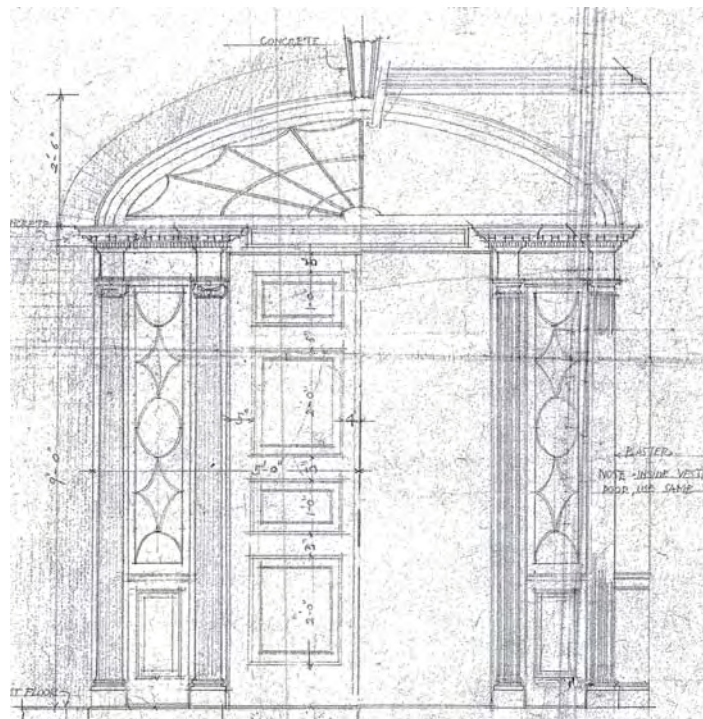


U N I V E R S I T Y O F V I R G I N I A

PRESIDENT'S HOUSE ON CARR'S HILL



BUILDING ASSESSMENT & SCHEMATIC DESIGN FINAL REPORT

JOHN MILNER ASSOCIATES, INC.
FEBRUARY 28, 2006

Prepared for
UNIVERSITY OF VIRGINIA

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*A special thanks is extended to all those at the
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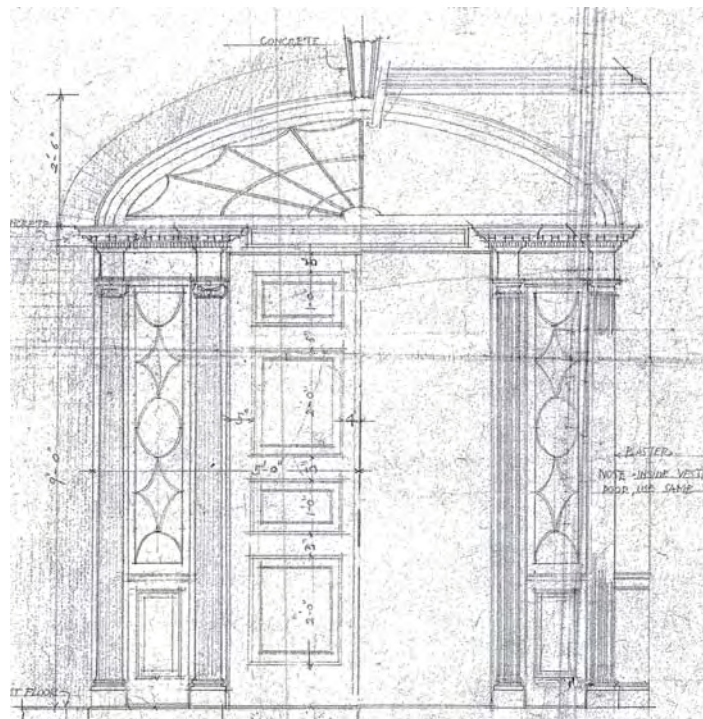
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PRESIDENT'S HOUSE ON CARR'S HILL



INTRODUCTION

PRESIDENT’S HOUSE ON CARR’S HILL

INTRODUCTION

During its first century of existence, the President’s House on Carr’s Hill has woven itself into the history of the University of Virginia. The origins of the building are rooted in a significant shift in the institution’s organizational paradigm since it marks the inception of the role of president. Soon after the inauguration of Edwin Alderman as the university’s first president, the architectural firm of McKim, Mead & White was retained to design a home for the holder of the newly created office. The resulting building, which was heavily influenced by President Alderman, is a significant colonial revival-style house with a prominent pedimented portico overlooking the Academical Village. Since its completion, it has been used by all sitting presidents and has hosted numerous events for students, faculty, alumni, and distinguished visitors.

The University of Virginia requested that John Milner Associates, Inc. perform documentary and physical research to establish the history of the first-floor entertainment rooms of the house and to place the history of these rooms into the larger context of the building’s history. This effort included preparation of an architectural description of the spaces and a chronology of documented changes. Research efforts included the gathering and evaluation of documents contained in the collections of the Albert and Shirley Small Special Collections Library, University of Virginia Facilities Management Resources Center, and work completed by staff dedicated to sharing the building’s history. In conjunction with this effort, the University Architect’s Office undertook a campaign of historic-finish analysis to determine original finish schemes and to assist in providing evidence of past changes in the building. This work has been incorporated into the report.

The university also requested that the team undertake a condition evaluation encompassing the first-floor entertainment rooms, building envelope, structural system, and building systems. This evaluation of the building was conducted visually without intrusive testing. Due to the sensitive nature of the building’s contents, wall decorations and furniture were not moved, and it is possible that hidden conditions exist that were not documented in this report.

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Overall, the building has been well-maintained and has withstood the high number of annual visitors to the home. Conditions are good and indicative of attention given to the building by the Facilities Management Department. The result is that a significant amount of historic fabric remains intact. Architectural condition problems that do exist are limited in nature but include plaster, flooring, woodwork, concrete, roof drainage, and masonry.

As part of the recommended project, it is desirable to restore a number of historic features that have been lost or altered since the home's construction. Recommendations are not intended to suggest the removal of all modifications to spaces that have occurred but to return the general appearance of key rooms and elements to when President Alderman first occupied the home. The most significant restoration items include reinstallation of five sets of leaded-glass pocket doors, repainting of spaces to reflect the historic paint colors, returning built-in china cabinets to the dining room, providing historically appropriate light fixtures, rebuilding the balustrade on the upper roof, and removing condenser units from the roof of the porte cochere. As the building continues to function well, and no program modifications were requested by the university, no modifications are required on the basis of functional improvements.

The structural investigation, completed in association with Robert Silman Associates, PLLC, began with the study of a structural intervention, proposed by a previous consultant to the university, to address apparent floor-joist deflections and calculated framing overstress. This document review coincided with a new structural analysis of the floor and roof framing to evaluate load pathways. The purpose of the structural effort was to identify if an alternative intervention could reduce damage to historic interior finishes, yet provide required structural measures. By focusing substantial structural interventions on the third floor and basement, it appears possible to more appropriately direct loads while minimizing the scope of work on the first and second floors. This approach reduces the impact on the historic fabric, is less expensive, and reduces the time needed for construction. Although proposed corrective measures do not aim to level floors, this is an appropriate compromise for a historic building.

Existing mechanical, plumbing, and electrical systems were studied by 2rw Consultants, Inc. to evaluate conditions of existing utilities, review current and future demand on the systems, and to recommend a design for system upgrades. The evaluation process included review of documentation, visual inspection, and discussions with maintenance personnel.

Heating is currently provided by a one-pipe, hot-water system fed through original piping and free-standing radiators with hot water supplied by the central plant. Air-conditioning is provided by five separate split-systems of varying ages from one to ten

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years. Although systems have been well-maintained and are in good working order, they are not able to provide adequate temperature control primarily due to their design. It is recommended that a two-pipe, hot-water system be installed for heating in place of the existing 1-pipe system, so that a positive hot-water flow can be provided to the radiators. All piping to existing radiators should be replaced and new controls provided. Air-conditioning system equipment should be improved by eliminating and replacing condensers and associated air handlers with 4-pipe blower coils, and connecting the updated system to the campus chilled-water piping that was recently extended to Carr's Hill.

Plumbing supply piping consists of original galvanized pipe and a series of later copper replacements. Due to the tendency for internal corrosion and occlusion of galvanized piping, and indicative reports of low water pressure, it is recommended that remaining original piping be replaced with copper. New water closets should be provided along with this effort. In order to protect occupants and building contents, it is recommended that an automatic-sprinkler system be installed throughout the house.

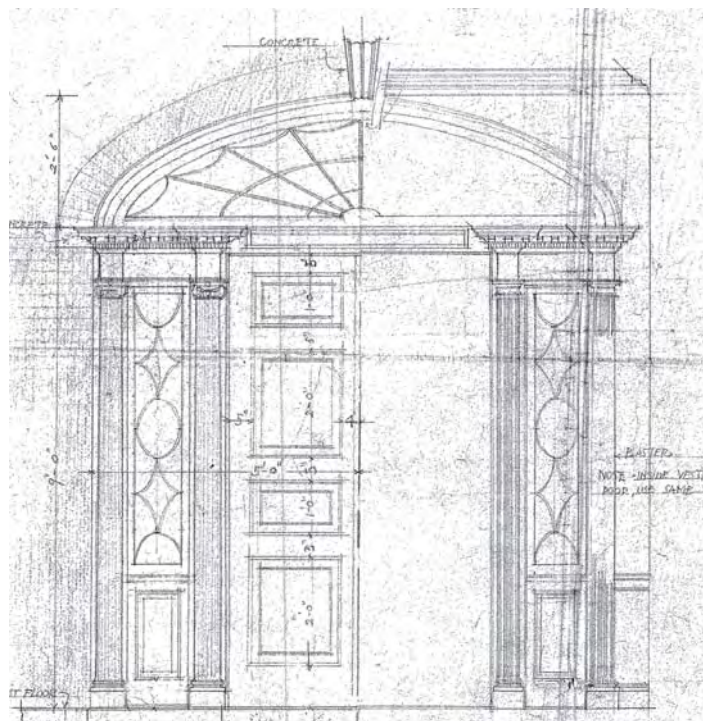
The electrical system currently provides for adequate operation, but it is recommended that the outdated system components be replaced for added safety. This work includes replacement of all panel boards, installation of a grounding system for the main panel, new code compliant branch wiring, and new receptacles and switches. New light fixtures would be provided in the building with the exceptions of the basement and recently renovated kitchen area. Electric service to the building, which is located in the Bayley Art Museum, will be upgraded. The university should consider installing a lightning protection system as an assessment indicates a risk value of "severe" based on structure type, construction type, relative location, topography, occupancy, and contents.

Recommendations are intended to be inclusive of a wide range of scope items that could be considered for a proposed project undertaken by the university. Should the university decide to accept all recommendations, the current estimate of probable construction costs is \$3,868,000 to \$3,983,000. However, the cost could be impacted by factors such as the code analysis and/or inflation. It is anticipated that construction of the project could be completed within a timeframe of twenty-one months if the president was relocated. To meet the request of the university not to have construction underway during the last two years of the president's term, construction should begin in June 2007. These time frames are approximate and need to be refined following setting the scope of work of the project.

The building has been well-cared for and has served its generations of residents well. As the centennial of construction of the building approaches, the university has the opportunity to repair and update the President's House so it can be readied for it for the next century of service. The completed project can also be recognition of the building's ongoing role in the culture of the University of Virginia.

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PRESIDENT'S HOUSE ON CARR'S HILL



HISTORY

PRESIDENT'S HOUSE ON CARR'S HILL

HISTORY



This post card view is probably the oldest exterior photograph of the President's House.

GENERAL HISTORY

The President's House at Carr's Hill was consciously designed to be an important focal point of the University of Virginia's grounds. Located on a hill overlooking the university's original buildings, its construction came as a result of the decision to create the office of president, a move the university had resisted for its first eight decades of existence. The project to build the house, which began shortly after the first president was inaugurated, drew a nationally known architect back to a university where he had been working for a decade. President and Mrs. Alderman began with a very specific type and model of house in mind, including style, room sizes, layout, and finishes. They started the project off as a design competition, but then abruptly switched strategies and invited noted architect Stanford White to design the house. White,

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however, died in a tragedy that unfolded just as President and Mrs. Alderman had the opportunity to react to some of the first design alternatives he had prepared. The design was completed by other architects at the offices of McKim, Mead & White, with constant and substantial input from the Aldermans. Oversight of the project was also carried out by the university's superintendent of buildings and grounds, Dr. William A. Lambeth, in an attempt by the university to keep the project within budget. This complicated beginning placed the Alderman family in a central role in the design of the house. The design process itself became the first chapter in a larger story of a building that has always been intimately connected to its occupants and has increasingly reflected the centrality of the office of president at the university after 1905. The house has come to be, over the years, a heavily used facility where thousands of alumni and others are entertained annually. Though changed very little since it was built, the house was modified by various university presidents to reflect the evolving role of the residence in university activities. Modifications to the house from 1954 to the present are documented in drawings and other records archived at several locations at UVA.



The 1907 McKim, Mead & White drawing of the facade of the President's House at Carr's Hill.

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The Role of Stanford White as Architect

The President's House was one of the last commissions secured by Stanford White, a principal in the firm of McKim, Mead & White and a figure of national prominence prior to his death in 1906. White was murdered¹ on 25 June 1906 in a tragic turn of events that drew national attention and led to a highly publicized, sensational trial. While the design of the house was still taking shape, White's death, though only indirectly linked, appears to have changed the relationship between the architects and the Alderman family. The Aldermans were engaged in a heated dialogue with White at the time of his death and, in fact, Mrs. Alderman may have been the last client to meet with White. According to a letter Dr. Alderman sent to Stanford White on 16 June 1906 stating, rather bluntly, his objections to McKim, Mead & White's two most recent design schemes, Mrs. Alderman was planning to be in New York City on Friday, 22 June, if he could have revised plans ready by that date. White wrote back² saying that the Aldermans may have read too much into the drawings he had submitted and that he was eager to meet with Mrs. Alderman. While the documents do not indicate whether they actually met that Friday, White was murdered on the following Monday, and the final design was thus subsequently worked out by other members of the firm. Some of the design features that the Aldermans had requested but that White had disliked were apparently re-inserted in the process.

Stanford White's involvement at the University of Virginia was, in part, the outcome of a different well-known story, that of the loss of the original Rotunda dome and interior to fire in October 1895. The events that followed the fire drew both White and Dr. Alderman to the university. The Rotunda fire destroyed the university's original library space, a facility of iconic importance to generations of the university's alumni and faculty who had spent considerable time reading and studying there. Stanford White was chosen to oversee the Rotunda's reconstruction because of his preeminent reputation. A few years before the Rotunda reconstruction, and in the decade that followed, White increasingly rose to prominence as the leading American architect of his day. His work at the Rotunda involved redesigning the building's interior as well as restoration of its exterior, setting the stage for an era of expansion as the university's student



President Alderman seated on the spacious porch of the finished house, in 1917. Among President Alderman's complaints about the two schemes submitted by McKim, Mead & White in June 1906 was a concern that "The house[as then proposed] is practically without porch room. The front porch is too narrow. Should be 16 feet wide. I would rather sacrifice some colonial style for comfort. In this climate lots of porch room almost necessary."

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body was growing. At the opposite end of the Lawn, White designed three large new buildings shortly after the Rotunda project.³ After completing these buildings, there was brief hiatus during which McKim, Mead & White was not involved in projects at UVA.⁴ Upon Dr. Alderman's arrival, an appropriate President's House was needed.⁵ Dr. Alderman may have initially made a conscious effort to avoid bringing McKim, Mead & White back for one more project, but after what may have been a "false start" at a house design through a competition, he specifically asked White to design the new President's House.⁶

The New Office of President

Having a "president" in charge at UVA was a new idea in 1905, when Dr. Alderman was inaugurated. Until the Rotunda fire, the university was governed by the faculty with counseling from a board of visitors. The unusual governmental structure, without a president, was an attempt to implement Jefferson's ideal of student self-government by avoiding top-down authority from a central individual. Rowdiness, however, in the initial years of the university, when Jefferson was still alive, had led the faculty to implement strict rules limiting student behavior, and more severe discipline problems in the ensuing decades had led to more centralized authority from the Board of Visitors and the Chairman of the Faculty. Thus the student self-governance model was never more than an ideal. By the time of the fire, the student body had grown considerably in size and the university was at the threshold of a major construction campaign. The office of chairman was becoming overwhelmed, and a new, specialized kind of leadership was needed, particularly to spearhead fundraising efforts and building campaigns. As a result, it was decided that the university should have a president after all. In 1904, after an attempt to recruit UVA graduate Woodrow Wilson to be the school's first president, the university selected Edwin Anderson Alderman. Alderman, who was inaugurated on Founder's Day in 1905, had served briefly as president of the University of North Carolina, and later as president of Tulane University in New Orleans. Still a recognized figure in the history of both of these institutions, Alderman's achievements at UNC included designing a symbolic pavilion around the university's "old well," a design that has become an unofficial icon of the university, and opening the university to female students for the first time.

The Design Competition and the Switch to McKim, Mead & White

In February 1906, President and Mrs. Alderman began writing to architectural firms around the country asking for proposals to design a President's House for the university. At least six firms⁷ were invited to participate in a design competition. The competitors received a small stipend for their designs, but apparently also had the expectation that a winner would be chosen from among them to move the project forward into construction documents. However, on 1 May 1906, President Alderman wrote to McKim, Mead & White telling in detail about the project, without reference to the previous competition,

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and asking the firm to take on the design commission. While the president's letter does not discuss the design competition, it goes into great detail about how pleased the university had been with McKim, Mead & White's prior work at UVA. It also explains a dilemma that due to a shortage of funds, the university had decided to hire each construction trade individually, rather than one general contractor. This scenario,⁸ presented in a statement that a university staff person rather than the architect would be serving as the university's representative in the construction administration phase, was expressed as a pre-existing condition to the university's offer to Stanford White's firm. McKim, Mead & White wrote back on 5 May 1906 saying they would be "happy to undertake" the project, and on May 15, Stanford White telegraphed the president's office making plans to visit the Aldermans with his assistant, his "younger partner, Mr. Fenner."⁹ About a month later, at least one of the firms involved in the earlier competition wrote to President Alderman questioning the fairness of choosing a firm that had not participated in the competition.¹⁰

In spite of false starts, strong egos, and a high-profile tragedy, the house was designed and built with a grandeur and style befitting the UVA setting. Although some frustration was aired early in the process that the choice of sites inappropriately altered the setting of the original Academical Village and emphasized the hierarchical status of the president, the house was eventually met with glowing reviews.



The President's House after ivy had begun to creep up the walls.

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Through its first century, the President's House has become increasingly important as a facility for university events as well as a residence for the president and his family. The design of the house has remained almost completely untouched, though a half dozen major architectural projects have been undertaken since 1954 to keep the building current with changes in lifestyle and a subtle enhancement of its functions. Proposed modifications major enough to produce drawings were planned in: 1954—mainly a kitchen update and plumbing improvements; 1959—kitchen remodeling and changes to cabinetry, changes to the doors in the entertainment rooms, and new plaster in much of the first floor (the actual project was apparently larger than what was indicated on the drawings); 1960—porch alterations and creation of second powder room; 1974—kitchen renovations, alterations to the terrace, new bookcase unit in the library, and changes to light fixtures; 1985—alterations to library bookcase, new light fixtures in various first story locations, restoration of the fireplace and several adjoining doors in the main hall, installation of the Chinese screen in the main hall, and construction of the present sun room; 1988—installation of lighting at library bookcases; 1993—renovations to powder room; and 2003—complete kitchen renovations.

DEVELOPMENTAL HISTORY OF THE FIRST-FLOOR ROOMS

Considerable documentation of the dialogue between UVA representatives and various architects over the design of the President's House survives in the form of letters and various notes, drawings, and receipts.¹¹ The correspondence demonstrates an interactive process in which the Aldermans took a deeply personal interest, at times to the chagrin of the architects. It is apparent that the Aldermans had a nearly complete design in mind, whether of their own making or based on a house they had seen elsewhere, prior to initiating the design competition. Several of the surviving letters from architects who took part in the initial competition make reference to what the Aldermans had asked the architects to include in the design. There is specific reference in a few of these letters to a house plan from New Orleans, apparently a house or set of plans that the Aldermans had seen while living in New Orleans that they wanted to emulate.

