9/1</td>
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</tbody>
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Further Observation, Documentation, Comment or Sketches:

---

327
### PAINT ANALYSIS

**Region:** MID-ATLANTIC  
**Park:** FRIENDSHIP HILL

**Structure:** MAIN HOUSE  
**Structure #:** ca. 1690

**Sample #:** 16  
**Location of Sample:** Room 117, LADY WALL IN AN INTERIOR HOUSE BOOK

**Date Taken:** 5/22  
**By:** JACOB

**Date Examined:** 7/8  
**By:** MARSH

**Top Color:** BLUE  
**Substrate:** WOOD

<table>
<thead>
<tr>
<th>Historic Layer</th>
<th>(color, varnish, dirt, etc.)</th>
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<th>Characteristics</th>
</tr>
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<tbody>
<tr>
<td>1st Layer</td>
<td>BROWN PAPER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Layer</td>
<td>BROWN PAPER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd Layer</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4th Layer</td>
<td>WHITE</td>
<td>IOB 9/1</td>
<td></td>
</tr>
</tbody>
</table>

Further Observation, Documentation, Comment or Sketches:

*This two layers of paper do not appear to be A DECORATIVE WALL PAPER BUT VERY FLAT. THIS PAPER RESEMBLES BROWN PAPER.*
C. Mortar Analysis

In the analysis of the stucco and plaster samples at the main house, it was seen that great similarities exist between stuccoes and plasters of the various building components.

The finish coat of stucco on the exterior walls of all structures appears to be the same and was possibly applied at the same time. Laboratory tests suggest that it is a Portland cement stucco applied in two coats. The application consists of an approximately 1/32-inch light-colored skim coat and a 1/4-inch base coat which is darker in color. Volumetric parts of the mix were one part fines to three parts lime to six parts sand. The suggested Portland cement in the fines was derived from the brownish filtrate color and the hardness of the mix before testing.

Below this stucco at the east elevation of the 1789 and 1798 houses, sample 2, a penciled and scored stucco was found. This ochre-colored stucco, when tested in the laboratory, was found to be a lime stucco containing animal hair as a binder and finely ground sands and clay. The proportions of cement in the mix appeared very small and the mix supported by the amber-colored filtrate it produced. However, the lime-to-sand ratio of the mix was about one to three. Judging from the soft texture of the mix, questions concerning its durability were raised; however, it has survived over the years in a covered environment beneath the building porch and the first stucco sample which is deteriorating. Sample 2 is the earlier of the two and appears to have been applied around the late 1800s.

Sample 3, which was found at the north elevation of the 1798 frame house, appears also to be a high-contented lime stucco. It is different in color from sample 2 and does not contain any scoring or penciling. This mix also has less animal hair than the latter sample but is just as durable.

Other samples tested in the laboratory are basically plaster samples taken from the interiors of the main house. The ceiling and wall
plasters have several things in common, namely, that they were applied in two to three coats with the finish or last coat composed of gypsum. The finish coat of gypsum holds true for all except the 1823 stone house. Laboratory tests suggest that the scratch and base coats of the plaster have heavy lime content much like the stuccoes of samples 2 and 3. These coats contain animal hair in varying amounts, except for the rooms of the ca. 1895 state dining room and servants' quarters and the 1900 south bedroom wing. While those plasters contained no animal hair at all, the greatest amount of animal hair was found in the 1823 stone house and smaller amounts in the 1789 brick and 1798 frame houses. Animal hair found at the stone house was about 50 percent of the plaster mix.

Mixed with the basic lime contents of the interior plaster of the 1789, 1798, and 1823 houses were large amounts of clay. Other areas of the main house built ca. 1895 or later have no clay or hair in the plaster mix. The fines are basically finely ground sands, cement, and moderate amounts of lime mixed with coarser aggregates.
D. **Alternative Locations for Handicap Ramp**

Alternative 1 - Ramp at north elevation into 1823 stone house

(see recommendations)

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Entry into historic 1823 stone house and indirect entry into adaptive use area</td>
<td>1. Visual impact on historic scene</td>
</tr>
<tr>
<td>2. No destruction of historic fabric</td>
<td>2. Approximately 40 feet of ramp required</td>
</tr>
<tr>
<td>3. Lowest installation cost</td>
<td></td>
</tr>
</tbody>
</table>

Alternative 2 - Ramp at east or south elevation into 1823 stone house, 1789 brick house, or 1901 south bedroom wing