The New Orleans Plan

The "New Orleans plan" was a matter of great interest in correspondences exchanged in May 1906. In one letter from an architectural firm located in New Orleans that had participated in the competition, dated 28 May, architect Francis MacDonnell asks that the university return the floor plans he had prepared for the competition. In a letter prepared on 31 May 1906, Stanford White referred to a set of plans that Mrs. Alderman had shown to him and his assistant previously.¹² In the same letter, White criticized the house plan, calling it "really a semi-detached city street villa...without the balance and dignity that the President's house...should have." Notably, in the sentence previous to this one,

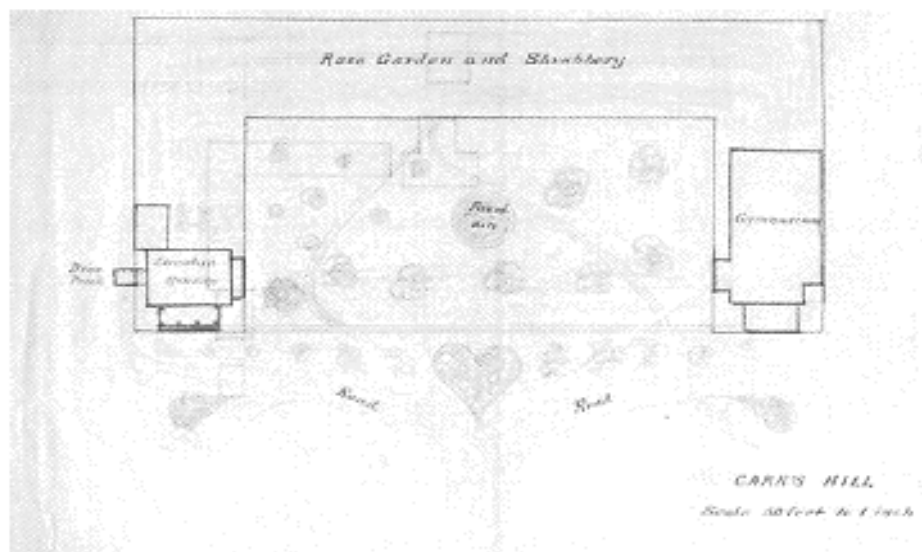
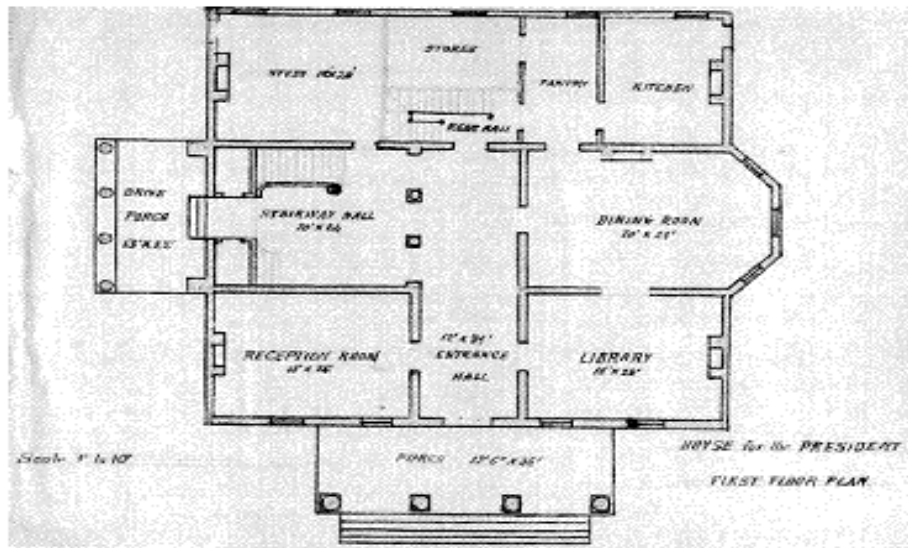
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White had specifically objected to placing a porte cochere entrance on the west side of the house.¹³

There is further discussion of the “New Orleans” floor plan in letters that were exchanged in June 1906. In an 11 June letter, Taylor & Hepburn architects, of Norfolk, wrote to question why McKim, Mead & White had been selected to carry out the design since they had not participated in the design competition. In laying out their argument, they said “the last we heard was that you preferred our exterior and a New Orleans plan to anything submitted.” A 12 June letter from McKim, Mead & White outlines two schemes, pointing out that “Scheme A is similar to the New Orleans house which you and Mrs. Alderman like” and that “Scheme A would give you the same number of rooms as are contained in the New Orleans house....”

In the university’s archives are several key documents that contain neither dates nor names to indicate who prepared them. One of these is a floor plan drafted in red ink on yellow tracing paper. It contains the title “HOUSE for the PRESIDENT / FIRST FLOOR PLAN.” The basics of the plan are virtually identical to the house as it was built, although the kitchen spaces are laid out differently, there is no front vestibule, the front rooms are smaller, and there are notable differences in how the stairway meets the center hall. A second drawing, apparently from the same hand, is a site plan showing the President’s House, the Gymnasium, and a fountain between the two with a Rose Garden in the background. The other document, entitled “Tentative Statement of Plans for President’s Residence,” is a two-page typescript apparently prepared by the Aldermans in early 1906 as a building program. The document contains many specific details about how the house should be built, including ceiling heights, species and finish of wood trim for various rooms, type of window glass, size of radiators, locations of doorways, and similar items. On several points, it corresponds more precisely with the anonymous “red-ink” plan than to the final plans (e.g., the door to the study was to be from the side hall; there was to be a fireplace in each room—the kitchen has a fireplace only in the red-ink drawing; the front portico columns were to be Ionic, while the columns as constructed are in the Doric order,¹⁴ etc.). The list includes a reference to the Aldermans wanting a window above the fireplace in the dining room. This particular detail puzzled at least one of the participants in the original design competition who wrote complaining that the requirement was confusing, and that perhaps the Aldermans meant to say that they wanted “to have a fireplace in the recessed bay flanked by some window treatment.”¹⁵ The list indicates that the servants’ rooms were to be in the basement and in a first-story room off the kitchen (the Aldermans objected later when McKim, Mead & White placed a servant’s room on the second floor).¹⁶ Also, the estimated cost is \$17,000, even less than the \$20,000 budget referred to in the letter to McKim, Mead & White. All of these idiosyncrasies point to this unattributed list having been prepared by the Aldermans in preparation for the design competition, in the early months of 1906, perhaps in tandem with the “red-ink” floor plan and site plan.

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The "Red-Ink" Floor Plan (above) and the "Red-Ink" Site Plan (below), Courtesy of University of Virginia and Garth Anderson.

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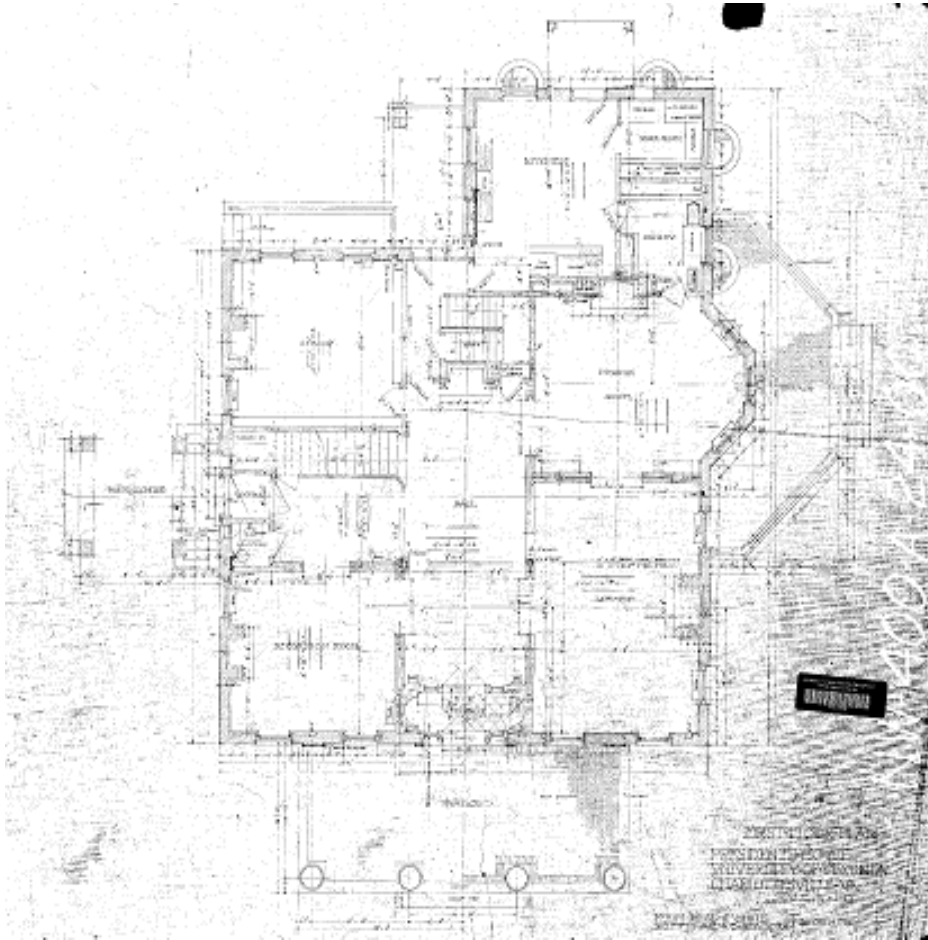
A Pre-Conceived Design and Many “Designers”

The details of the dialogue between the Aldermans and Stanford White reveal a brief relationship in which the Aldermans may have been too specific in what they wanted in the design of their house for White’s taste, or perhaps ego. The Aldermans came to the process with a specific model and style in mind, including many minute details for a house of this size. This placed White in position of arguing against some of the design features that the Aldermans clearly wanted, and of presenting two design schemes that the Aldermans soundly denounced in correspondence a few days before the architect’s death.

One is tempted in such a scenario to see the Aldermans as the true authors of the house, and to presume that Stanford White’s role in the design was “cut off at the pass” and that the design was fully revised upon his death. In fact, some of Stanford White’s contributions to the design clearly survived the criticism of Dr. and Mrs. Alderman and became part of the house as constructed, in spite of the timing of White’s death. An example is the use of the Doric order in the portico rather than the Ionic order. Conversely, the west entrance porte cochere that the Aldermans wanted and White disliked also made it into the final design. White, or at least the firm of McKim, Mead & White, probably insisted on placing the study doorway on the west wall of the center hall rather than foreshortening the stairs to place it on the north wall of the side hall as the Aldermans had suggested. Dr. Alderman may have had in mind the idea of going from his carriage to his study and from the study to the bedrooms without entering the center hall, a division of spaces reinforced by the two columns shown where the center hall meets the side hall in the “red-ink” drawings. However, placing the study entrance at the foot of the stairs, as shown on the “red-ink” floor plan, would have resulted in a steep stairway. Instead, the design as built has a gracious and unusually gradual staircase, remarkably easy to climb, with delicate details that are characteristic of high design in the “Edwardian” era and typical of Stanford White’s most noted contributions to the decorative arts of the time.¹⁷

Beyond the basic forms, however, most of the house’s other details were really worked out by McKim, Mead & White after Stanford White’s death. Although White had mentioned that he was bringing his “younger partner, Mr. Fenner,” along on his initial visit to the site, nothing else is known of Fenner’s involvement in the process.¹⁸ Some of the correspondence from McKim, Mead & White after Stanford White’s death is signed by architect William M. Kendall, an important designer who became a leader in the firm after White’s death. Kendall became especially important in the firm after the death of Charles F. McKim in 1909.¹⁹ Most of the drawings prepared for the project throughout the design process were signed by a draftsman named “Wylie,” although other draftsmen signed some of the other documents as well.²⁰

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McKim, Mead & White's 1907 first-floor plan.

While the Aldermans had very specific design ideas in mind from the beginning, they became even more involved in the house's ultimate finishes after White's death. William M. Kendall made suggestions of suppliers and designers for the house's final appointments, including fixtures and furnishings.²¹ The Aldermans, however, followed through with the kind of intensity more characteristic of private individuals building their "dream house" with their own funds. They wrote to furniture designers in Philadelphia and Boston that Kendall had suggested, and they may have visited their shops. The correspondence includes a number of letters from the Aldermans reminding suppliers that their shipments were late and that they were holding up the activities of a university president.²² Throughout these final phases of the project, the work was overseen by William A. Lambeth, M.D., a faculty member and the university's superintendent of buildings and grounds. Lambeth had expertise in several different areas, from medicine

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to Colonial-era architecture. However, as the correspondence shows, the Aldermans were at least as directly involved in every aspect of the project as Dr. Lambeth was. From the beginning, Dr. Lambeth's role included providing information on local construction prices and practices, and his involvement was considered critical in keeping a rein on the project's budget. Even with Lambeth's diligence, the house went well over budget, by nearly fifty percent, some of which was due to inflation (the project went from a \$20,000 budget at the time Stanford White was brought on, to \$28,837.13 in costs at the time of completion). To complete the project, the university allocated a large financial contribution that was just large enough to cover most of the shortfall.²³

Among the details that the Aldermans worked out in the final phases of construction, several "finishing touches" stand out. While correspondence survives about wallpaper, doorknockers, various light fixtures, furniture, and rugs,²⁴ the detail provided is not complete. A little more detail is provided on a few fixtures, such as the dining room chandelier. A 31 March 1909 letter from The Horn & Brannen Manufacturing Company of Philadelphia says "The fixture will have a spread of about 30" across the corners, will be made with amber art glass panels and in Brush Brass finish." The chandelier was being made for a twelve-foot ceiling. The same letter mentions a "heavy square library table lamp." Designs for some other electrical fixtures, as well as wallpaper, were received from W.B. Moses and Son of Washington, D.C., earlier in March 1909. A sample of a special glass for the window at the staircase landing was to be sent to Dr. Alderman by McKim, Mead & White in December 1908. McKim, Mead & White's letter says that it was "a sample of glass which Mr. Kendall chose for the window on the main staircase landing. In his judgment, this will sufficiently exclude the light, and at the same time give a warm color effect." Dr. Alderman wrote back ten days later saying he had received the package in which "was found a piece of munting [sic] containing no glass," and he continued, "Will you kindly send this glass, in order that we may have it over!" However, it is not known if colored or frosted glass was ever installed in the landing window; it currently has clear glass.

The most specific information provided by the drawings about finishes in the house involves some of the mantelpieces. Several alternative schemes for some of the mantels were drawn up by McKim, Mead & White and sent to the Aldermans (see the illustrations in the section on the Sitting Room in the Architectural Description). In some cases, the drawings are presented as final designs for specific rooms, even though they differ from what was actually installed. There are three schemes that appear to be for the sitting room fireplace. They differ mainly in the style of gilded mirror that was to be installed above the mantel shelf. The design below the mantel shelf closely resembles what was actually installed (it is not known if the mirror was installed and then later removed, but it appears to be a likely scenario). Several pieces of written correspondence indicate some last-minute efforts to save money on finishes by substituting one kind of wood for another. An undated, handwritten note from Dr. Lambeth to Dr. Alderman

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notes that “birch costs 50% more than pine with white coat,” and suggests leaving the fireplace trimmings and mantels out of the contract (the note does not indicate clearly that it is in reference to the President's House, but if it is, the tentative treatment of the design data in correspondence between Lambeth and President Alderman helps in explaining why the mantelpieces were not executed to follow extant drawings).²⁵ In September 1908, Dr. Alderman inquired about some of the mantelpiece details and in the same letter asked if the library (current sitting room) could be trimmed in oak; he also expressed that he was eager to get details from McKim, Mead & White about the library bookcases.

One of the last letters from McKim, Mead & White, dated 20 November 1908, is a list of items still needing attention at the house, prepared by W. M. Kendall. In it, Kendall expresses dismay at the shape of the arch at the doorway from the south vestibule to the main hall: “The arch of the door from the hall to the vestibule was to have followed the curve of the arch from the vestibule to the portico. The curve is at present faulty, and should be made like the full size drawing...” In the same letter, Kendall recommends changing the main-hall radiators because the first ones installed were too tall. He also recommends making a minor alteration to the servants' stair, using a duller color of paint on the shutters, and so forth. The letter expresses a quandary about whether to proceed on constructing a gilded mirror for the mantelpiece, and he indicates that the library (present living room) bookcases are being drawn up with paneled pilasters (as seen on the one remaining original bookcase in the study, the room now known as the library).

Perhaps one of the final decisions made in the house's finishes was the insertion of large areas of decorative glass into the pocket doors that connected the main rooms of the first story. The glass replaced wood panels that McKim, Mead & White's drawings had shown in the lower three-quarter of each of the unusually tall and wide door leaves. The addition of the glass does not appear to have been guided by McKim, Mead & White (except in the inner doors of the front vestibule, where they had called for large, single panes of plate glass). Instead, it was apparently inserted as the result of a last-minute decision made as the doors were being fabricated. The glazed portion of each pocket door was actually a full-door height, the top of the glass being at a rail that occurs approximately seven feet above the floor. However, the doors were eight-foot six-inches in total height and the remaining solid wood panel occurred well above eye level. On one hand, one could think of the resultant design, visually speaking, as full-height glazed doors, extended upward another eighteen inches with the aid of a wood panel. However, the design is also quite unorthodox. The solid panel may have made the design seem top-heavy. The original McKim, Mead & White design, by contrast, has the advantage of a dual reading: the doors could be seen as extended upward or as being a very large version of the normal pattern of small panels above larger ones. McKim, Mead & White's drawing entitled “3/4 Inch Scale Details of Interior Doors...” emphasizes the

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first reading by placing the elevations of the pocket doors next to elevations of some seven-foot-high, single panel doors, where the top rail of the one type is perfectly in line with the middle rail of the other. Another awkward factor in how the design evolved is that McKim, Mead & White had called for clear glass above a small bottom panel for the original doors designed for the inside wall of the front vestibule, which are also eight-foot six-inches in height. They also specifically called for the bottom panel of the vestibule doors to be detailed to match the top panel of the pocket doors. Placing the glazed variation on the pocket doors design within close proximity of the glazed vestibule doors would very likely have made it appear that the pocket doors had been installed upside down. The glazed design also would have made the pocket doors much heavier, and may have made them unusually difficult to operate and maintain, leading to their removal by 1959.

Mixed Reviews and a Quiet Completion

The actual process of designing and building the house proceeded at a pace that may at first seem illogical. The design competition and the abrupt change to an architectural firm that had not competed shaped the early part of the process, as did the unanticipated death of the architect. Another factor was the way in which the university came to terms with the new idea of having a president. Unfortunately, as reflected in some criticism that made it into print at the time, the choice of the Carr's Hill site was seen as a physical manifestation of something worse than having a central leader, namely having something like a castle looming in the background of Jefferson's great Rotunda. The criticism did not deter Dr. and Mrs. Alderman from building their hilltop villa, but it appears to have led to a low-key approach that may have been designed to dodge the negative publicity.

While Stanford White's death on 25 June 1906 may have set McKim, Mead & White behind schedule, drawings for the design were presented to the Board of Visitors for approval prior to their fall meeting in early October 1906.²⁶ Very little correspondence appears to have survived to explain what happened between late June and the beginning of October, and most of the surviving drawings are from January 1907 or later. The news of the approval led to a stream of negative letters that appeared in the student newspaper between October and December 1906. At the end of a letter that appeared on 3 November 1906, the editor of the paper added a note indicating that the excavation work was already underway. Letters to *College Topics* criticizing the choice of sites continued until 8 December 1906. The main set of McKim, Mead & White plans for the house was not issued until 29 January 1907. Meanwhile, in 1907, *College Topics* stopped running letters to the editor in general. The Board of Visitors approved putting the project out to bid on 4 March 1907. On 3 October of that year, *College Topics* reported that "considerable work yet remains to be done on the interior, the exterior being practically complete."

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The description of the house in the 3 October issue of *College Topics* attempts to establish the design's dual place in the landscape as stately yet modest: "in the midst of a grove of mighty oaks...the site commands a view in all directions...with the white dome of the Rotunda towering above all the trees...Doric columns support the roof of a spacious porch.... The interior decorations will be simple and unpretentious, and artistic, giving the impression of sincerity and stateliness and at the same time of simplicity."²⁷ By contrast, a letter to the editor published in the 27 October 1906 issue of *College Topics* moves swiftly from the words "I heartily congratulate the President as well as the faculty for providing a home for the 'Presidents of this old and noble institution'" to saying the decisions were made too hastily and criticizing the house as "the most miserable thing that any human being can imagine". It compares the choice of sites to an outdated practice "to develop hills as castles for feudal lords, and especially when we have no suitable places for coming great buildings of this University." By November 1906, *College Topics* had run so many negative letters about the proposed house that the editors of the paper felt the need to make their own investigation of the reasons the site and design had been chosen, and concluded that most of the criticism was unfounded.

In 1908, many of the interior details were worked out by the Aldermans, Dr. Lambeth, the staff of McKim, Mead & White, and a handful of designers at companies that produced fixtures and furnishings. By 20 March 1909, *College Topics* could announce that the house "has practically been completed and is about ready for occupancy.... It is not definitely known when Dr. and Mrs. Alderman will take possession." The Aldermans "took possession" of the house shortly after that, apparently without ceremony or anything that might generate too much publicity.

The mixed reviews that the President's House drew from the community continued forward, but as a trickle of more-moderately tempered comments. A recent example is the argument made ninety years after the house was finished by Stanford White's great granddaughter, Suzannah Lessard, about White's work at the university in general. In her book on White, *The Architect of Desire: Beauty and Danger in the Stanford White Family* (New York: The Dial Press, 1996), Lessard says: "Both Jefferson and Stanford were attracted to the classical vocabulary but for opposed reasons: Jefferson for the democratic associations of that vocabulary (there is an implicit modesty in his work) and Stanford for the imperial ones."²⁸ In a 1997 review of *The Architect of Desire*, Ruth Coniff summarizes Lessard's criticism of White's work at UVA with the following paraphrase: "a set of big neoclassical buildings that dominate the campus and cut off the view of the Blue Ridge Mountains—once the focal point of the campus."²⁹ Lessard saw White's UVA work as a turning point in American architectural history, illustrating "the difference between imperial and democratic neoclassicism. In the imperial vision there is no preexisting landscape, no outside power, no mystical cosmos. There is no encompassing mystery and there is consequently no humility."³⁰ However, by contrast to

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these conclusions, the house received a positive review in the July 1909 edition of *The Alumni Bulletin* and in the 1915 edition of the *University of Virginia Alumni News*. A 1922 history of the university calls it: “From some points of view, the handsomest building erected during this period.”

Gradual Evolution of the House after the Aldermans

The President’s House remained in the care of the Aldermans until President Alderman’s death in 1931. Through the years of the Great Depression and World War II, there is little evidence of any notable changes being made to the house. The first significant change, which occurred in 1959,³¹ apparently involved removing the original pocket doors and replacing them with side-hinged doors in considerably smaller openings, with paneled reveals. In removing the pocket doors, large areas of adjoining plaster and woodwork were replaced so that there are no seams in the woodwork or lines in the plaster to indicate the original size of the openings.

This project, undertaken in preparation for Edgar F. Shannon’s presidency, also involved a major renovation of the kitchen suite, plus a few changes in the front rooms. The following items were among the changes: replacement of the doors from the vestibule to the hall, modification of existing radiator cabinets, installation of the cabinets/bookcases on the west wall of the sitting room, and changes in the powder room area and study. The current powder room on the north side of the west vestibule was added at this time, as was the door from the study to the rear hall. The latter change required modifying an original bookcase that was then still in place along the east wall of the study (current library). The 1959 changes to this bookcase included creating a place for a television.

Later changes also generally occurred as one president was retiring and another was about to move in. One of the changes as President Frank L. Hereford came into office in 1974 involved removing the bookcase from the east wall of the current library and rebuilding the one along the south wall. After the original south-wall bookcase was removed, the replacement unit was rebuilt several times. In its original 1974 design, it had an open space at the center for a desk. The desk space was converted to a location for a television and a stereo system in 1985, as President Robert M. O’Neil came into office. The entertainment equipment was placed behind a raised-panel cabinet door in this modification to the design of the cabinetry. While earlier projects tended to occur as newly inaugurated presidents were preparing to move into the house, several projects were completed while President John T. Casteen, III and his family were residing at Carr’s Hill. Changes made to the house documented in drawings between 1954 and 2003 are outlined below.

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CHANGES TO THE PRESIDENT'S HOUSE BETWEEN 1954 AND 2003, DOCUMENTED IN DRAWINGS:

1947 to 1959 — President Colgate W. Darden

1954 Project

- Updated kitchen suite
- Minor changes to areas with plumbing facilities in each story

1959 to 1974 — President Edgar F. Shannon

1959 Project by Johnson, Craven, & Gibson, Architects, of Charlottesville

- Bookcases/cabinetry added in sitting room
- Swing of original lavatory door reversed
- Hinged panel below stair stringer sealed
- New door to this space beneath stairs from west vestibule added
- East bookcase in library shortened, rear hall door added, using door from elsewhere
- T.V. antenna outlet added above east bookcase in study/current library
- Complete remodeling of kitchen spaces
- Pantry window converted to a door to the terrace
- Inner doors of south vestibule replaced
- Radiator covers in main hall reduced in height by 3 inches, and new panel molding and “brass wire lace” grills added
- Curved railing added at west entrance
- Semi-octagonal enclosed porch installed over original terrace footprint
- Westward enlargement of the porte cochere (to allow for larger cars) under consideration as a future project

1960 Project by Johnson, Craven, & Gibson, Architects, of Charlottesville

- First story of the NW porch (coat porch) redesigned to present enclosure scheme (fixed wooden louvers at top, screen units in frames below; screens were to clear the original porch balustrade); shutters removed at kitchen window on porch
- Powder room under stair labeled as “new lavatory”
- Decorative legs from a second-story location were to be placed under new sink
- Wood cornice/crown molding added in powder-room ceiling

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1974 to 1985 — President Frank L. Hereford, Jr.

1974 “Wish List” drawing by Johnson, Craven, & Gibson, Architects, of Charlottesville, marked up in cursive handwriting. All work not necessarily completed.

Drafted information:

- New bookcases on south wall of library (original study)
- New doors at pantry-to-terrace doorway and living room-to-terrace doorway
- New addition (vestibule and lavatory) across rear, where sun room is now
- Terrace shown as rectangular with current brick paver and stone grid pattern

Handwritten information:

- “Blank niches” (i.e., close niches in with drywall) in south vestibule
- Install two new sconces in south vestibule
- Remove doors from both sitting-room doorways
- Relocate radiator and remove wall sconces in living room
- Remove wall sconces, add new chandelier in dining room
- Remove bookcases at west wall and east wall in library
- Remove 4 wall sconces from library

1974 Detail Drawings by Johnson, Craven, & Gibson, Architects, of Charlottesville

- Bookcase wall units of south wall of library shown in current configuration except center section which was to be a space for a desk (top piece/crown molding of units was continuous over this opening)
- Drawings for a new rear porch addition

1985 to 1990 — President Robert M. O’Neil

1985 Projects drawn up by the UVA Physical Plant, Division of A&E Services

- Center section was added into the south-wall bookcases in the library
- Sconces added at north and south ends of main hall
- Light switch removed from north end of main hall
- Front porch light fixture removed and electrical box capped
- Outlets removed from south-vestibule niches
- Ceiling light of south vestibule moved slightly
- New sconces added on south wall of dining room
- New ceiling light added in west vestibule
- Small back room removed and replaced with present sun room
- Chinese screen installed on permanent anchoring system in main hall
- New doors designed for three openings at north end of main hall to match dining room doors, in place of flush doors installed earlier

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- “new mantel” installed at fireplace at north end of main hall, in place of plain molding (floor plan from same set says “reinstall mantel” rather than replace)

Undated Drawing by UVA Physical Plant, Division of A&E Services (ca. 1985)

- New storm doors designed for front entrance and porte cochere entrance
- New solid doors designed for kitchen and family room (sun room?)

1988 Drawings by UVA Physical Plant, Division of A&E Services

- Linear incandescent lights installed on top of south-wall bookcases in library/study

1990 to present — President John T. Casteen, III

1993 Redesign of powder room by Bushman Dreyfus Architects, of Charlottesville

- Crown molding removed in powder room
- Radiator shortened in powder room
- New sink, toilet, grab bars, wood trim, electrical fixtures, marble flooring, wallpaper, etc., installed

2003 Complete Redesign of Kitchen by Stoneking Von Storch Architects, of Charlottesville

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END NOTES

1. Stanford White was murdered by Harry Kendall Thaw, a resident of Pittsburgh and heir to a large industrial fortune. Thaw had married Evelyn Nesbitt, a Pennsylvania native who had been a New York City chorus girl. Around the time of their marriage, Thaw learned that his wife had once been Stanford White's mistress. Nesbitt's account of the affair enraged Thaw, who eventually went to Madison Square Gardens, found White in a dining space (White also kept a private room there for his personal use), and shot him to death. Both men had unusually eccentric personal habits lurking in their backgrounds that became public knowledge in the trial that ensued. The trial was so heavily covered in the press that a number of words and phrases came into the American vocabulary as a result. In the first court proceeding ever to be widely publicized as the "trial of the century" (even though it was only 1906), Thaw was found "not guilty by reason of insanity." The story is central to the plot of the E. L. Doctorow's 1974 novel *Ragtime* and the 1981 movie that was based on it, as well as an earlier movie, *The Girl in the Red Velvet Swing* (1955).

2. Letter from Stanford White to Dr. Edwin A. Alderman, 20 June 1906, UVA Special Collections.

Note: Almost all the letters referred to in this section are from the Albert and Shirley Small Special Collections Library at the University of Virginia. It is filed under "Papers of the Presidents," and chronologically within the various parts of that particular collection. The letters documenting correspondence about the building to or from Dr. Alderman's office may be found in Box 6, in the folder on "Buildings and Grounds." Some McKim, Mead & White correspondence is also archived at the New York Historical Society. Dates are given in the text for most letters referenced in the body of the history narrative. The most complete sets of drawings on file are to be found at UVA's Facilities Management Office Archives, although duplicate copies of most of the McKim, Mead &

White drawings are also on file in the Special Collections Library.

3. The McKim, Mead & White collection at the New York Historical Society contains drawings of four other buildings, some of which were mechanical facilities, and some of which may have only been schematic studies.

4. The Rotunda restoration was completed in 1898, and at their 18 March 1898 meeting, the Board of Visitors passed a motion to approve a final payment to McKim, Mead & White. However, at the board's 2 March 1899 meeting, a second motion was made, putting the earlier motion on hold until further notice. At the same meeting, the board accepted drawings from architect Paul J. Pelz for the Randall Building. The board's action suggests some kind of rift between the university and McKim, Mead & White. Whatever the difficulty was, it was part of a broader concern about running a rapidly expanding university, with various building projects underway, without a president. It appears that the work that McKim, Mead & White had been performing was completed prior to President Alderman's arrival, and that the president's office had the opportunity in 1906 to choose a new architect at his pleasure. However, in ultimately hiring McKim, Mead & White to design the President's House, President Alderman also asked the firm simultaneously to design a new dining hall. That building, once known as "The Commons," is now named Garrett Hall.

5. Dr. Alderman lived in a rented house prior to the completion of the house on Carr's Hill in 1909. In 1907, at their January meeting, the Board of Visitors took special action to approve extending the president's lease on a month-by-month basis. This may be an indication of a delay in the original plan, that the board had expected the house to be completed just before or after this action; it may also reflect uncertainty in general about how the project was progressing after the death of Stanford White.

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6. Letter from President Alderman to Stanford White, 1 May 1906.

7. The firms known to have shown an interest in the design competition or participated included: Parish and Schroeder of New York City; Fuller and Pitcher of Albany, New York; Noland and Baskervill of Richmond, Virginia; Frank P. Milburn of Columbia, South Carolina; R. Lee Taylor of (Taylor & Hepburn) of Norfolk, Virginia; Kirby, Petit, & Green of New York City; and Francis J. MacDonnell of New Orleans.

8. The arrangement that Dr. Alderman describes in his letter is essentially what would be referred to today as "acting as one's own general contractor."

9. This is apparently a reference to Burt Leslie Fenner, who was a partner at McKim, Mead & White beginning in 1906. Fenner's son, Ward Wadsworth Fenner, was also an architect who worked at McKim, Mead & White, but he would have been too young to have worked on the project in 1906.

10. Letter from Taylor & Hepburn, Architects, to Mr. Price, secretary to the president, University of Virginia, 11 June 1906, UVA Special Collections.

11. We would like to thank those who shared with the team the research they had already compiled, including Garth Anderson, Nancy Ingram and several others with whom they have been working, as well as Joseph Lahendro, Brian Hogg, Mark Kutney, Cindy Coleman, Ruta Vasiukevicius and the staff of the Albert and Shirley Small Special Collections Library at UVA, for making available the various materials upon which this study is based.

12. Although it is not clear that the Aldermans had used MacDonnell's drawings to illustrate what various parties were calling a "New Orleans" house, the coincidence of dates suggests the possibility that what the Aldermans wanted in a floor plan came together in

MacDonnell's submission to the competition. Garth Anderson of the university's Facilities Management Resource Center has research underway into at least one house in New Orleans that may have been the model that President Alderman had in mind.

13. Although most of McKim, Mead & White's correspondence is signed in manuscript with the full name of the firm, instead of that of the individual author, a copy of this particular letter is in the McKim, Mead & White archives with changes penciled-in from Stanford White. This not only indicates that it reflects Stanford White's feelings about the project, it also possibly indicates that this letter may never have been sent.

14. White apparently chose the Doric Order, as built in the actual portico, over the Ionic order that the Aldermans had requested. Although the Ionic order was mentioned in the early list of requirements, the matter had to be revisited after White went to work designing. In criticizing the two most-recent schemes submitted by McKim, Mead & White in the letter prepared nine days before White's death, the Aldermans used a more diplomatic tone about Classical orders, asking White: "Could Ionic columns be used instead of Doric, or are the Doric [sic] demanded by the nature of the cornice." [the sentence was typed without question mark]. Whether White ever had a chance to explain his choice of the Doric order, his choice won over the Ionic in the design as executed.

15. Letter from R. E. Lee Taylor (of Taylor & Hepburn Architects) to President Alderman dated 7 March 1906. In a cover letter that the same architect(s) sent with a proposed design on 11 July 1906, there is a reference to this requirement, emphasizing that there is room for a window in the dining-room mantel.

16. Letter from President and Mrs. Alderman to McKim, Mead & White, 16 June 1906, UVA Special Collections. The Aldermans were specifically objecting to the placement of a bathroom for servants on the second floor, saying it "should be in basement," among the

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many other issues and concerns they raised in the attachment to their 16 June letter.

17. McKim, Mead & White's designs up to 1906 were well known for their decorative staircases. Stanford White was the partner primarily in charge of large residential commissions, and many of the highly decorative stair details found in the firm's houses from the turn of the century appear to have been designed, either in whole or part, by White. An example of a staircase with some similarities is found at Naumkeag, a house that McKim, Mead & White designed in 1885 for a site in Stockbridge, Massachusetts. Although more complex in its plan, the stair leads down to an elliptical arch, creating a view that is remarkably similar to the view from the landing at the President's House. Similar treatments of the both newel post and of the stair stringer details can be found in other McKim, Mead & White designs. Stanford White also had a profound impact on the decorative arts in general in this era; the opulent details that marked staircases and other dramatic features in his commissions were carried over into other decorative arts.

18. Burt Leslie Fenner became a partner at McKim, Mead & White in 1906.

19. In spite of Kendall's numerous significant buildings, his best-known and most-memorable contribution to American culture is the phrase he wrote to be incised into the frieze of the Farley Post Office in New York City, a National Historic Landmark: *"Neither snow nor rain nor heat nor gloom of night stays these couriers from the swift completion of their appointed rounds."*

20. A draftsman named "Edelheim" signed a couple of the other documents. One or two other documents have signatures that are not quite legible.

21. See the bibliography for a list of letters to and from various manufacturers that are to be found in the UVA Special Collections. One of the items in the Special Collections is a typescript listing all the fixtures and major furniture purchases, giving the name of the manufacturer and the value, as far as it was

known. The typescript appears to have been prepared shortly after the building was completed.

22. For example, in a letter from President Alderman to Horne & Brannen Manufacturing Company of Philadelphia dated 13 May 1909, President Alderman writes that he and Mrs. Alderman are "greatly inconvenienced in our new home for lack of the fixtures." On 28 May, he wrote to the same firm asking them to "hasten" the designs for the bedroom fixtures.

23. In early 1907, the Board of Visitors voted to apply a recent gift of \$5,000 "represented by bonds of the U.S. Steel Company" to the cost overruns at the house. The Special Collections contains several drafts of a letter Lambeth wrote around this time for a presentation to the Board of Visitors to cover what was then about an \$8,000 overrun by comparison to the figures used in the spring of 1906. In March 1909, the board allocated \$2,000 to pay for furnishings for the house.

24. See the bibliography for a list of letters to and from various manufacturers that are to be found in the UVA Special Collections.

25. The undated note written in longhand in pencil on "Office of the President" stationery and signed by Dr. Lambeth is archived among Dr. Alderman's papers at the Special Collections Library. Two sketches of brackets or moldings, apparently at the support point of a mantelshelf, appear on the reverse side of the paper. Above the stationery heading, a pencilled note in a different hand says: "Note to Mitchell about Summer School." Another note at the bottom, written in fountain pen, in a different hand again, says "Mess Hall." It is not clear if either one of the latter notes is intended to be the title for the note in question, or if the piece of paper was used as a place to write down some things that were unrelated. In any event, they show that Dr. Lambeth was struggling with the possibility of saving money by leaving mantelpieces out of contracts and by substituting pine for birch because of a 50% difference in price around the same time that the President's House was built.

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26. The October 1906 decision by the Board of Visitors to proceed with the house was reported in *College Topics* on 10 October 1906.

27. Note that there is some interest in emphasizing the building's "simplicity," as it is stated twice in one sentence.

28. Suzannah Lessard, *The Architect of Desire: Beauty and Danger in the Stanford White Family*. New York: The Dial Press, 1996, pg. 126.

29. Ruth Coniff, "The Architect of Desire: Beauty and Danger in the Stanford White Family. - book reviews". *The Progressive*, Jan, 1997.

30. Suzannah Lessard, *The Architect of Desire...*, pg. 127.

31. The 1959 a project is documented by an apparently incomplete set of drawings on file at the university prepared by Johnson, Craven, and Gibson, *Architects of Charlottesville*. A first-floor plan from this set, dated 17 November 1959, has a door schedule indicating numerous changes to doors. (This drawing is numbered "1 of 2," the other sheet being a second story plan; the door schedule apparently refers to doors on both stories). However, the first-story doors keyed to notes on this schedule are almost exclusively in the kitchen and powder room areas. The larger doorways connecting the entertainment rooms to one another and to the hallways are not keyed to the notes (or cross-referenced to anything else) and are shown as if they had already been changed (from the original pocket doors) to paired swinging doors in 4'-6" openings. The information in this set of drawings, however, does not preclude the possibility that the alteration occurred earlier in the same year, or before 1959. Some of the details for the 1959 project were worked out either before or after the November 1959 floor plan was prepared. For example, there is a 7 January 1959 drawing by Johnson, Craven, and Gibson, in the university's files, detailing

alterations to the radiator covers in the main hall. Details for the powder room and the enclosure of the northwest porch were provided in a drawing issued by the same firm on 13 January 1960. The actual construction work undertaken primarily in late 1959 apparently led to a great deal of unanticipated plaster work not shown on the drawings, as reflected in the following passage from the Board of Visitors Minutes from their 20 February 1960 meeting:

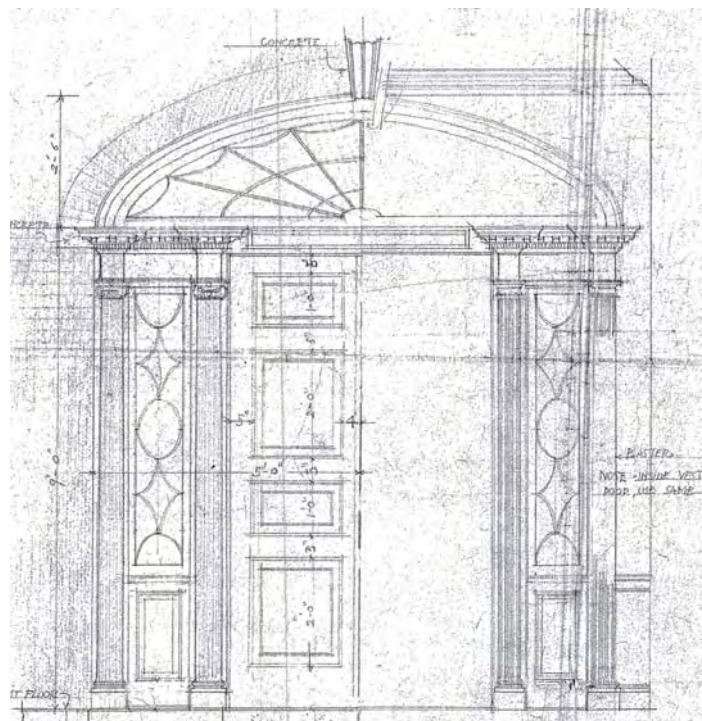
"CARR'S HILL

The Rector reported that he had inspected the renovation of Carr's Hill on the previous day and was very impressed with the improvements that had been made. This was the first time the building had been renovated completely since its construction over a half century ago. He pointed out, however, that a number of difficulties had arisen especially with respect to plastering in the large rooms on the first floor. Earlier in the week he had been called by the Comptroller who reported the difficulty and stated that an additional sum of \$750 was needed to make the necessary corrections..."

Although the above passage does not refer specifically to the door openings, it is likely that the reduction in the size of the openings was the reason that the extensive re-plastering work was needed (even if the openings had been reduced a year or two earlier, the difficulty of creating a smooth plaster surface may have led to replacing larger areas of plaster in 1959-1960; the plaster work was ultimately done with such thoroughness and attention to detail that no physical evidence of the alteration in opening sizes is now apparent). Also, even though the change in the size of door openings is not mentioned, the change appears to have been broadly regarded as part of the 1959-1960 project; if such a major change had been carried out in an earlier project, it would seem odd to refer to the 1959-1960 as the first time the house had been "renovated completely" since it was built.

U N I V E R S I T Y O F V I R G I N I A

PRESIDENT'S HOUSE ON CARR'S HILL



ARCHITECTURAL DESCRIPTION

PRESIDENT'S HOUSE ON CARR'S HILL

ARCHITECTURAL DESCRIPTION

EXTERIOR



The President's House at Carr's Hill is a large Colonial Revival-style house with a prominent double-height pedimented portico in the Doric order extending across most of the façade. The house is cubic in form, five bays wide, two stories, and two-to-three rooms deep, constructed of red brick laid in Flemish bond on all four elevations with wood trim painted white. The visible surfaces of the slate roof are hipped, though there is also a large section at the center of the roof that is nearly flat. Two tall chimneys rise in near symmetry from each side elevation, and another chimney rises near the center of the roof. The cubic form is offset by a two-story ell projection at the northeast corner, containing the kitchen, and a two-story semi-octagonal bay forming the eastern side of the dining room at the center of the east elevation. The house occupies a prominent site, overlooking the university chapel and the "Academical Village," the university's original set of buildings to the southeast, as well as the library buildings and

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the low-lying athletic fields to the southwest. The house is also prominently sited with respect to a gymnasium and a row of fraternity houses to the east. Mature trees along steep slopes to the west and northwest add to the house's grandeur. Within this setting, it is surrounded by a sweeping lawn on three sides, terminating at the north by a rose garden as well as several small historic buildings containing garage and office functions.

The house has at least one porch on each side. Across the façade, as noted above, is a portico with a herringbone brick floor, located four steps above the grade of the front lawn. A small second-story balcony is sheltered within the portico, in the center bay, directly above the entrance. The balcony balustrade consists of a post-to-post railing with Classical Revival-style turned balusters. There is a spherical finial at the top of each of the posts. A matching balustrade once surrounded the nearly flat section of the main roof, as seen in photographs as late as the 1910s. The portico has triglyphs in its frieze, along the three sides of the projection, and a fanlight in the center of the tympanum of the pediment. The columns have simple Doric-order bases and capitals, and the bottom one-fourth of each column is plain, above which the surfaces are fluted. The other porches consist of a terrace to the east, a porte cochere on the west side, a two-story porch in the building's northwest corner, and a one-story sun room at the rear.



Within the shelter of the portico, the balcony is above the main entrance.

At the east side of the house, the large brick terrace surrounding the dining room bay window is sheltered by a cloth awning. In its original design, the terrace echoed the semi-octagonal shape of the bay window and had a balustrade at its perimeter that resembled that of the portico balcony. The design was rebuilt to the current rectangular form by 1974, although it has been altered several times since then. The terrace floor consists of brick pavers in a running-bond pattern, divided into rectangular sections by a grid of stone borders. The terrace is connected to the house by three pairs of French doors. The middle set of French doors is in the center facet of the bay window at the dining room, with the flanking ones leading into the living room and the pantry. At the outer edge of the terrace is a low brick wall, six courses of brick in height, with a dressed-stone cap. A second large rectangular terrace, usually covered by a cloth tent, was recently added at the northeast corner of the dining-room terrace.

ARCHITECTURAL DESCRIPTION

On the west side of the house is a flat-roofed porte cochere, crowned with a Chinese railing. Further back on the same elevation is an enclosed two-story side porch sheltering an entrance to the rear hall. The porte cochere is supported by brick piers, the outer two of which are connected at the base by a half wall. The upper level of the two-story porch has a Chinese railing to match that of the porte cochere, while the lower level has raised panels below the railing. The porch enclosure consists of 1/1 window sash above the railings. A band of wood louvers is found above sashes of the first-story portion of the enclosure. Although the first-story portion of the porch was originally enclosed, the present enclosure elements were installed in 1960. The porch's double-height columns are square in plan and have paneled faces, with wood moldings as capitals.

The rear porch is a shed-roofed sun room, built and modified several times in the twentieth century. The sun room has large fixed panes of glass separated by narrow sections of flat-surfaced wood. The flat section of the roof originally had a railing with turned balusters to match those of the portico balcony, but these elements are now missing.

The house has double-hung windows of uniform width, generally 6/6, except in the three main rooms of the first story where some are 6/9 sashes and some are 9/9. Across the façade, in the first story, the windows are 9/9, extending to the floor. Some of the window openings on the east side, as noted above, have paired French doors leading out onto the terrace. The windows have adjustable louvered shutters. The shutters are held open by metal rods that extend toward the center of each window sill. At the attic level, there are two dormers in each side elevation and two in the rear elevation. The dormers are all gabled except one facing the rear in the northwest corner, which is a little wider and has a shed roof.