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Out of view of main entry, but some impact on historic scene</td>
<td>1. Installation of additional pavement required</td>
</tr>
<tr>
<td>2. Attachment to historic fabric may be required but to a minimum extent</td>
<td>2. Approximately 50 feet of ramp required</td>
</tr>
<tr>
<td></td>
<td>3. Installation cost higher because additional pavement needed for wheelchair persons to reach ramp area</td>
</tr>
</tbody>
</table>

Alternative 3 - Ramp at west elevation into butler's pantry of state dining room

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direct entry into adaptive use space</td>
<td>1. Requires non-Gallatin historic wall and windows to be displaced</td>
</tr>
<tr>
<td>2. Partially hidden from direct view of front entry of house leaving less visual impact on historic scene</td>
<td>2. Requires building new wall and door</td>
</tr>
<tr>
<td>3. New construction allows for increased efficiency</td>
<td>3. Approximately 33 feet of ramp required</td>
</tr>
<tr>
<td>4. Possibly the entry used by all park visitors</td>
<td>4. Installation cost higher because wall and door demolition and reconstruction</td>
</tr>
<tr>
<td></td>
<td>5. Irreversible actions on non-Gallatin historic fabric</td>
</tr>
</tbody>
</table>
ALTERNATIVE 1 - SEE PRELIMINARY DRAWINGS, SECTION IX
E. Additional Historical Photographs
Figure 81 - Rear, 1823 Stone House
Figure 82 - Front, 1823 Stone House, ca. 1940s.
Figure 83 - Rear, 1823 Stone House, ca. 1940s.
Figure 84 - South Bedroom Wing, ca. 1940s.
Figure 85 - East Porch at Brick House, Post-Fire, 1979.
Figure 86 - East Porch at South Bedroom Wing, Post-Fire, 1979.
Figure 87 - East Porch at Brick House, Post-Fire, 1979.
Figure 88 - East Porch at Brick and Frame House, Post-Fire, 1979.

Figure 89 - Dormers Over Frame, Brick House and South Bedroom Wing, Post-Fire, 1979.
Figure 90 - Roof Over Brick House, Post-Fire, 1979.

Figure 91 - East Porch at South Bedroom Wing and Brick House, Post-Fire, 1979.
F. Fold-out Floor Plans to Accompany the Text
Memorandum

To: Superintendent, Fort Necessity
From: Regional Director, Mid-Atlantic Region
Subject: Friendship Hill - Archaeology - September 1982

Enclosed for your use is David G. Orr's field trip report covering his recent visit to your Park.

James W. Coleman, Jr.
Enclosure

Cc: John Marsh, DSC
PURPOSE:

Assist DSC Architect John Marsh in addressing two questions arising from architectural research at Gallatin House:

(1) location of milk cellar referred to in a late 19c. letter (possibly beneath the 1823 stone kitchen)

(2) possible extension of basement foundation wall which might suggest existence of subterranean passage between 1823 stone house and 1798 frame structure.

RESULTS:

(1) A test hole was excavated at the northeast corner of the 1823 stone kitchen. (This location was the only area of the kitchen floor not covered with concrete.) Although the upper level was disturbed by utilities, a combination of test hole and soil auger boring revealed cultural fill to a depth of three feet (3.0') below grade (see attached plan). A portion of the concrete floor was removed west of the initial excavation. A yellow clay stratum beneath the concrete was stained with mortar and brick dust, arising either from the construction of the brick-nogged 1798 frame structure or the 1823 stone kitchen. Culturally-disturbed soil extended to a depth similar to that encountered in the initial excavation.

The accumulation of three feet of cultural soil obviously occurred prior to the construction of the 1823 kitchen, or at least prior to the addition of the concrete floor. No evidence of a milk cellar was encountered at either location; although this feature may lay elsewhere within the kitchen confines, such a possibility would seem doubtful.
Excavations were conducted in the basement beneath the late 19c. dining room addition, north of the wall in question. (It had been suggested that a subterranean passage connected the 1798 structure and 1823 mansion prior to construction of the late 19c. dining room.) Natural bedrock was encountered beneath clay which had accumulated in the basement; it was not possible to determine whether a passage foundation once stood upon bedrock, and the case at present is unproven. A late 19c. milk cellar was located along the north basement wall beneath the dining room. This milk cellar had been cooled by spring-fed water and had continued in use well into the 20c. to judge from the concrete central pad and concrete-lined water channel.

FOLLOW-UP:

Prepare this report for architect Marsh and continue to coordinate efforts with him.

David G. Orr

cc:
Supt., Fort Necessity/Friendship Hill
Location of test hole in southeast corner of 1823 stone kitchen.


Waterman, Thomas Tileston and Barrows, John. Domestic Colonial Architecture of Tidewater Virginia, Dover Publication, New York, ___.

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.

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