Main hall looking north toward the fireplace.

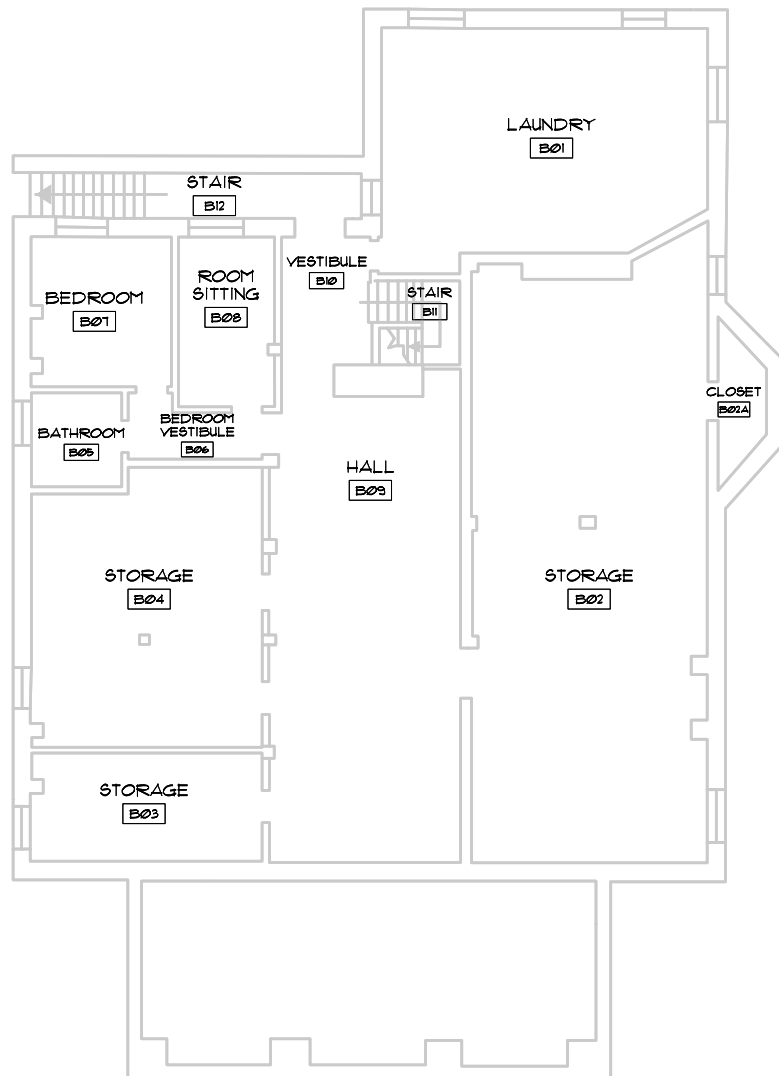
PRESIDENT'S HOUSE ON CARR'S HILL

FIRST FLOOR INTERIOR

Inside, the house has a center-hall plan, revolving around a space referred to as the “main hall.” The main hall separates the living room and dining room of the east side from the sitting room, stairway, and library of the west side. Entered from the front through a small vestibule with highly formal Classical Revival-style details, the main hall terminates at its north end with a fireplace. One of two symmetrically placed doors flanking the fireplace accesses the rear stair hall, while the other leads to a small closet. A few feet before this terminus, the main hall meets the double-height side hall, creating a “T,” or nearly an “L” form in plan. The side hall passes between the sitting room and the study and contains the main stair. Where the two large halls meet, there is an elliptical arch in the west wall of the main hall. The main stair, which is located completely within the side hall, begins at this arch and rises to the west to a landing. Below the landing is the doorway leading in from the porte cochere. The doorway is framed by two small rooms now containing powder-room facilities. Above the landing is a large round-arched window looking west from the double-height space of the side hall and stairway. The large window lights not only the stairway but also the smaller hallway at the top of the stairs that connects the second story-bedrooms. The main stair extends only from the first to the second story. As a result, the third-story bedrooms are accessible only from the smaller stairway that rises from the hall between the study and the kitchen in the rear part of the house.



Round-arched window above the landing at side hall as seen the from second-story hallway.



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STRUCTURAL ENGINEERING

ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

BASEMENT PLAN IDENTIFICATION TAGS

DRAWING NUMBER:

SKA-001

DATE:

12.22.05

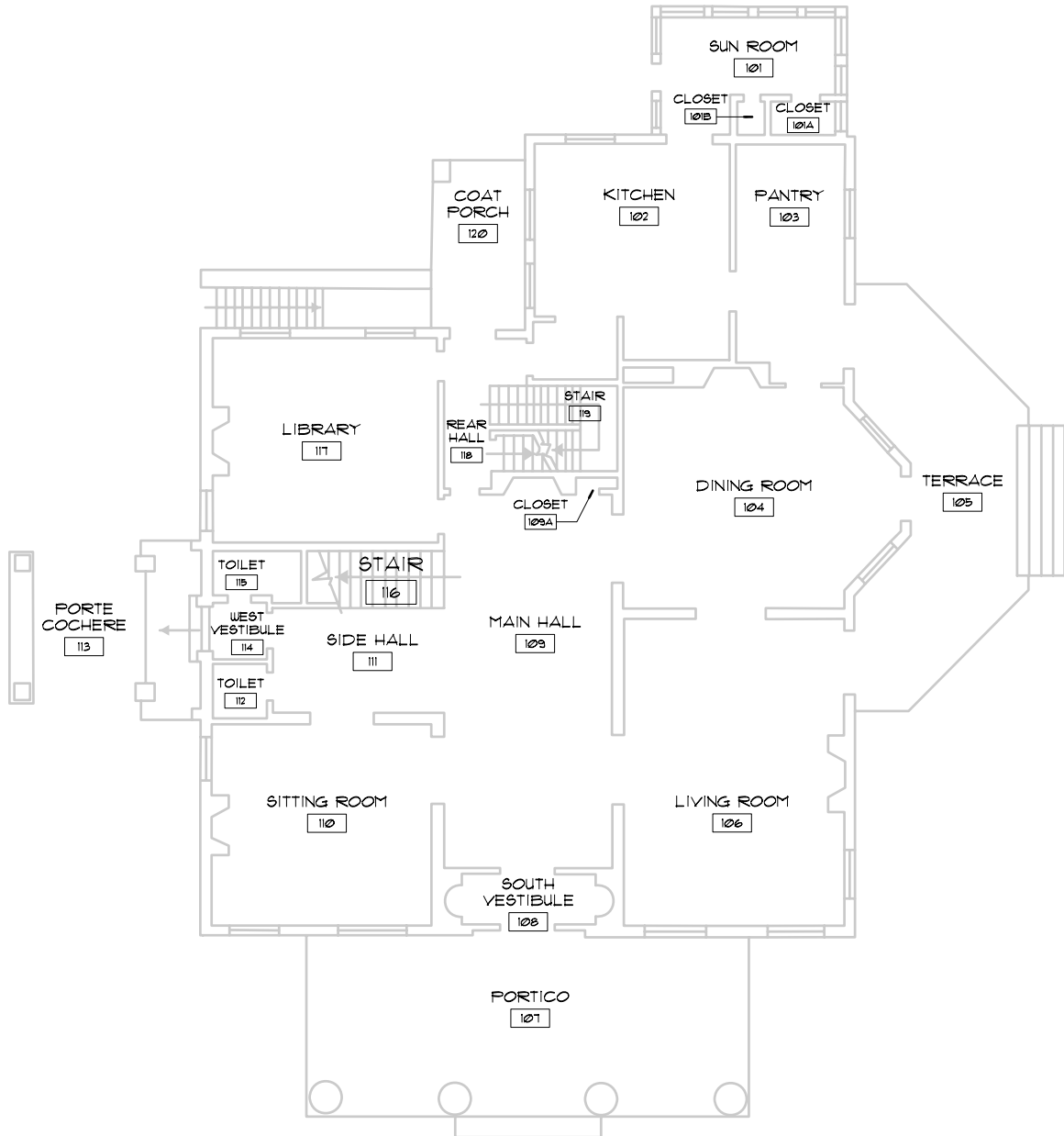
SCALE:

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DRAWING TITLE:

**FIRST FLOOR PLAN
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12.22.05

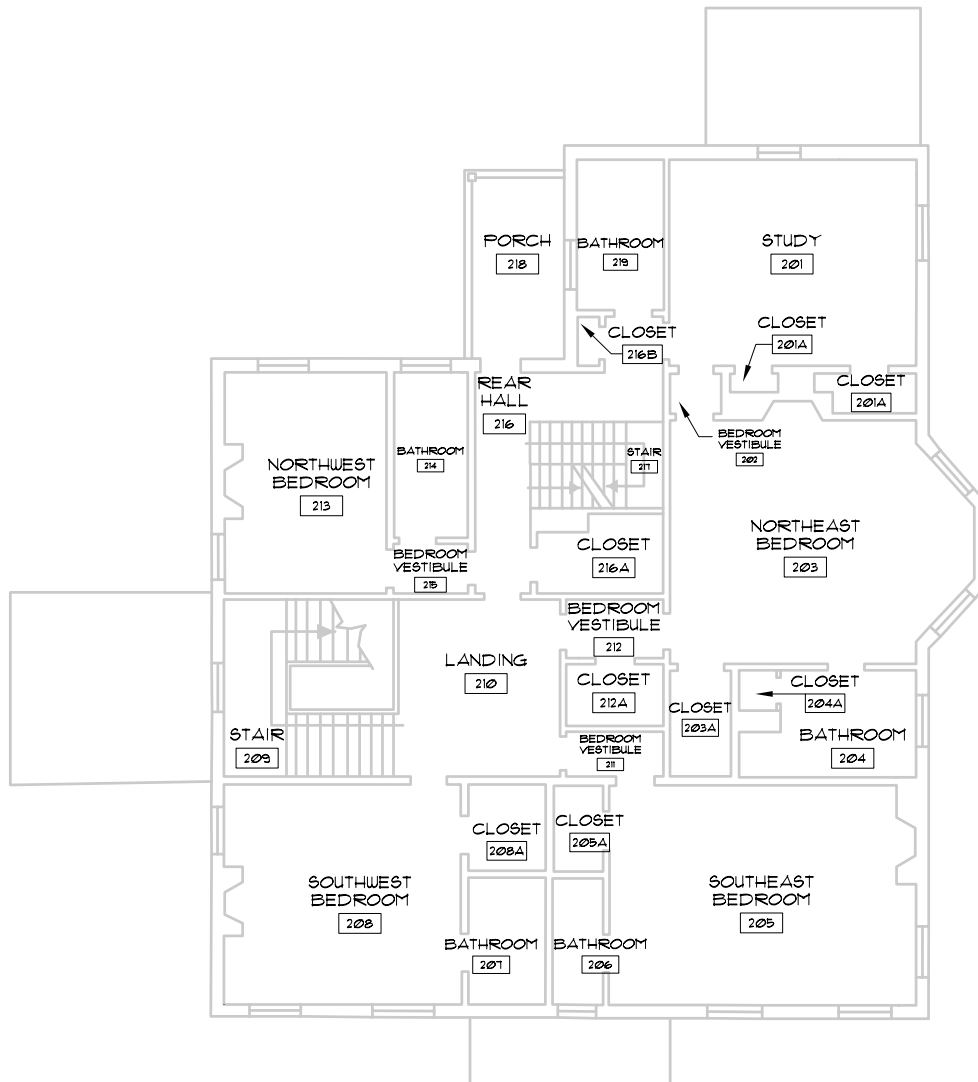
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1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

**SECOND FLOOR PLAN
IDENTIFICATION TAGS**

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12.22.05

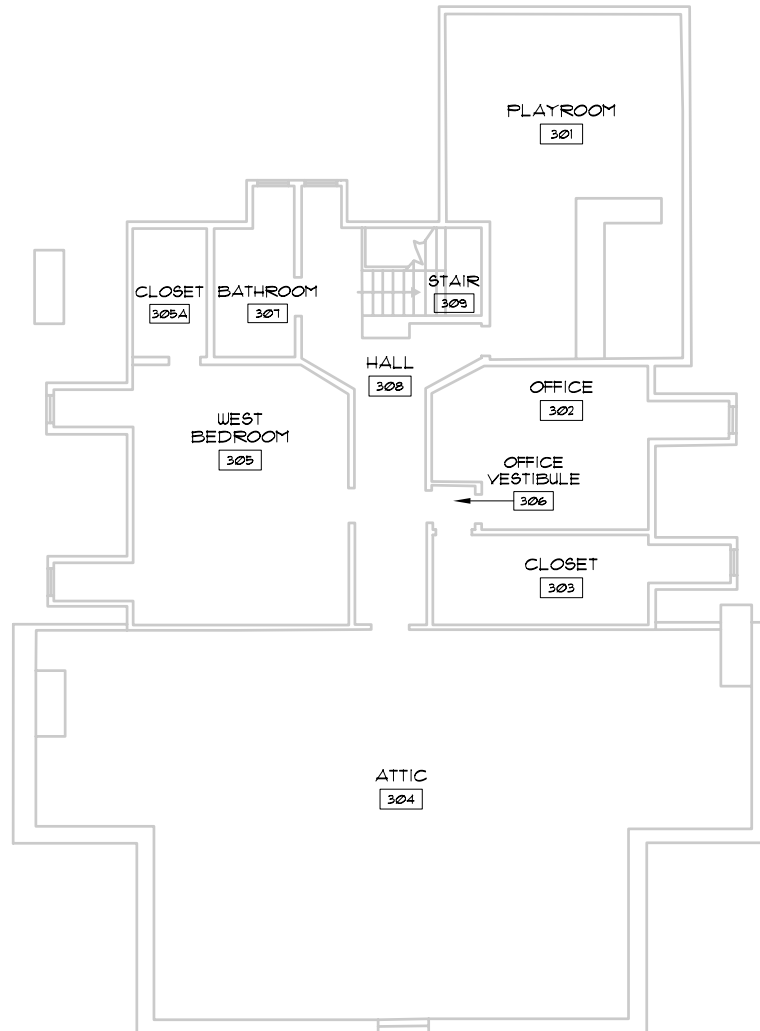
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ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

THIRD FLOOR PLAN IDENTIFICATION TAGS

DRAWING NUMBER:

SKA-004

DATE:

12.22.05

SCALE:

1/16"=1'-0"

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**PRESIDENT'S HOUSE
ON CARR'S HILL**

ARCHITECTURAL DESCRIPTION

MAIN HALL



The main hall looking south toward the main entrance.

The main hall, though linear in form, is a grand space. Its grandeur is emphasized by the formal, elliptical arch along the west wall, where it is met by the side hall. The arch springs from a paneled pilaster at each end and has an ornamental keystone at its center. The pilasters cap the corners of the walls where the two halls meet. The fireplace at the end of the hall provides an on-axis focal point, marked by a mantelpiece with a Doric-order frieze with triglyphs. Below the frieze are half-round Tuscan pilasters. The design of the frieze closely follows the same style of detailing as found in the portico. The mantelpiece, which also matches mantelpieces found in the current library and several of the bedrooms, was actually restored to this design in 1985. For at least fifteen or twenty years prior to 1985, the fireplace had apparently been surrounded by a simple mitered molding with no mantelshelf.

PRESIDENT'S HOUSE ON CARR'S HILL



Left: The center hall mantelpiece, as restored in 1985, has Doric details. Above: Diagonal grain in some first-story floorboards is from the use of quarter-sawn timber, a technique where the log is cut into four quarter logs first so that the individual cuts between boards may be made almost radially. The technique, which creates the added layer of grain, especially in quarter-sawn oak, was popular around 1900 and is most characteristic of that era.

The hall has a number of finishes and details found throughout the first story, sometimes with minor variations from room to room. The floor is oak with a light-toned natural finish and some of the diagonal graining produced by quarter-sawn timber. The walls and ceiling, though composed of flat plaster, meet at a multi-stage decorative plaster cornice. The baseboard has a cap with either a three-quarter-round profile or a cyma recta profile, depending upon the room. The door casings are mitered at the corners and have backbands. Nearly all woodwork, whether baseboard or door or window casings, has a very thin strip of scotia molding where it meets the plaster. The doors to the larger rooms are recessed in paneled reveals. The panels were installed when the door openings were reduced in size in the process of removing the original pocket doors. The openings to the main rooms are about four-feet six-inches in width, although the original drawings call for them to be wider, in most cases, six-feet wide, to accommodate large pocket doors. As detailed in the McKim, Mead & White drawings, all but one of the openings had a single pocket door that rolled off to one side, while the remaining opening, from the living room to the dining room, had a pair with a pocket to each side. The pocket doors were replaced by the pairs of side-hinged doors by 1959. A set of drawings produced at that time show the openings at their current dimensions, with swinging doors. These replacement doors have since been removed from all but the dining-room openings and are stored in the attic of the house, above the portico.

ARCHITECTURAL DESCRIPTION



*The original pocket doors are in the attic of the garage.
The leaded glass in the bottom $\frac{3}{4}$ of each door was
apparently inserted into the design late in the process.
The door openings were wider when they were in place.*



*When the doorway openings were
reduced in size to change from pocket
doors to side-hinged doors, paneled
reveals were used at the jambs.*

The original pocket doors, conforming to the original dimensions and other details, are in the attic of the garage where they were apparently placed at the time of removal. Each of the larger doors was designed to look like it was actually a pair, by placing a false astragal down the center, in a wide center stile. The astragal is recessed in a groove and is similar in profile to a half-round bead, but carved in a rope pattern. The doors were hung from a track concealed in the lintel above each opening; the wheels are still attached at the top of each door. The design of the doors was modified after the original drawings were prepared, replacing the large, wood, raised panel designed for the bottom three-quarters of each door leaf with a pattern of clear glass in metal coming.



The Chinese screen.

On the east side of the hall, eight panels of an antique Chinese dressing screen were mounted to the wall as a decorative feature in 1985. The screen is part of a larger ensemble that originally included eight other panels. The screen was installed using a permanent mounting system which is detailed in drawings on file at the university.

The main hall is lit by a small basket-style fixture near the center of the ceiling (in line with the keystone of the arch) and four sconce fixtures, installed in 1985, two at each end. The sconces at the north end are over the mantel. At the vestibule end of the hall are two seat-height radiators with wood covers and cushions, flanking the entrance. The covers may be from the original construction of the house, but were modified in 1959. Although the radiators were shown on the original drawings as tiny squares in plan, they were eventually worked out at a larger size and in more detail.

PRESIDENT'S HOUSE ON CARR'S HILL

William M. Kendall of McKim, Mead & White commented in his 20 November 1908 letter, after visiting the partially completed house, that “It is recommended that the radiators in the hall be made lower and wider [than what had apparently already been installed], reaching no higher than the top of the chair rail.” This change was apparently made at some point after Kendall’s letter, as the current radiators match the description of the preferred design and not of the initial installation that Kendall rejected. An earlier letter from McKim, Mead & White, dated 31 January 1907, says “In regard to radiators, we intend to inclose [sic] them with wood paneling, lined on the inside with sheet metal and provided with top and bottom registers; but inasmuch as during your recent visit to our office you questioned the necessity for this we have omitted the enclosures from the plans and specifications. They can be added if you think wise, though, of course, every such addition will increase the cost of the house.” Based on this correspondence, it is not clear whether the covers were installed before the house was completed, but the general framework of the present covers appears to date from President Alderman’s time at the university. In any event, the covers were in place by 1959, when modifications were made to them. The drawings prepared at that time indicate that the wood framework was existing and that the proposed alterations consisted of adding “brass wire lace—1/2” mesh” and “new panel molding” at the edge of the mesh. Before 1959, the covers were slightly taller, by 3 inches, but the height was reduced to make them more suitable for sitting.



The south vestibule doors as seen looking north from the main hall.

probably in the 1950s, and were reopened when they were “re-discovered” as part of a renovation project in the 1980s.) The vestibule floor is a diagonal checkerboard pattern of gray and black stone. Both the exterior doors and interior doors have sidelights and elliptical fanlights with richly patterned glass divided by curved muntins featuring ovals and quarter circles. The mullions and jambs are formed with fluted pilasters and similar molded wood profiles.

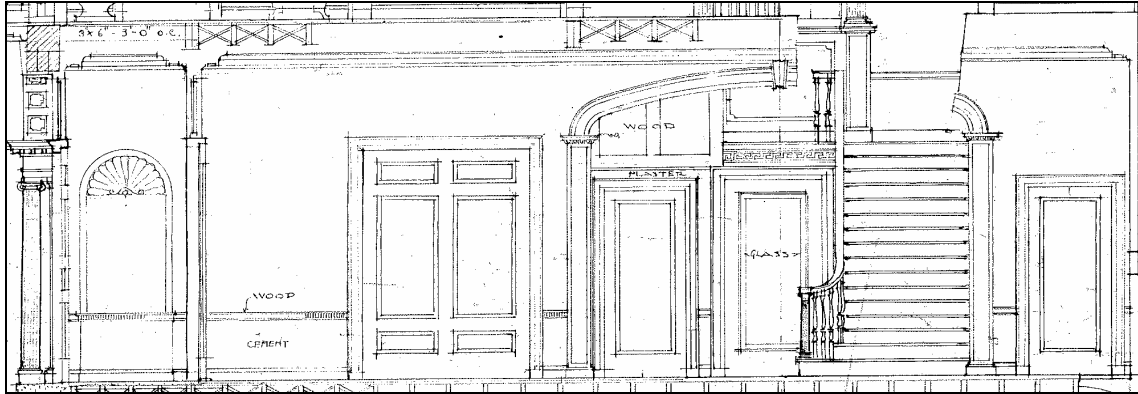
The south vestibule is the space that leads into the main hall from the front entrance. It is narrow in the north-south dimension, from an exterior pair of doors to an inner framed opening that once held a second pair of doors. It features richly finished walls, floor, and ceiling with a number of high-style Classic Revival details. There is a semi-circular niche with a clamshell top in both the east and west walls. (The niches were closed in at some point,



The niches in the south-vestibule were re-discovered and reopened after years of being plastered.

ARCHITECTURAL DESCRIPTION

SIDE HALL



Section through the main hall looking at the side hall and staircase through the arch, from the original McKim, Mead & White drawings.

The side hall is a westward extension of the main hall featuring the main stair in a double-height space. From the main hall, the view into the side hall is framed by an elliptical arch. The side hall features layers of rich details in carved wood and plaster, from fretwork and other Classical Revival-style carvings in the stringer of the staircase to a large round-arched window above the raised-panel wainscot at the landing of the stair. While the fretwork accentuates the diagonal line of the stringer, the most ornate carvings in the staircase are flowing fern-leaf patterns just above it in the triangular area at the end of each step. This heavily ornamented stringer supports turned balusters that, like the carvings below, are painted white. The balusters support a walnut handrail. The handrail curves outward at the bottom of the steps, to meet the walnut newel post. The newel post is square in profile and has concave fluting on all four sides. In the square cap of the newel post is a button-like round metal ornament with the words “Carr’s Hill” inscribed across its center. The words “McKim, Mead & White Architects” are in smaller letters along the circumference.

The entrance from the porte cochere leads into the side hall through a confined area under the landing of the stair. From the completion of the house to 1959, this smaller space was a separate vestibule, or air-lock, with a second door in line with the eastern edge of the landing. The small, square space to the south of this vestibule was shown as a powder room, or “lavatory,” in the original floor plan drawn by McKim, Mead & White. Like the inner door to the vestibule, the lavatory door was in line with the eastern edge of the landing. The door was reworked in 1959 to change the direction of the swing (apparently to make the bathroom fixtures less conspicuous from the center hall). Until that time, the space under the stairs, to the north of the vestibule, was accessed by a door

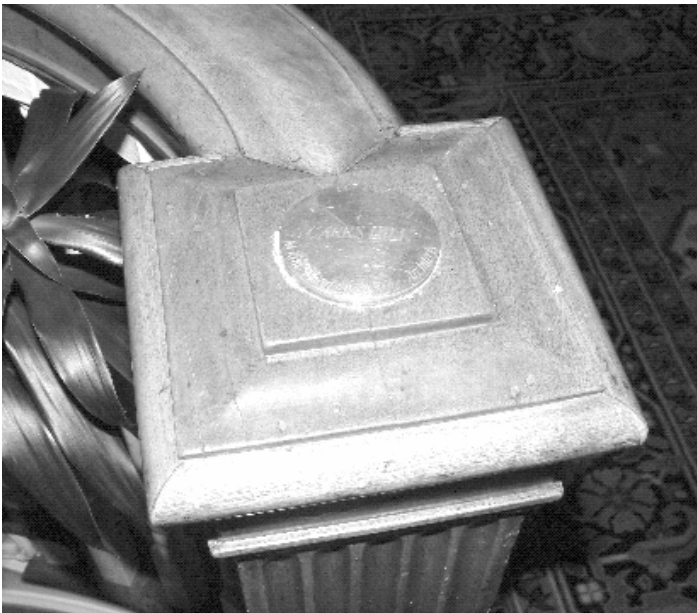
PRESIDENT'S HOUSE ON CARR'S HILL

that consisted of a hinged section of the paneled wall below the stringer. The space was apparently intended to be used as a closet for coats and similar items from the beginning;



Side hall and stairs from main hall, looking northwest.

the original McKim, Mead & White floor drawings show a set of shelves for footwear labeled "Rubbers etc." In 1959, the hinged section of the paneled wall was sealed up and a full-height door was inserted under the landing to replace it. In 1959, this space was made into a lavatory, or powder room. With the 1959 removal of the inner door of the vestibule, it became apparent that the door to the original lavatory space could also be moved to the side. At some point after 1985, the two spaces were both redesigned as modern powder rooms.



Above: The carved detail along the stair stringer includes a line of fretwork and a carving in the triangular end of each step.

The latter carving resembles unfolding leaves of a fern. Left: Newel post detail with the name "Carr's Hill" and name of the architects.

ARCHITECTURAL DESCRIPTION

LIVING ROOM



View of the living room, looking southeast.

The room now known as the living room was originally designed to serve as a library, as labeled on the original floor plan drawn by McKim, Mead & White. A library in this location was also mentioned in the original “Tentative Statement of Plans” believed to have been developed by Dr. and Mrs. Alderman. The drawings included details for a set of bookcases along the west wall. There is currently no evidence of the bookcases, and it is possible that they were never installed. A possible scenario would be that, as a last-minute change, perhaps to save money, the study (the current library) was chosen to be as the first floor’s only library space. Although the original McKim, Mead & White floor plan shows no bookcases in the room labeled “library” (the present living room), another McKim, Mead & White drawing that has survived in the university’s collections shows an elevation view of the west wall of this room. The elevation drawing depicts the bookcases as having plain glass doors. There is also written correspondence concerning the bookcases. On 17 September 1908, for instance, Dr. Alderman wrote to McKim, Mead & White asking for the detail drawings for the bookcases and inquiring about the possibility of using oak in the current living room. In William M. Kendall’s 20 November 1908 letter covering final design details as the house was in completion, Kendall informs the Aldermans: “The bookcases for the library are being drawn with

PRESIDENT'S HOUSE ON CARR'S HILL

paneled pilasters, as you suggest.” The bookcase currently located in the northwest corner of the study (current library) has this detail.

At about twenty-seven by nineteen feet, the living room is the largest of the four main rooms of the first story. Its focal point is a centrally placed fireplace in the east wall, with a Classical Revival-style mantelpiece that features a bas relief carving of an ancient Greek lamp in its frieze. The lamp motif is a stylized variation on a common decorative arts symbol of education known as the “lamp of knowledge.” The mantelpiece has a shelf with about four stages of moldings along its edges, supported at each end on a scrolled console. Below the consoles and frieze, the mantelpiece consists of a mitered casing that frames the sides and top of the fireplace opening. The backband of the casing flares outward to form knees as it meets the baseboard. Within the mitered frame of the casing, the fireplace opening has a facing of deep-green marble with delicate white veining. The same marble provides the outer portion of the hearth, outside the firebox. The firebox has been fitted with gas logs, as evidenced by a key that operates the gas valve from within a small wooden box attached to the floor to the right of the chimney breast.



The living room mantelpiece features a carving of an ancient Greek oil lamp flanked by console-style brackets supporting the mantelshelf.

The living room is entered from the hall at a doorway centered in its west wall, opposite the fireplace, or from the dining room by way of a doorway centered in the north wall. The doorway to the dining room has a pair of side-hinged doors; a similar pair has been removed from the opening from the living room to the main hall. The openings are both four-feet six-inches in width. These are among the original doorways where the original pocket doors were located before they were replaced around 1959. The set of side-hinged doors leading to the main hall was removed in the 1970s and is stored in the attic of the house, above the portico.

The room has an oak floor with some quarter-sawn floorboards and a light finish, as found throughout the first story. The flooring is original, though it has been refinished recently.

ARCHITECTURAL DESCRIPTION

The living room, like the other main rooms of the first story, has plain plaster in the walls and ceiling, with a decorative plaster cornice along the edges of the ceiling. The cornice is mainly composed of bench-cut plaster. However, it also includes a row of dentils and some cast-plaster ornamentation in the form of small, round medallions. At the bottom edge of the molding is a painted wood picture rail (at this time most items displayed on walls, such as paintings, were suspended from picture moldings by chains or similar devices). There is no evidence of the alterations that occurred at the doorways when the openings were reduced, in either the flat plaster surfaces or the baseboard. Extensive plaster replacement in 1959 explains the absence of evidence in the walls themselves, but the fact that there are no signs of the change in the woodwork either may indicate that the door casings and much of the baseboard were replaced at that time; if so, the replaced elements follow the original design details in all aspects except the dimensions and reveals of the doorways.

The room's door casings match those of the other first-story main rooms. They are traditional two-stage casings with a backband, mitered at the top corners, with small plinths at the bottom where the casing and baseboard meet. The baseboard is similar to that found in the main hall and other first-story rooms, but has a slightly different cap. The outlets in this room are located in the baseboard, and the room is lit by table lamps.



jamb of the first-story main room when the pocket door was removed (left).



The doorway openings at the main first-story rooms have traditional mitered casings and backbands (right).

PRESIDENT'S HOUSE ON CARR'S HILL

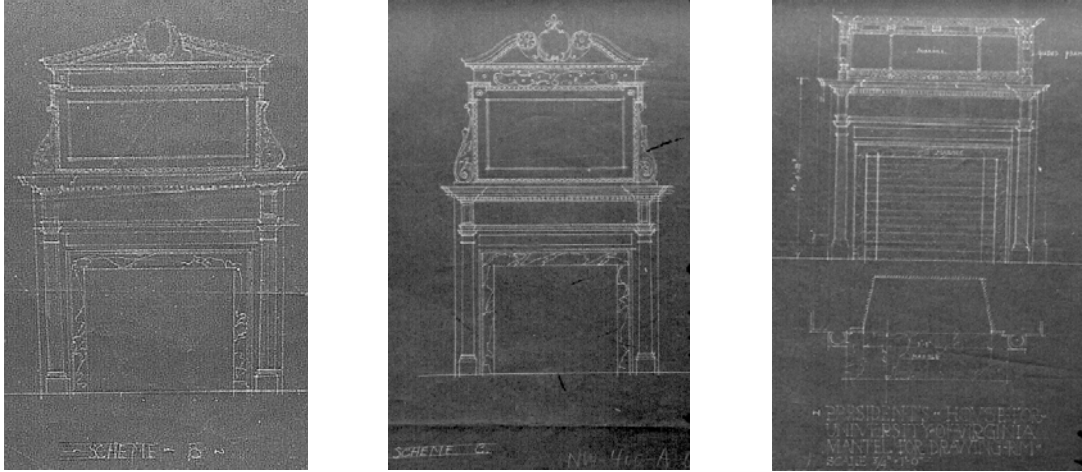
SITTING ROOM



View of Sitting Room, looking southeast.

The sitting room was originally referred to as the “reception room” in the original floor plan drawn by McKim, Mead & White. It is referred to as a “drawing room” in the original “Tentative Statement of Plans” that Dr. and Mrs. Alderman apparently developed in the early stages of planning for the house. Although this room is smaller than the living room and dining room, at the time the house was built it would have had an important function as the primary room in which certain kinds of guests were received, either initially upon entering the house or after a meal. The expression “drawing room” is a shortening of an older term “withdrawing room,” a room frequently used in the nineteenth century by a group of ladies for sitting together after a meal. McKim, Mead & White’s term “reception room” suggests that guests would come into this room first upon entering the house, a particularly likely scenario for many guests since the dining room was reserved for meals and the current living room was designed to be a library. The installation of bookcases and cabinets flanking the fireplace in this room probably reflects that it gradually became more of a formal showcase space than a frequently occupied room. Its original functional importance, however, is reflected in the fact that great care was taken in choosing its finishes, as documented in a number of drawings and written materials that have survived.

ARCHITECTURAL DESCRIPTION



McKim, Mead & White developed at least three different schemes for the mantelpiece in the current sitting room. The one on the right is the one that was apparently selected, although it's not known if the gilded mirror was ever installed.

The focal point of the room is a fireplace centered on the west wall, with a Classical Revival-style mantelpiece. The mantelpiece is very close to that shown in a 1908 detail drawing developed by McKim, Mead & White and entitled “Mantel for Drawing Room.” Two notable differences are that it is about three-inches taller than the dimension given on the drawing, and thus slightly more slender in proportion in comparison to what the sketch had called for, and it does not currently have the gilded tripartite mirror above the shelf, shown on the drawing. Cabinetry was added to the areas to the right and left of the chimney breast (a bookcase on the left and a matching radiator cabinet with some storage space, to the right) in 1959, apparently with the intention of emphasizing the centrality of the mantelpiece and creating a formal place to display books or curios. The radiator cabinet at the southeastern corner of the room was probably installed in 1980s. It nearly matches covers that were installed in the dining room and along the north wall current library at about that time. However, the radiator cover in the southeast corner of the sitting room has a different perforated metal grille from all the others in the first story.



The mantelpiece as it is today.

PRESIDENT'S HOUSE ON CARR'S HILL

The room is accessed by two doorways, one from the main hall and one from the side hall. At both doorways, door leaves have been removed. Both doorways were originally shown as wider openings with sliding pocket doors. The cornice in the sitting room is similar to what is found in the other main rooms of the first story. It is mainly composed of bench-cut plaster. Unlike the cornices in the other rooms, it includes a line of plaster ornament that is curved in section, similar to a quarter-round profile, but cut with grooves, so that it resembles a stylized rope pattern. At the bottom edge of the molding is a painted wood picture rail.

The room has an oak floor with some quarter-sawn floorboards and a light finish, as found throughout the first story. The room's door casings match those of the other first-story main rooms. They are traditional two-stage casings with a backband, mitered at the top corners, with small plinths at the bottom where the casing and baseboard meets. The baseboard in this room has a three-quarter-inch round cap, above which is a strip of the thin scotia molding found at the edges of most of the house's first-story woodwork. The electrical outlets are generally located in the baseboard. There is a junction box just above each corner of the mantelshelf; they appear to have been installed to house outlets and/or to connect to former light fixtures, but they are currently capped and the caps are painted to blend into the adjoining plaster. The room is lit by table lamps.

ARCHITECTURAL DESCRIPTION

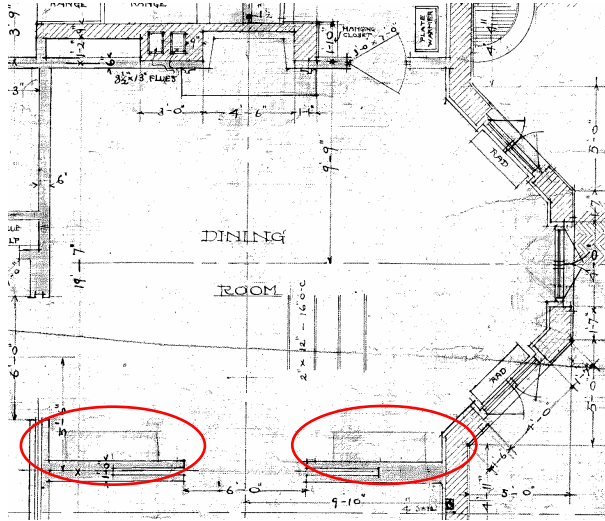
DINING ROOM



View of the dining room, looking west toward the staircase.

The dining room is in many ways the most formal room among the main first-story rooms. It is one of the first story's largest rooms, at approximately 20 feet by 20 feet, not counting the bay window that provides a semi-octagonal extension of the room to the east. In the "Tentative Statement of Plans for President's House" which was apparently developed by the Aldermans before any architects were asked to develop a design for the house, the dining room is described in a straightforward manner: "...it is desired that the dining room should terminate in a bay window to contain fireplace with window above, as shown on sketch." This is one place where the "Tentative Statement of Plans..." differs from the red-ink floor plan, as that plan shows the fireplace in the current location. The dining room was also to open into a butler's pantry (the "red-ink plan" shows the kitchen and the pantry reversed, so that the door is on the other side of the fireplace). One area of criticism that the Aldermans provided in reaction to Stanford White's first set of plans was that he had "Failed to make [the] dining room a bay, as directed." Another was that he had placed the fireplace in the wrong place. The final design may have been a blend of what the Aldermans had asked for and White had developed, as it does terminate in a bay window, but not one with a fireplace in the center facet.

PRESIDENT'S HOUSE ON CARR'S HILL



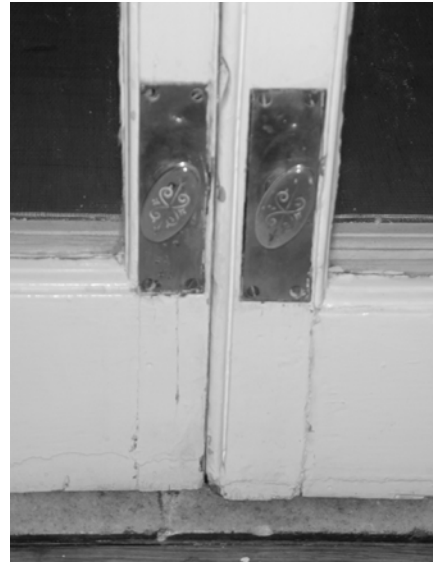
The dining room floor plan from the original drawings (above left) shows two shaded rectangles that could have been cupboards, possibly the ones now located in the attic hallway (right).

Although the overall form of the dining room has not changed since the original drawings, there have been some subtle changes. The original drawings show two rectangular shadows (i.e., the drawing had two rectangles shaded in a light wash), without labels, flanking the doorway to the living room. These may have been cabinets, such as built-in china cupboards (if so, it is possible that the two cabinets in the hallway on the third floor are from this location). At present, the dining room has a low, paneled wainscot terminating at the bottom with an unusual multi-stage base molding. The wainscot and base molding conform to the present width of the doorways leading to the main hall and the living room. This is possibly an indication that neither the base molding nor the wainscot is original (although a wainscot design of this type is shown on the original drawings), as there is no sign of a change occurring when the pocket doors were removed and the openings made smaller. The base molding, which extends about two inches into the room, would also show evidence of the china cupboards unless the molding was installed after the cupboards were removed.

The dining room has the same oak flooring with some quarter-sawn floorboards as found throughout the first story. As in the other rooms, it appears to have recently been refinished.

ARCHITECTURAL DESCRIPTION

The bay window end of the dining room contains a number of complex design elements and finishes. The center facet of the window bay is a narrow pair of French doors designed with very thin stile and rail elements to blend in with adjoining windows. The doors have original brass hardware, some of which is among the most delicately detailed brass hardware still in place in the house. The oval knob for the deadbolt at the bottom of each door leaf, anchoring the leaf to the threshold, has an incised motif consisting of two crossing “S” curves forming an “X” with small fleur-de-lis patterns to each, and with a long arrow extending under the “X.” The ornament appears only on these two knobs, while a third oval brass knob near the top of the doors has a plain surface. The threshold beneath the doors is gray marble, custom cut to meet the doors. The original drawings call for casement windows to the sides of the French doors, but sash windows were used instead. In front of these windows are radiators with covers that were installed in 1985. They match the radiator cabinet installed at that time along the north wall of the current library and are similar to one installed about the same time in the southeast corner of the sitting room.



The ornamental oval brass knobs at the bottom deadbolts on the French doors.

The dining room fireplace has a mantelpiece with Ionic-order details, including a disengaged column at either end supporting the mantelshelf. The columns are fluted and have Scamozzi capitals. There is a line of ovidarts at the bottom edge of each capital, matching an ovidort molding that extends across the entire mantelpiece at the top of the frieze, at the bottom edge of the mantelshelf. At the center of the frieze is a rectangle framing a carving of an open flower which is nearly a stylized sunburst in form, surrounded by fern-like leaves the stems of which form an “X” pattern to each side of the blossom. An original McKim, Mead & White interior elevation drawing showing the living room (original library) fireplace depicts almost the exact same design at that location, including the center rectangle, while a detail presented in 1908 for the dining room fireplace shows it slightly simplified from the current dining room detail. (A different design was chosen for the living room mantelpiece, perhaps allowing for the more complex version of the design to be used in the dining room.) The fireplace has gas logs, and the hearth is composed



Dining room fireplace detail.

PRESIDENT'S HOUSE ON CARR'S HILL

of red brick with the top surface painted black. The facing of the masonry around the firebox opening is a smooth material, such as iron plate or slate, painted black; however, the material itself was not identified for this study.

The doors leading into the dining from each direction are important elements of the design. The French doors to the terrace are discussed above. The other three doorways have solid doors with raised panels. The door to the pantry is a two-way swinging door. Although the door leaf itself appears to be a recent replacement, the original jamb design is still in place, as detailed in the original drawings. The doorways to the living room and main hall have paired side-hinged doors that were apparently installed in 1959. The other doors like them were gradually removed from doorways leading into the living room and sitting room. Presumably, the decision to leave them in place at the dining room is an indication that they have been used over the years to provide a level of formality, by keeping them closed as the table is being set, and opening them when the meal is ready.

The dining room chandelier is a relatively recent Colonial Revival-style fixture. It is very different from the original fixture, described in correspondence from the manufacturer to the Aldermans as being made of a combination of brass and amber glass.



The dining room chandelier (left) is a relatively recent Colonial Revival-style fixture. The dining room cornice detailing (right) is highly ornate, featuring modillions molded in a leaf pattern, fretwork, and other Classical Revival-style details.



The dining room has flat plaster walls, with wallpaper, above the chair rail cap of the wainscot. The center section of the ceiling is also flat plaster, but is painted. However, the cornice that rings the ceiling of this room is more sophisticated and delicately detailed than that found in the other rooms. It begins at the top of the walls as a multi-stage molding, the center strip of which is a dentil-like fretwork pattern. Above this molding, a coffer projects toward the center about 6 inches, and continues as a single surface around the room. Extending toward the center of the room from this is a row of small, leaf-cut modillions. About a foot from the modillions, the ceiling surface steps up about a quarter of an inch, in a line that, like the rest of the cornice, follows the complex shape of this roughly six-sided dining space.

ARCHITECTURAL DESCRIPTION

LIBRARY



The room originally called "the study," now known as the library.

Among the main rooms of the first floor, the northwest corner room now known as the library is the area with the most telling layers of changes, particularly in its bookcases. When the house was built, this room was known as the "study." As such, it may have served as a private office for Dr. Alderman, or a den-like space where he met with other faculty members. The original McKim, Mead & White floor plan shows bookcases in the study on the east, west, and south walls. The bookcase along the south wall covered the entire length of the wall, and the one along the east wall covered the entire wall except where it was interrupted at the southeast corner by the doorway. The west-wall bookcase, shown on the drawings to the right of the chimney breast, is still in place. The east-wall bookcase was reduced in size in 1959 in order to cut the current doorway from this room to the rear hall, providing ready access to the kitchen. In 1974, most of the present bookcase and related cabinetry along the south wall was installed in place of the original bookcase design. However, in the 1974 design, a space was left open at the center specifically to allow a desk to be placed there. In 1985, the desk space was replaced by a section of matching cabinetry designed to house a television and stereo system, behind raised-panel doors. In 1988, lighting was added at the top of the bookcase.



The bookcase on the west wall of the library is believed to be original.

PRESIDENT'S HOUSE ON CARR'S HILL

Several of the changes that occurred in the library/study over time mark turning points in the evolution of how the various presidents lived. The decision to cut the doorway at the northeast corner of the room in 1959, for instance, signaled a major change in how the house was used. Prior to the doorway, the rear stair was primarily a servants' space (it is referred to as a "servants' staircase" in William M. Kendall's 20 November 1908 letter about things that still needed to be done to complete the house), the implication being that the president's family spent very little time in the kitchen and basement, which were work spaces for servants. Although the room was not necessarily designed to be the house's main library, the room was dominated by bookcases and was the only first-story room (other than lavatories and closets) to have only one doorway. This made it an excellent study space for quiet reading. By 1959, when a more relaxed attitude toward kitchen and everyday living spaces prevailed throughout the United States, it was perfectly desirable to be able to move back and forth from an everyday "living room" to the kitchen. The sun room was later added at the rear of the house to provide for the same kind of relaxed, everyday activity. A location for a television antenna is marked on the east wall in the 1959 drawings. However, the 1985 change to the south wall cabinetry, replacing the desk space with shelving, behind doors, designed specifically for a television and a stereo, signals not only a continuation toward more relaxed uses, but a marked concern for the providing electronic equipment in at least one of the first-story rooms. By the time the sun room was added, the library/study was on its way back to formal use. This also reflects the increasing importance of the house for public events related to university development: the room continues to be furnished for reading and relaxation, but in a formal way that gives those who visit the house during formal events a glimpse at a livable but highly organized space suitable for family or guest relaxation.



The cabinetry on the south wall of the library is actually the result of several different generations of design.

The room has finishes that generally match those of the other main rooms of the first story. The cornice or crown molding appears to be wood, in contrast to that of the other rooms. The radiator in the southwest corner does not have a full cover (just a shelf on top), apparently because a full radiator cabinet in this location would conflict with the south-wall bookcase design. Another radiator, located at the center of the north wall, is in a full cabinet that appears to have been installed in the 1980s. The baseboard has a three-quarter-inch round cap that is similar to that found in the living room and sitting room, but with what appears to be a smaller, simpler profile.

ARCHITECTURAL DESCRIPTION

The west wall of the room centers on a fireplace with a wood mantelpiece that has a Doric-order frieze and half-round Tuscan pilasters, as found in the main hall. The facing around the firebox opening is painted brick, as is the hearth. Gas logs have been placed in the fireplace, controlled by a key in a wooden box that has been built into the bookcase to the right of the fireplace.

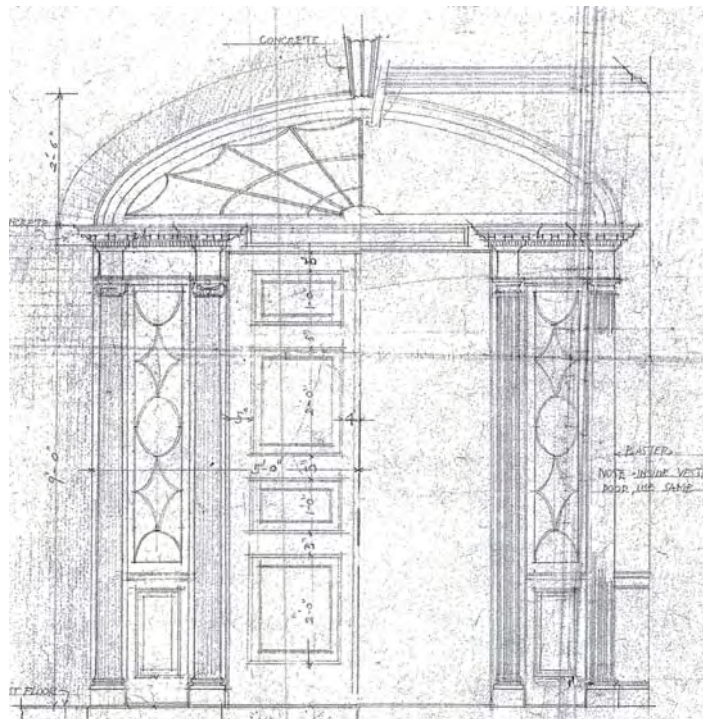
The room has an oak floor with some quarter-sawn floorboards and a light finish, as found throughout the first story. The flooring has been refinished recently.

The room has three windows, two on the north wall and one on the west wall. An unusual alteration is seen at the top of the window casings: a section of the backband is missing from each window casing. It was apparently removed to install wood valances at some point.

Electrical outlets are generally located in the baseboard. At least one outlet is located in the toe space beneath the south-wall cabinetry. The room is lit by table lamps and floor lamps, some of which are fed from floor outlets.

U N I V E R S I T Y O F V I R G I N I A

PRESIDENT'S HOUSE ON CARR'S HILL



PROBLEMS OF REPAIR

PRESIDENT'S HOUSE ON CARR'S HILL

PROBLEMS OF REPAIR

The architectural, structural and building system survey of the President's House occurred on 21 and 22 November 2005 under overcast skies and periodic rain showers. All inspections were visual. No testing, probes, or selective demolition occurred during this visit. Furniture, area carpets and wall hangings were not moved, so it is possible that conditions exist that were not observed. Exterior surfaces were visually examined from the ground using binoculars.

Upon the recommendation of the structural engineers, three basement locations were identified for probes to reveal the nature of structural framing. Following the removal of concealing material by the University of Virginia, they returned on 8 December 2005 to examine the exposed structural members and to collect samples for wood identification testing.

Interviews with Joseph Lahendro, Project Manager, Facilities Management Department; Brian Hogg, Office of the University Architect; L. T. Weeks, Facilities Management Department, and Cindy Coleman of the President's Office provided additional invaluable information. Some additional details were obtained from the *2400 Carr's Hill/President's House Maintenance Survey*, dated June 2004.

The president's home appears to have been well maintained over its history. Overall, exterior and interior conditions are good. This reflects the care given to the house by the University's Facilities Management Department and has contributed to the preservation of a significant amount of historic fabric.

ARCHITECTURAL

ROOF

Sloped sections of the main roof and the portico roof are Buckingham slate. Low-slope sections, built-in gutters, and ridge caps are lead-coated copper. Major renovations to the roof were completed in 1990. All slates were removed and reinstalled with new

PROBLEMS OF REPAIR

stainless-steel fasteners. In 1995, the low-sloped sheet metal roof of the porte cochere was covered with EPDM.¹ According to the June 2004 maintenance survey, the metal roof on the family room was scheduled to be replaced with fully adhered EPDM with the drip edge, gutter, and downspout to be of terne-coated stainless steel.

Downspouts are painted galvanized metal. Downspouts for the main roof drain to the driveway on the west. Drains at the north and northeast drain to receptors that continue underground.²

The overall condition of the roof and its gutters and downspouts appears to be good with the following exceptions:

1. At the downspout on the east wall at the south end, the grade around the base of the downspout is depressed, which allows rainwater to pond against the foundation wall. The 2004 maintenance survey states that this downspout drains to plantings through a below-grade plastic drain pipe, but without further explanation. According to Mr. Weeks, there were considerable moisture problems in the basement adjacent to this downspout, but they were alleviated by regrading to drain rainwater away from the foundation. The fact that the grade in this area is once again depressed suggests that the below-grade drainage piping may be broken and is carrying dirt away with the rainwater.

2. At the west end of the porte cochere roof near the south corner, rainwater is overflowing and draining to the ground below. The result is that dirt along the cheek wall has been washed out, water is ponding, and the brick in the wall near the point of water impact is deteriorated. The house's original drawings indicate a built-in gutter at the perimeter of the roof of the porte cochere, but fail to show a downspout location. The gutter at the west may have been lost during subsequent roofing work. A raised drip edge appears to be in place along the north and south sides of the roof, but is not present at the west end. This most likely occurred as part of the installation of the current EPDM roofing. There are no downspouts serving this roof. One can assume that the intention was to drain water off the roof by directing it to the west end where it could fall along the entire length of the roof. However, something has happened that directs all water on the roof to a spot at the west end from where it spills to the ground. Access to the roof was blocked and a more detailed examination was not possible.

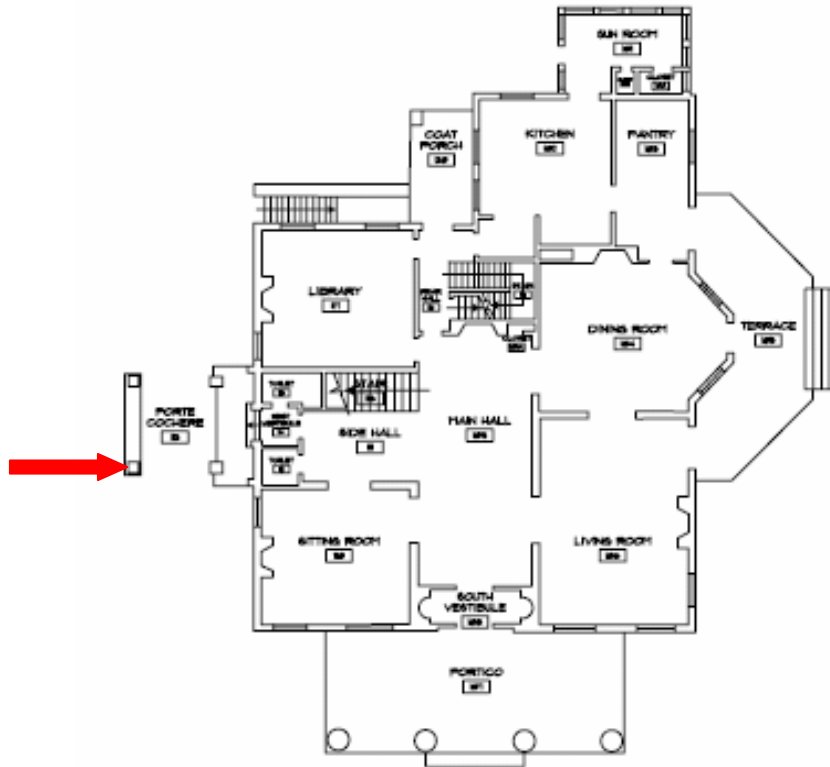
3. At the east side of the large terrace on the east side of the house, at a point nearly in line with the north wall of the house, is a large PVC pipe that discharges from under the terrace. This pipe appears to carry the discharge from the main roof downspout at the northeast corner, from a catch basin in the northeast corner, and from the downspout from the roof over the sun room. The flow line of the PVC pipe is below the grade of the planting area surrounding it. The result is that water ponds in the area surrounding the pipe. It appears that water will fill the pipe before reaching a level such that it can drain and that this will cause a backup in the downspouts and catch basin being served.

¹ 2400 Carr's Hill/President's House Maintenance Survey, June 2004.

² Ibid.

PRESIDENT'S HOUSE ON CARR'S HILL

4. Water appears to be getting behind the fascia board and trim at the dormer roof over the third-floor hallway. Flashing should be evaluated to insure that water is diverted away from the building. Wood is rotting. Three slates and the dormer wall have shifted out of place and needs to be refastened.



Location of water and brick deterioration (Item 2).



Depressed grade around downspout boot (Item 1).



PVC drain pipe at east side of terrace (Item 3).

PROBLEMS OF REPAIR



Water problems at dormer (Item 4).



Loose slates at dormer side-wall (Item 4).

PORTICO

1. At the window screen in the lunette at the tympanum, the wood strip which retains the screen cloth on the interior side is missing in one corner. The fact that the window remains open to provide outside air to the HVAC system means that insects can easily enter the attic through the loose screen.
2. Problems with the steps and paving are listed under the heading "Porches."

MASONRY WALLS

Exterior walls are clad in red brick, laid in a Flemish bond pattern, above brick foundation walls that extend up to a point just below the first-floor elevation. Above the brick foundation is a limestone watertable approximately 8 inches high.

General

1. The walls are generally in good condition except that there is a limited amount of open jointing and a number of holes that appear to remain from former anchors and other attachments that have been removed. On average, it appears that approximately 10% of the joints require attention.
2. Cracking in the stone watertable is fairly regular, with particular increase in frequency and size near the corners of the house. The cracking appears likely due to thermal cycling or possible water intrusion and entrapment due to the horizontal projection of the stone, followed by subsequent freeze-thaw cycling. This cracking does not appear to have any structural implications other than potential long-term damage as the cracks provide openings for future water penetration.
3. As noted in the structural report, the use of the jack arch in the exterior wythe over window openings appears to fall short of standard construction standards in terms of depth and skewback bearing; however, the arches appear largely intact. One exception is above the first-floor window in Coat Room 120 which presents some cracking and cracking in the field of masonry above. Another case is above the basement window

PRESIDENT'S HOUSE ON CARR'S HILL

along the west façade, near the southwest corner, where cracking and movement in the jack arch has translated to the stone watertable above.



Shallow flat arch at exterior wall openings (Item 3).



Flat arch and stone watertable cracking (Item 3).

South Elevation

1. No other discrepancies noted.

East Elevation

1. Areas of mortar jointing in the two chimneys on the east elevation are beginning to deteriorate.

2. Below grade there is an area of high moisture content that appears on the east wall of the basement in the northeast corner of Storage B02 at a location about 24 inches above the floor. It starts about 12 inches south of the angled north wall of the room and extends for about 4 to 5 feet. It is somewhat evident because of a faint orange stain on the plaster surface. There is no apparent reason for this because this wall is immediately under the large terrace on the east side of the house.



Area of high moisture content in wall (Item 2).

PROBLEMS OF REPAIR

North Elevation

No other discrepancies noted.

West Elevation

1. At mid-height of both downspouts on this wall, holes remaining from the anchors for former straps were not repaired when the straps were removed.
2. At the south downspout below the watertable, a pipe or conduit that is no longer in use was not removed, nor was the brick repaired, when its use was terminated.
3. At the east side of the knee wall supporting the columns for the porte cochere, there is an area of deteriorated brick near the south end of the wall.
4. On the west side of the knee wall in the area where water is ponding (see Item 2 under "Roof"), organic growth is covering the face of the brick as a result of the moisture and lack of sunshine due to being shaded by the shrubs.



Pipe in wall beside downspout (Item 2).



Brick deterioration on porte cochere cheek (Item 3).

PORCHES

The front porch under the portico consists of brick pavers in a herringbone pattern surrounded by a concrete border. The steps are stone. The terrace on the east side of the house has been enlarged at least twice. It is surrounded by a brick terrace wall and consists of brick pavers in running bond divided into panels with concrete dividers. The steps on the terrace are of flagstone.

Portico

1. The sealant in the joints of several of the stone steps has deteriorated.
2. Patches at edge of concrete border generally in center of steps are starting to fail.

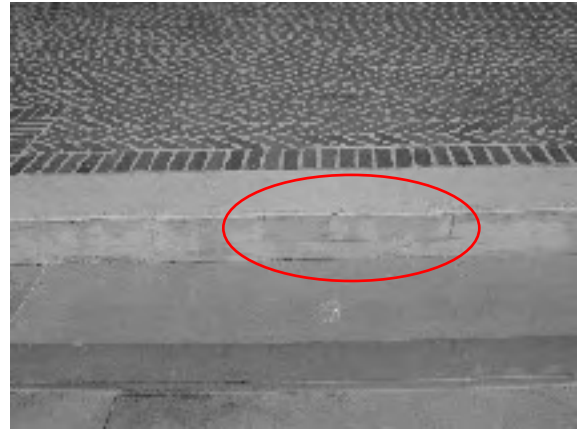
Terrace

1. See comments in structural section that refer to problems with the terrace wall.
2. Mortar in the flagstone steps is deteriorating.

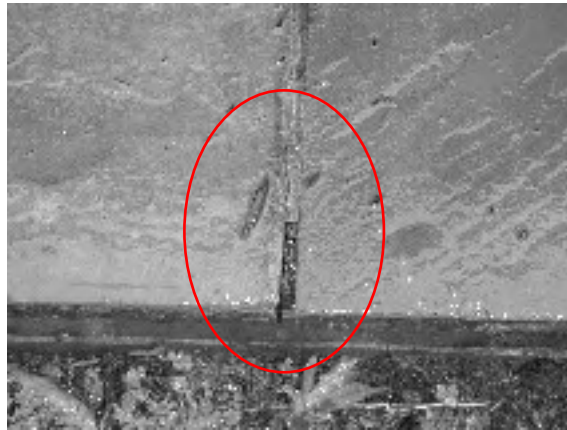
PRESIDENT'S HOUSE ON CARR'S HILL



Deteriorated joint in portico steps. Knife blade buried in joint is 4" long (Portico, Item 1).



Failing patches in concrete border (Portico, Item 2).



Deteriorating joints in terrace flagstone steps (Terrace, Item 2).

WOOD TRIM

The wood trim appears to be in excellent condition. Base trim at the family room, the railing at the porte cochere, and other minor items were repaired sometime following the June 2004 Maintenance Survey as well as the railing at the basement stair. According to the survey, painted surfaces were being stripped and repainted at the time of the survey.

WINDOWS AND SHUTTERS

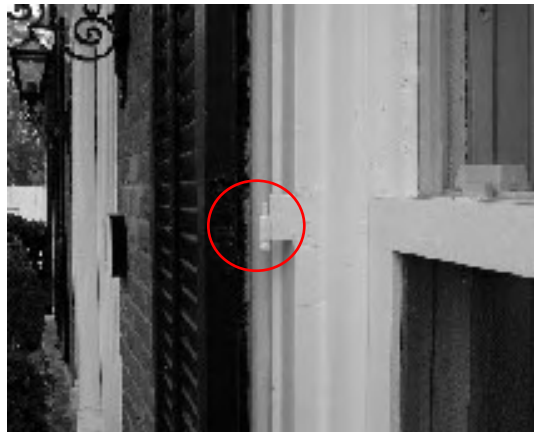
Windows and shutters are also in excellent condition with the exception of a few items that follow. At the time of the 2004 survey, most of the shutters had been removed from the house for repair or replacement.

PROBLEMS OF REPAIR

1. A problem with the screen in the lunette is noted under “Portico.”
2. Paint is peeling from the underside of the window head at the west window in the south wall of sitting room 110. It appears that this may be caused by a section of rotten wood.
3. At the west window in the south wall of the living room (Room 106), a portion of the shutter hinge is missing from the west shutter.
4. At the east window in the same wall of the living room, the filler at the base of the screen is missing.
5. At the south window in the east wall of the living room, the upper hinge of the north shutter was improperly attached to the jamb and is pulling away.



Deterioration at window head (Item 2).



Missing piece of shutter hinge (Item 3).

ROOM 101 SUN ROOM, ROOM 102 KITCHEN, ROOM 103 PANTRY

These rooms were recently renovated and not included in the scope of this report.

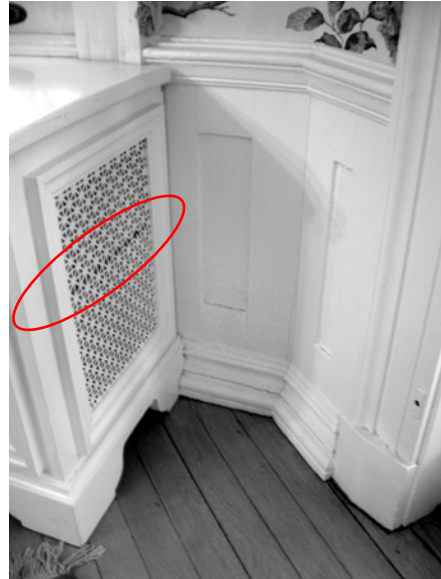
ROOM 104 DINING ROOM

1. Floorboards at the terrace door in the east have an unacceptably wide gap.
2. A gap exists between the floor and bottom of the corner wood block at the south side of the terrace door.
3. The grille in the south side of the radiator cover located below the northernmost window along the east wall is split.
4. The two metal supply grilles at floor registers are not flush to the floor and are scratched.
5. Wood floor has been stripped of original finish and possible stain.

PRESIDENT'S HOUSE ON CARR'S HILL



Wide gaps at floorboards (Item 2).



Split radiator grille (Item 3).

ROOM 105 TERRACE

Please see exterior conditions report.

ROOM 106 LIVING ROOM

1. There is slight uplift in the picture rail located on the north wall, above the east side of the door to the dining room.
2. A hairline crack is present in the crown molding of the north wall, at the west side of the door to the dining room.
3. Plaster in the upper portion of the eastern end of the north wall exhibits a series of diagonal cracks (approximately 10').
4. Two inappropriate wood patches are present in the floor at the door to the terrace on the east wall. Patches were installed at floor penetrations for original radiator piping that was removed.
5. Concrete threshold is cracked at the door to the terrace.
6. There are two burn marks in the oak floors adjacent to the fireplace.
7. Masonry on the north side of the firebox has cracked and approximately a square inch of material has been lost.
8. A hairline crack is present in the crown molding of the east wall, above the southern window.
9. Plaster is exhibiting map cracking and possible minor delamination in the southeast corner of the room (approximately 20 sf.). Map cracking is a series of fine,

PROBLEMS OF REPAIR

interconnected cracks that is, in this case, possibly caused by localized heating from a chase containing a radiator riser.

10. South wall, in upper area on western side of wall, exhibiting map cracking and possible delamination (approximately 3 sf.). It is possibly caused by localized heating from another chase containing a radiator riser.

11. Crown molding is cracked at the intersection of the south and west walls.

12. Plaster of the west wall, to the south of the main-hall door, exhibits a series of fine diagonal cracks. There are also two cracks at the head of the door (approximately 30').

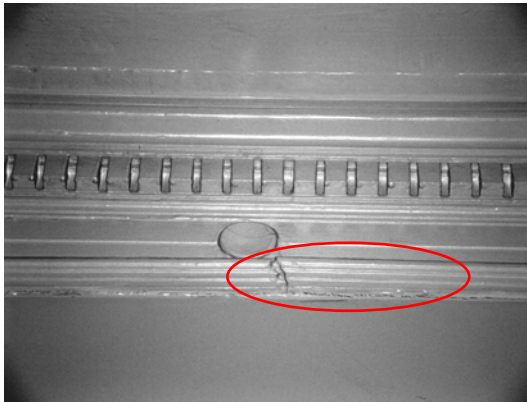
13. A horizontal crack begins above the door in the west wall and extends (approximately 12').

14. A plaster crack running horizontally and subsequently diagonally is located in the north end of the west wall, at the lower area of the wall (approximately 6').

15. There is slight uplift in the picture rail located on the west wall, at the north side of the door to the main hall.

16. Wood floor has been stripped of original finish and possible stain.

17. The three supply and one return floor metal grilles at floor registers are not flush to the floor and are scratched.



Uplifted picture rail (Item 1).



Cracked concrete threshold (Item 5).

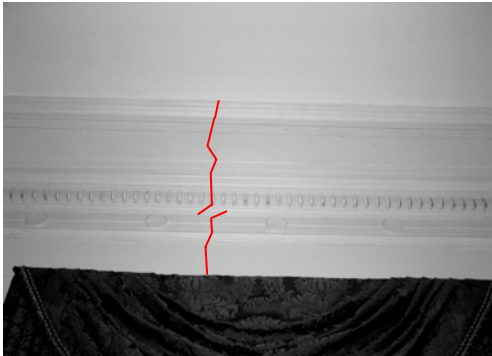


Burn mark in oak floor (Item 6).

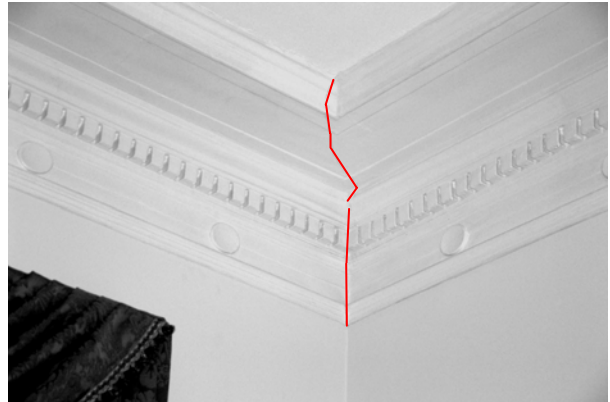


Crack in firebox masonry (Item 7).

PRESIDENT'S HOUSE ON CARR'S HILL



Plaster cracking in crown molding (Item 8).



Plaster crack in crown molding (Item 11).

ROOM 107 PORTICO

Please see exterior conditions report.

ROOM 108 SOUTH VESTIBULE

1. Cracking of plaster is visible on the bottom of the north wall, at the west corner.
2. Marble threshold at the door opening between the south vestibule and main hall is cracked at the center of the stone.
3. Separation of joints in the wood window casing at the top of arched window in the north wall is occurring.
4. The second generation of historic doors (2 leafs), as well as the first generation separating the south vestibule from the main hall have been removed.
5. Gaps are visible between the flooring and base molding on both the east and west elevations.
6. The crown molding has cracked above the center of the exterior door.
7. Paint is blistering along the north side of the east wall (approximately 2 sf.).
8. There is heavy paint build up on all wood trim and the two plaster clamshell wall niches.



Cracked marble threshold (Item 2).

PROBLEMS OF REPAIR



Gap between floor and baseboard (Item 5).



Separation of wood joints and cracked plaster (Item 3).



Blistering of paint (Item 7).



Paint build - up on clam-shell detail (Item 8).

ROOM 109 MAIN HALL

1. There is a diagonal plaster crack starting at the corner of the closet door in the north wall as well as one, running in the opposite direction, above the same door (approximately 6').
2. A diagonal crack in the plaster of the east wall, at the southern corner, is present (approximately 4').
3. Plaster cracking (approximately 2') is visible in the east wall to the left of the door to the dining room.
4. The crown molding and window casing is cracked above the center of the arched window in the south wall. There is evidence of previously completed plaster repairs at the west side of the south wall.
5. Some joints in the woodwork are separating at the door to the south vestibule.

PRESIDENT'S HOUSE ON CARR'S HILL

6. Open joints in the woodwork and a previously completed repair are evident in the wood casing at the south side of the arched opening separating the main hall from the side hall.

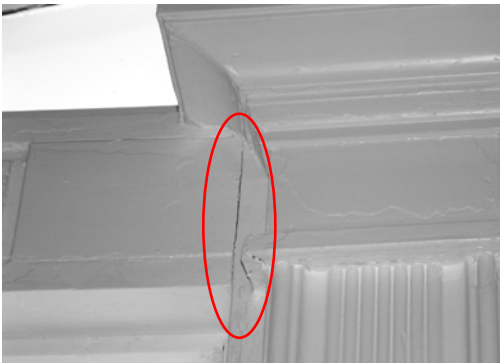
7. The plaster is cracked on the north side of the arched opening separating the main hall from the side hall (approximately 2').

8. A poor-quality plaster patch is visible above the key of the arched opening on the east wall.

9. The second generation of historic doors (4 leafs), as well as the first generation, separating the main hall from the living room and the main hall from the sitting room have been removed.

10. Wood floor has been stripped of original finish and possible stain.

11. The two supply and one return floor metal grilles at floor registers are not flush to the floor and are scratched.



Opening of joint in trim (Item 5).



Previous plaster repair (Item 8).



Removed doors (Item 9).

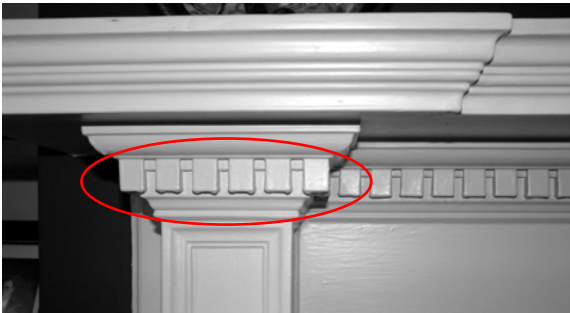


Floor grille (Item 11).

PROBLEMS OF REPAIR

ROOM 110 SITTING ROOM

1. A diagonally running crack in the plaster is present in the north wall, west side (approximately 3').
2. An area of peeling paint was visible on the cornice to the left of the door opening in the north wall.
3. The second generation of historic doors (2 leafs), as well as the first generation, separating the sitting room from the side hall have been removed.
4. The crown molding is cracked at the intersection of the east and south walls.
5. A pattern of map cracking is visible on the crown molding, between the two windows, along the south wall (approximately 6').
6. There is a diagonal crack in the plaster located on the south wall, west side (approximately 4').
7. There is heavy paint build-up on the fireplace surround.
8. Open joints between pieces of wood trim are present on components of the fireplace surround.
9. The flat woodwork above the fireplace opening has a series of cracks.
10. Wood floor has been stripped of original finish and possible stain.
11. The two supply floor metal grilles at floor registers are not flush to the floor and are scratched.



Paint build-up on mantel (Item 7).



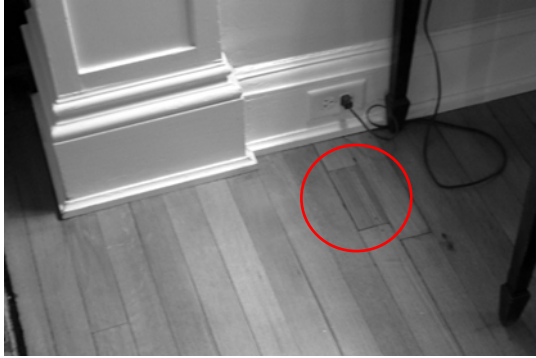
Open joints and cracking of wood (Items 8 & 9).

ROOM 111 SIDE HALL

1. Open joints in the woodwork and a previously completed repair are evident in the wood casing at the south side of the arched opening separating the main hall from the side hall. There is minor paint peeling in the same general location.
2. There is a diagonal plaster crack located in the east side of the south wall (approximately 4').
3. Two inappropriate wood patches are present in the floor at the south wall. Patches were installed at floor penetrations for original radiator piping that was removed.

PRESIDENT'S HOUSE ON CARR'S HILL

4. There is a circular water stain in the wood floor at the northeast corner of the room caused by a potted plant.
5. Wood floor has been stripped of original finish and possible stain.
6. The metal supply floor grille at floor registers is not flush to the floor and is scratched.



Wood patch (Item 3).



Water stain on wood floor (Item 4).

ROOM 112 TOILET

There were no observed problems of repair in this room.

ROOM 113 PORTE COCHERE

Please see exterior conditions report.

ROOM 114 WEST VESTIBULE

There were no observed problems of repair in this room.

ROOM 115 TOILET

There were no observed problems of repair in this room.

ROOM 116 STAIR

1. Several diagonal cracks in the plaster are visible on the north wall, west side above the landing (approximately 25').
2. A plaster crack, of approximately 2' in length, is located in the north wall at the base of the stairs.
3. An area of plaster map cracking is located on the middle of the north wall, toward the ceiling (approximately 3 sf.).
4. A plaster crack extends 2' starting at the second-floor door on the north wall.

PROBLEMS OF REPAIR

5. The crown molding of the west wall is cracked.
6. There are cracks in the plaster of the west wall at the head of the arched window (approximately 2') and in the area near the southern most wall sconce.
7. Two areas of plaster map cracking (approximately 3 sf.) exist on the west wall, north of the window.
8. The joint between the wood window casing and plaster wall has opened on the west wall.
9. The south wall has a series of diagonal plaster cracks above the landing and stair (approximately 25').
10. There is an area of plaster map cracking located on the middle of the north wall, toward the ceiling (approximately 4 sf.).
11. Plaster is cracked on the upper east corner of the south wall (approximately 2').
12. Cracks in the crown molding of the south wall were observed on the east end above the door to the southwest bedroom.
13. The balustrade is loose.
14. There is heavy paint build-up on the details of the stairway's face string.
15. Wood floor has been stripped of original finish and possible stain.
16. The handrail and newel post and handrail have been stripped of original finish.



Paint build-up on face string (Item 14).

ROOM 117 LIBRARY

1. There appears to be approximately 1 sf of plaster delamination at the head of the west window on the north wall. A crack in the plaster of approximately 2' is located above this area.
2. An area of plaster delamination is visible on the upper west side of the north wall (approximately 3 sf.).
3. A horizontal plaster crack approximately 2' in length is located in the north wall, to the east of the head of the east window.

PRESIDENT'S HOUSE ON CARR'S HILL

4. There is slight uplift in the picture rail located on the east wall between the two doors.

5. Diagonal cracking is visible in the plaster on the west side of the south wall above the built-in bookcases (approximately 10').

6. The plaster has cracked on the east side of the south wall, above the built-in bookcases (approximately 4').

7. An area of plaster (approximately 4 sf.) on the north side of the chimney build-out is delaminated.

8. There is cracked plaster in the ceiling close to the midpoint of the north wall. A masonry pocket containing a radiator riser is in the adjacent wall (approximately 2').

9. An inappropriate wood patch is present in the floor close to the midpoint of the north wall.

10. Two inappropriate wood patches are present in the floor along the east wall. Patches were likely installed after the original built-in bookcase was removed.

11. The two supply metal floor grilles at floor registers are not flush to the floor and are scratched.

ROOM 118 REAR HALL

This room was not included in the scope of this report.

ROOM 119 STAIR

This area was not included in the scope of this report.

ROOM 120 COAT PORCH

Please see exterior conditions report.

PROBLEMS OF REPAIR

STRUCTURAL

INTRODUCTION

The Robert Silman Associates, PLLC structural condition assessment was based upon visual observations and selected measurements to confirm the general correspondence of existing drawings to the current as-built configuration. Digital photography and hand sketches served as documentation of field findings. Three probes into the finishes to expose the existing structure were recommended by RSA and implemented during this study by UVA personnel. A follow-up visit on 8 December 2005 was made by RSA engineers to document the findings of these probes and to extract small samples of wood from the floor framing for laboratory testing. The framing confirmation and wood sampling helped corroborate information on original drawings as well as those for the proposed structural strengthening. The following existing documentation was provided by UVA to support this study:

- Original 1908 architectural drawings by McKim, Mead & White, which provide design intent for most floor and roof framing
- 1954 plumbing drawings
- 1959 alterations and additions drawings by Johnson, Craven & Gibson, Architects
- 1974 rear porch addition drawings and alterations by Johnson, Craven & Gibson, Architects
- 1985 rear porch modifications and mechanical drawings by the Department of Physical Plant, a Division of Architectural & Engineering Services at the University of Virginia
- 1989 replacement stairway drawings by the Department of Physical Plant, a Division of Architectural & Engineering Services at the University of Virginia
- 1993 renovation drawings by Bushman Dreyfus Architects
- 2003 kitchen renovation drawings by Stoneking/von Storch Architects
- 2004 phase I structural repairs and phase II attic floor repairs by Heyward, Boyd & Anderson, P.C.

A helpful tool in determining the existing structure was the original drawings by the architecture firm McKim, Mead & White out of New York in 1908. As the house changed throughout the past 97 years, as described in the architectural sections of this report, new drawings have been done to show the latest alterations. In 1954, the plumbing was updated. Four years later, minor alterations were made to the first and second floors, as well as enclosing the original terrace. 1974 brought changes to the terrace, altering and adding bathrooms on the second floor and an addition off the kitchen. In 1985, mechanical systems and electrical wiring were modernized. The current family room off of the kitchen was also added in 1985. The exterior basement stairs and retaining wall were modified in 1989. A new bathroom beneath the stair landing was added in 1993. Lastly, the kitchen underwent a remodeling in 2003.

PRESIDENT'S HOUSE ON CARR'S HILL

One of the greatest challenges to understanding the structural functioning of a historic residence, such as the President's House, is the exercise of tracing the path of loading from the roof down through the building to the foundation level. Initial observations of significant floor deformations seemed to indicate that a number of these problem areas related to the transfer of loads through walls which do not align with bearing walls below. It is not uncommon for walls which are in theory non-structural partitions to take on some level of load transfer over time in an aging wood-framed floor system. As such, following discussion of structural conditions is organized to be consistent with the investigative and analytical approach, working from top to bottom.

ROOF AND THIRD-FLOOR FRAMING

The roof framing system is a wood-framed hip roof with gabled dormers, entrance portico, and hipped wing at the northeast corner which intersect the main body of the roof (Photo 1). Structural information for both the roof and third floor was gathered from within the third-floor/attic space. The third floor is divided between an occupied space and an unfinished attic area used solely for storage. In the unfinished attic, Room 304, the structural framing members are visible, which gave opportunity within this area to confirm the accuracy of the original McKim, Mead & White drawings with respect to framing configuration and member sizes. One such observation showed the top of the southwest portico column from within the attic space and revealed it to be comprised of built-up wood members, at least within the visible upper portion (Photo 2). In general, the framing compared well with the historic drawings, with some noted exceptions (roof framing is found on Figure S-1 and the third floor framing is on Figure S-2).



Photo 1: View of the southeast corner of the President's House.

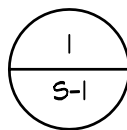
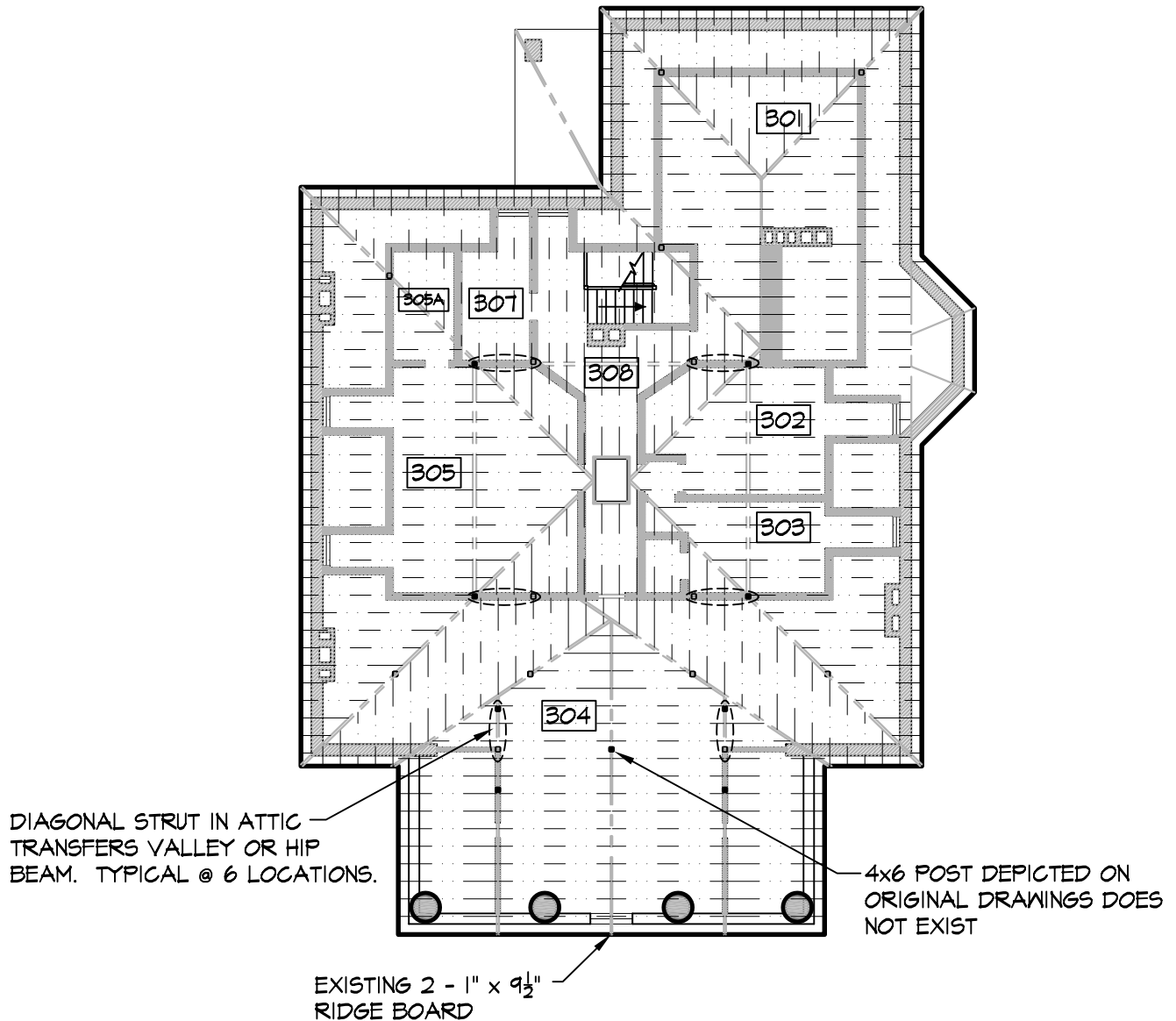


Photo 2: Built up of wood column at the corner of the portico roof.

LEGEND

⬇_{LP} INDICATES NOTED LOW POINT IN FLOOR FRAMING

⬆_{HP} INDICATES NOTED HIGH POINT IN FLOOR FRAMING



THIRD FLOOR PLAN WITH ROOF FRAMING

SCALE: 1/16" = 1'-0"

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STRUCTURAL ENGINEERING

ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

FRAMING PLAN

DRAWING NUMBER:

FIGURE S-1

DATE:

12.22.05

SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL

The roof rafters are depicted in the original McKim, Mead & White drawings as “2 x 8 rafters at 20” inches on center.” The exact dimensions, however, are generally somewhat smaller than the full 2” x 8”, but larger than modern standards for sawn lumber. This relationship of true dimensions to nominal sizes indicated on the historic drawings proved consistent with most measured framing members, including hip and valley beams. One significant difference between the as-built framing and original design drawings was found near the south portico, where a central post below the portico ridge, indicated on the original drawings as 4” x 6”, was apparently not constructed. The portico ridge framing was also constructed differently, with the original drawings indicating a “2 x 12 *ridge beam*,” but the as-built condition presenting two 1” x 10” *ridge boards*, which serve only to provide a horizontal connection between the rafter at the ridge and do not function as a spanning member between posts or walls (Photo 3).

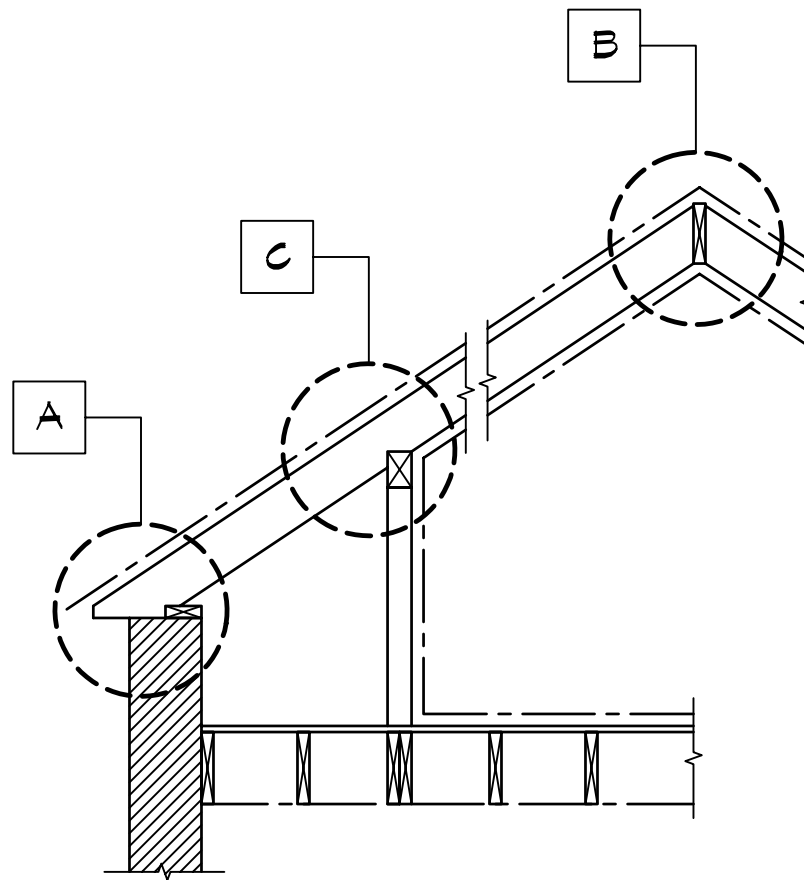


Photo 3: The roof structure above the portico (Room 304) with the absence of the 4x6 post indicated in the original drawings.



Photo 4 (right): A 4x4 post supporting the hip beam.

The distinction between *ridge beams* and *ridge boards* is described in Figure S-2. The definition has bearing on how loads get transferred from the roof down through the building, ultimately to the foundations. In concept, a ridge board does not provide vertical support so that the rafters support the vertical weight of the roof at their bearing ends, which in this case is the exterior masonry wall. One requirement to do this, however, is that the rafter ends must be able to resist a horizontal thrust, or the tendency for the rafter base to slide outward. Thus, if the base thrust of rafters can be adequately resisted, there is the potential for distributing roof loads away from the center of the building out to the exterior masonry bearing walls. Although the portico has some form of ridge board assembly, the base detailing is not conducive to large thrust resistance. Some collar ties are present in this area so those, in combination with some resistance at the base and the knee wall, appear to provide sufficient thrust resistance, as no significant deformations were visually apparent.



DETAIL A:

THE RAISED SILL FOR THE RAFTER SUPPORT ABOVE THE ATTIC FLOOR AND THE NATURE OF THE RAFTER CONNECTION GENERALLY PROVIDES ONLY VERTICAL SUPPORT AT THE EXTERIOR WALL. THE INABILITY TO RESIST HORIZONTAL THRUST AT THE BASE OF RAFTERS RESULTS IN THE REQUIREMENT TO PROVIDE VERTICAL ROOF SUPPORT WITHIN THE FLOOR PLAN.

DETAIL B:

A SUPPORTING RIDGE BEAM IS REQUIRED WHEN HORIZONTAL THRUST IS NOT RESISTED AT THE BASE OF THE RAFTERS. A RIDGE BOARD IS GENERALLY USED WHEN THE VERTICAL SUPPORT IS NOT REQUIRED AT THE RIDGE. THE RIDGE BOARD IS GENERALLY NARROWER AND SMALLER IN SECTION THAN A RIDGE BEAM IN THAT IT SERVES ONLY AS A CONNECTION SURFACE BETWEEN OPPOSING RAFTERS AND IS NOT REQUIRED TO SPAN BETWEEN POST OR WALL SUPPORTS.

DETAIL C:

KNEE WALLS OR INTERIOR PARTITION WALLS MAY SERVE TO SUPPORT A PORTION OF ROOF LOAD FROM THE RAFTERS. WHERE EXPOSED FOR OBSERVATION, RAFTERS WERE FOUND TO NOTCH OVER THE KNEE WALLS, INDICATING THEIR LIKELY USE AS LINES OF SUPPORT.

I
S-2

TYPICAL ROOF FRAMING DETAILS
 SCALE: N.T.S.

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DRAWING TITLE:

**EXISTING ROOF
FRAMING**

DRAWING NUMBER:

FIGURE S-2

DATE:

12.22.05

SCALE:

N.T.S.

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**PRESIDENT'S HOUSE
ON CARR'S HILL**

PRESIDENT'S HOUSE ON CARR'S HILL

The more common means of load transfer for the roof at the President's House relies on vertical support along the hips and ridges of the roof profile (Photo 4). Because the perimeter wall is generally higher than the attic floor and the rafter base connection detailing offers little capacity for the resistance of a horizontal thrust, most of the roof load must be transferred vertically down through the main-floor levels. The typical means by which the roof loads get transferred down to the third-floor level is by way of timber posts as well as knee walls or interior partition walls (Photo 5). This transfer of roof load through interior walls results in very apparent displacements at the third-floor level. RSA made general notations of high and low points within the floor level in Figure S-3. These displacements have also been well documented and quantified in previous surveys.



Photo 5: The knee wall supporting the roof above the portico.



Photo 6: The shallow hipped roof construction of the center section of the roof surrounding the skylight.

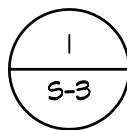
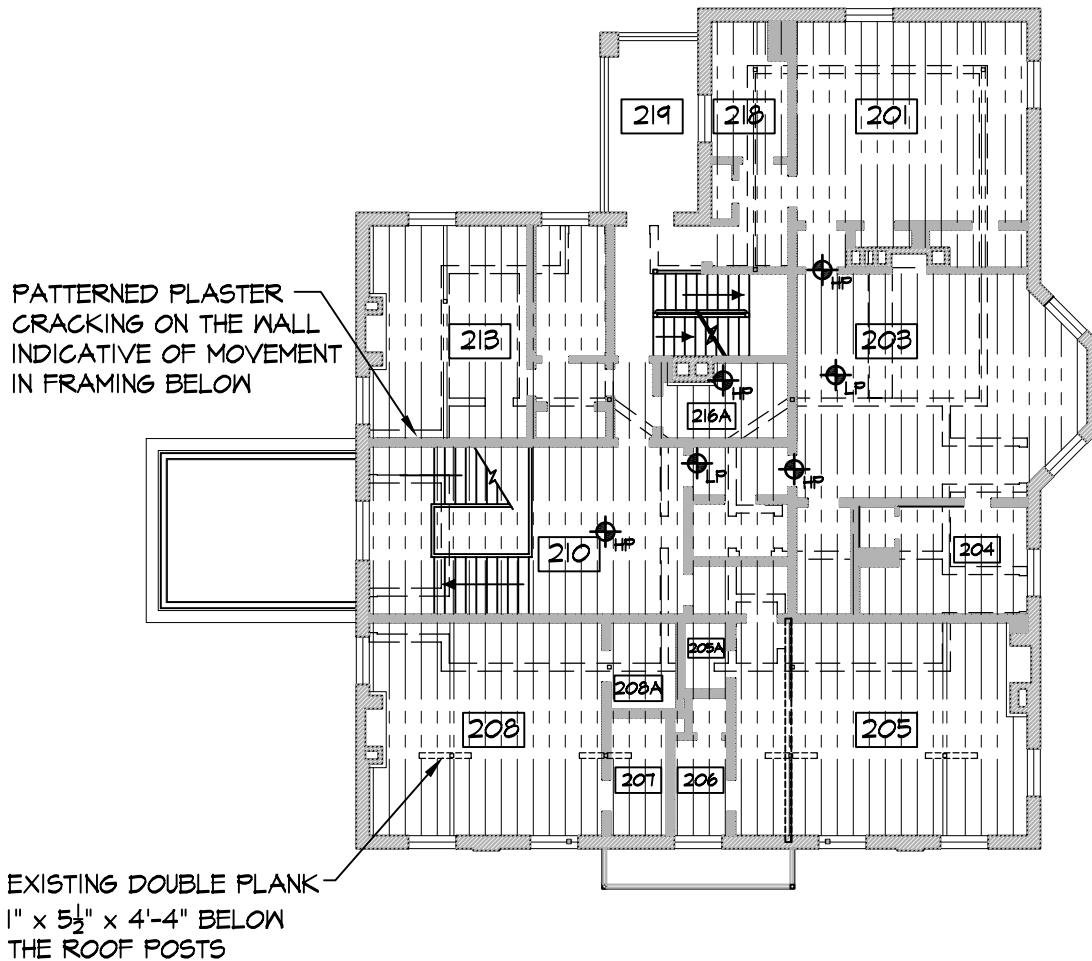
The largest displacements on the third-floor level occur around the central corridor, in the vicinity of the skylight. This portion of the roof is a much shallower sloped hipped configuration (Photo 6), with the hip beams apparently posting down onto the light ceiling framing below. The ceiling framing (indicated as 2" x 6" @ 20" o.c. on the original drawings is consistent with the limited visual observation on site) is far too small to span fully across this central portion of the roof and therefore must bear on the interior partitions. As such, it appears clear that the loads of the central roof are transferring down to the third-floor joists in an area that was not apparently designed to support these loads.

No material decomposition in the roof members or any significant area of leaking in the roofing system was observed.

LEGEND

⊕_{LP} INDICATES NOTED LOW POINT IN FLOOR FRAMING

⊕_{HP} INDICATES NOTED HIGH POINT IN FLOOR FRAMING



SECOND FLOOR PLAN WITH THIRD FLOOR FRAMING

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

FRAMING PLAN

DRAWING NUMBER:

FIGURE S-3

DATE:

12.22.05

SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL

SECOND-FLOOR FRAMING

The second-floor level is fully finished and offered little direct observation of structure from either the first-or second-floor levels. RSA's investigation at this level focused on identifying low and high points in the framing and comparing those with the original framing drawings as well as on any signs of structural distress presented on the interior finishes. Figure S-4 depicts the general framing at this level as well as the observations made on site. One location where the existing structure was observed was within the central hall closet (Room 216A). Here, a small area of rug and floorboards was lifted to expose the floor framing. This existing access panel was apparently cut open for the installation of lighting in the first-floor ceiling near the main entrance hall fireplace. Floor joist size was measured as 1¾" x 9½" @ 16" o.c., corresponding well with the original drawings. The material condition appeared sound, however only limited visual access was gained.

Some small movement in the tile finish of the bathroom in Room 219 was observed (Photo 7). Looking at this portion of the wall from the exterior porch (Room 218), some additional distress in the form of cracking in the exterior masonry wall was found (Photo 8). Smaller-scale cracking in the masonry was also observed in this wall from the first-floor level, which is apparently associated with the functioning of the flat arch, or *jack arch*, over the first-floor window below (Photo 9). The jack arch was measured as only 7 inches deep for a 4'-1" clear span, with a very shallow *skewback*, or projection of the upper portion of the arch over the bearing face of the masonry opening. The original drawings indicate that behind the jack arch, which is shown to only occur in the outer wythe of brick, there is likely to be a segmental brick arch consisting of two brick wythes. The segmental arch has a physical rise to its makeup which affords it significantly greater spanning capacity. It may be that additional loads are being introduced over the window opening from the porch-floor framing which are overstressing the masonry assembly, particularly in the outer wythe which has a limited spanning capacity.

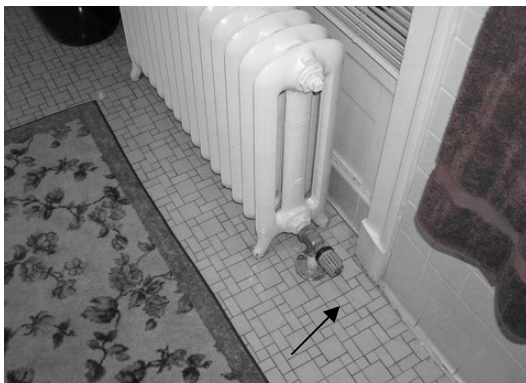


Photo 7: Tile movement below the window in Room 219.

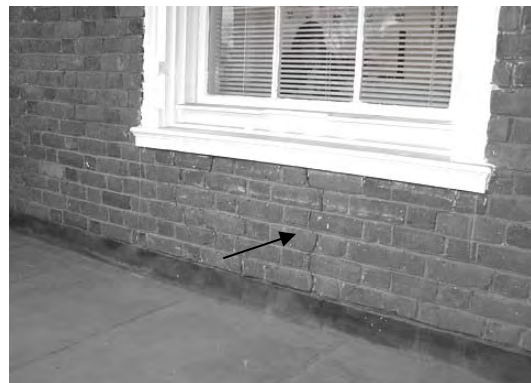






Photo 8: Exterior cracking in brick masonry beneath the window in Room 219.

LEGEND

-  INDICATES NOTED LOW POINT IN FLOOR FRAMING
-  INDICATES NOTED LOW POINT IN FLOOR FRAMING,
NOTICABLE IN THE FIRST FLOOR CEILING
-  INDICATES NOTED HIGH POINT IN FLOOR FRAMING
-  FLOOR HATCH WHERE SECOND FLOOR JOIST
SIZES WERE VERIFIED

SIGNS OF MOVEMENT IN THE ADJACENT
BATHROOM IN THE VACINITY OF THE
WINDOW

PATTERNED PLASTER
CRACKING ON BOTH
SIDES OF THE WALL
INDICATIVE OF
MOVEMENT IN
FRAMING BELOW

CRACK IN CENTER OF
ARCHED PARTITION ON
BOTH SIDES

CRACK IN CENTER OF
ARCHED PARTITION
ON BOTH SIDES

PATTERNED PLASTER
CRACKING ON THE WALL
INDICATIVE OF MOVEMENT
IN FRAMING BELOW

PATTERNED PLASTER CRACKING
ON THE WALL INDICATIVE OF
POSSIBLE MOVEMENT IN WALL
BELOW

FIRST FLOOR PLAN WITH SECOND FLOOR FRAMING

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

FRAMING PLAN

DRAWING NUMBER:

FIGURE S-4

DATE:

12.22.05

SCALE:

1/16"=1'-0"

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PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL

Patterned diagonal cracking was observed in the plaster of the main west stair walls. The cracking is consistent with the likely source being movement in the supporting structure below. These load-bearing walls are ultimately supported on east-to-west-running timber girders at the first-floor level, which span between the exterior foundation wall and interior masonry piers.



Photo 9: The flat arch supporting the wall and window, depicted in Photo 8.



Photo 10: Ceiling of Room 109 on the first floor sagging below Closet Room 216A..

Significant deflections in the first-floor ceiling were noted below the second-floor corridor wall near Closet Room 216A (Photo 10). The deflection appears to correspond to similar large movements at the third-floor level in this area and are likely the result of insufficient support of interior load-bearing walls or partitions.

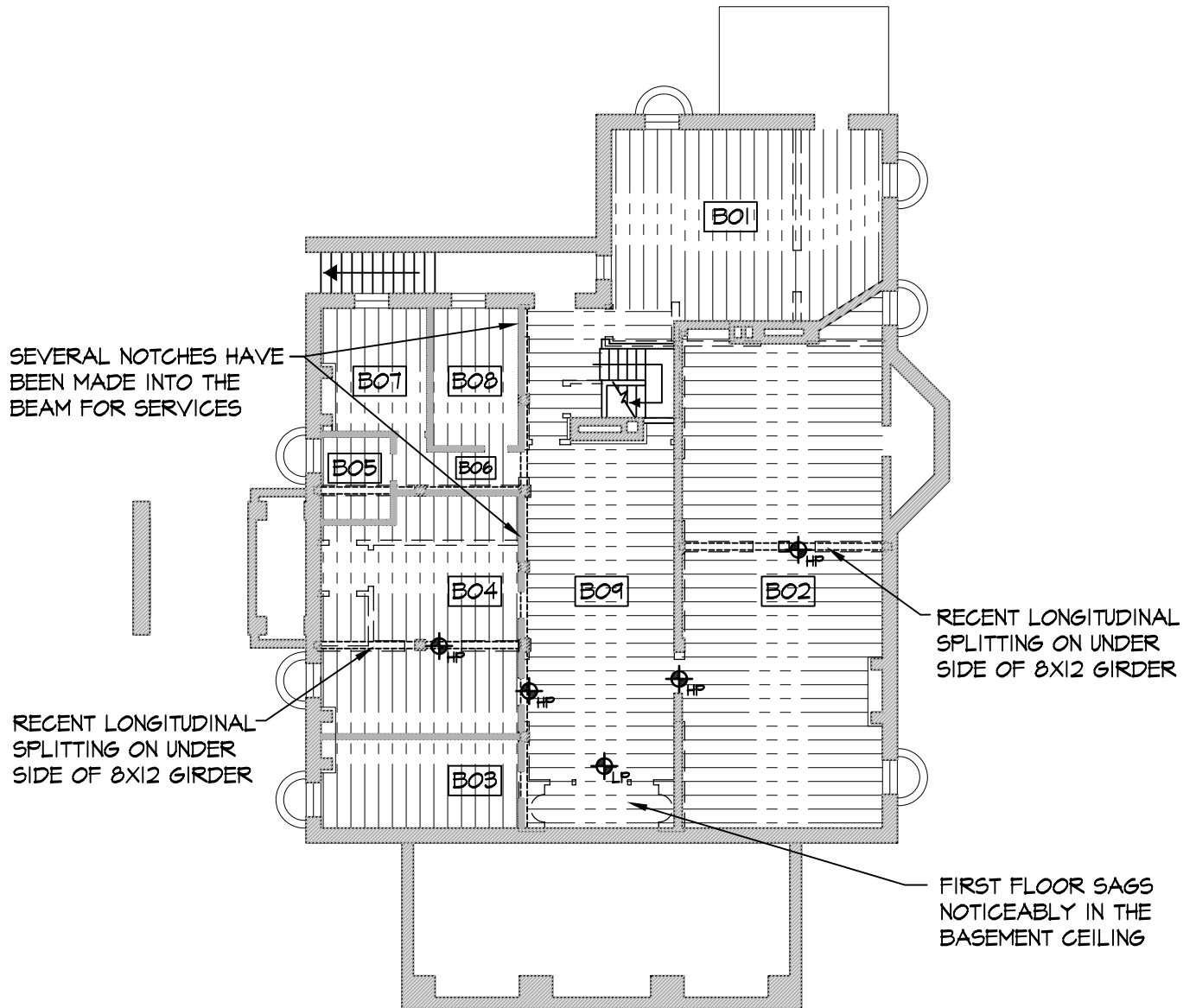
FIRST-FLOOR FRAMING AND BASEMENT

The first-floor framing is largely covered with existing finishes on the first-floor and basement levels', however, the lower portions of the primary timber girders could be observed and measured from below. Areas of visually apparent sag and high points in the floor framing are noted on the framing plan in Figure S-5, as well as walls which show cracking in the finish plaster potentially associated with structural movement. A pronounced area of floor displacement is at the main south entrance below the stone-finished vestibule floor, particularly at the arched wall separating the vestibule from the main entrance hall (Photo 11). The steep slope of the vestibule floor as it runs north from the entrance door seems to indicate the likelihood of concentrated loads being transferred down through the arched wall opening. Openings in joints in the vestibule wall seem to corroborate this floor movement. Patterned plaster cracking was noted in the walls of the side hall (also noted at the second-floor level) as well as in the wall dividing the living room and dining room. The diagonally oriented cracking appeared to be consistent with movements in the supporting structure. These walls are supported on the first-floor timber girders observable from the basement. Additional plaster cracking was observed at the living room wall adjacent to the entrance vestibule and main hall, however this wall is supported on a brick masonry bearing wall down to foundation level. This cracking may be due to foundation movements, past or present, or other non-structural sources.

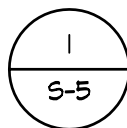
LEGEND

⊕_{LP} INDICATES NOTED LOW POINT IN FLOOR FRAMING

⊕_{HP} INDICATES NOTED HIGH POINT IN FLOOR FRAMING



BASEMENT PLAN WITH FIRST FLOOR FRAMING



SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

FRAMING PLAN

DRAWING NUMBER:

FIGURE S-5

DATE:

12.22.05

SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL



Photo 11: The vestibule wall between Rooms 104 and 108.



Photo 12: A brick masonry pier in the center of Room B02 supporting the timber girder above.

High points in the floor are noticeable in the doorways throughout the first floor. Below most of the doorways are the large timber girders which have deflected less over time than the floor joists, leaving a visible hump. Between the kitchen and sunroom the threshold is over the original foundation wall of the house. The floor of the current sunroom (built in 1985) adjacent to the doorway into the kitchen is a slab on grade. The other half of the floor is a framed flat slab spanning over a mechanical room that was added to the basement at the same time. The high point in the floor makes sense because the newer slab on grade would naturally settle and move more over time than the existing house, which is sitting on older and deeper foundations. Also, the digging to create the mechanical room at the basement level and the requisite backfilling to create a substrate for the slab on grade for the rest of the sunroom would have likely resulted in some settlement of these soils if not carefully compacted. Given that it has been over 20 years since the sunroom porch was last enlarged, the greatest portion of settlement should have occurred already. As such, the hump in the floor does not represent a structural problem. However, this could still be a finish problem in that the structure on grade can still be subject to relative movement (settlement or possible frost heaving) and may result in humps or cracking at this interface.

From the basement, the framing appeared to correspond well to the original drawings, with timber girders spanning between brick masonry bearing walls and piers (Photo 12). Some cracking in the timber girders themselves and in the interface between girder and ceiling was observed (Photo 13). In addition, there are significant areas of girder notching and penetrations by conduit and piping that are undoubtedly resulting in localized reductions in both bending and shear capacity (Photos 14, 15, and 16).

PROBLEMS OF REPAIR



Photo 13: Paint cracking between first-floor girder and ceiling indicative of movement.



Photo 14: The bottom of the beam in Room B02 is notched near the support.



Photo 15: The 8"x10" first-floor girder between Rooms B08 and B10 suffers from several service penetrations.



Photo 16: Several penetrations made through the 8"x10" first-floor girder between Rooms B09 and B04.

A makeshift steel pipe column is installed in the laundry area (Room B01, Photos 17 and 18). The column location roughly corresponds to the dividing wall between the kitchen and pantry rooms on the first floor. The column is not well connected or braced below the first-floor framing and does not appear to bear on a footing, but only on the existing slab on grade. It appears likely that the column was installed in response to excessive floor deflections.

PRESIDENT'S HOUSE ON CARR'S HILL



Photo 17: Pipe column in Room B01 below first-floor wall between kitchen and pantry.



Photo 18: Pipe column tenuous top connection.

Isolated areas of past deterioration were observed in the laundry room, toward the northeast corner of the house. Here it appears that some wood floor framing around the lightwells, including the edge joist, a sill, and some floorboards had suffered from moisture intrusion and limited termite damage. The deterioration appears to have been addressed with new wood sistering and localized floorboard replacement (Photo 19).



Photo 19: In Room B01 a new wood sister and plywood floor replacement address apparent deterioration over the window in the northeast corner.

PROBLEMS OF REPAIR

PROBE INVESTIGATION

RSA recommended several probes into the finishes of the basement ceiling to expose the existing first-floor framing. The probes were implemented during this study by UVA personnel. A follow-up visit on 8 December 2005 was made by RSA engineers to document the findings of these probes and to extract small samples of wood from the floor framing for laboratory testing. The framing confirmation and wood sampling helped corroborate information on original drawings as well as those for the proposed structural strengthening. Figures S-6 through S-10 document the observed framing. In general, the framing sizes measured corresponded well with original drawings and no signs of material decomposition due to water or insect infestation were visually apparent. Photos 20 through 26 depict the probe locations and selected details.



Photo 20: Probe 1 next to the 8x12 girder in Room B04, under Room 111

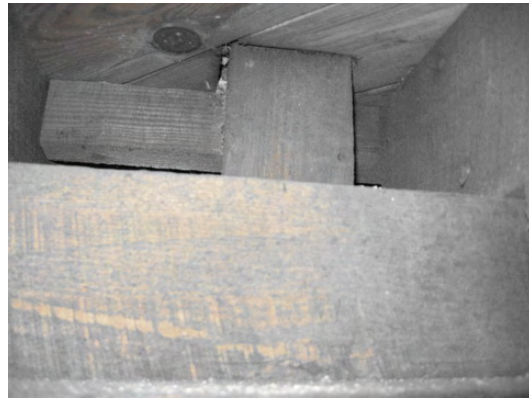


Photo 21: Probe 1 -- A post or wood stud resting on the 8x12 girder in Room B04



Photo 22: Tools used in acquiring the samples and wood pieces from first floor girders and joist



Photo 23: Probe 2 in Room B09 is below the vestibule in room 108

PRESIDENT'S HOUSE ON CARR'S HILL



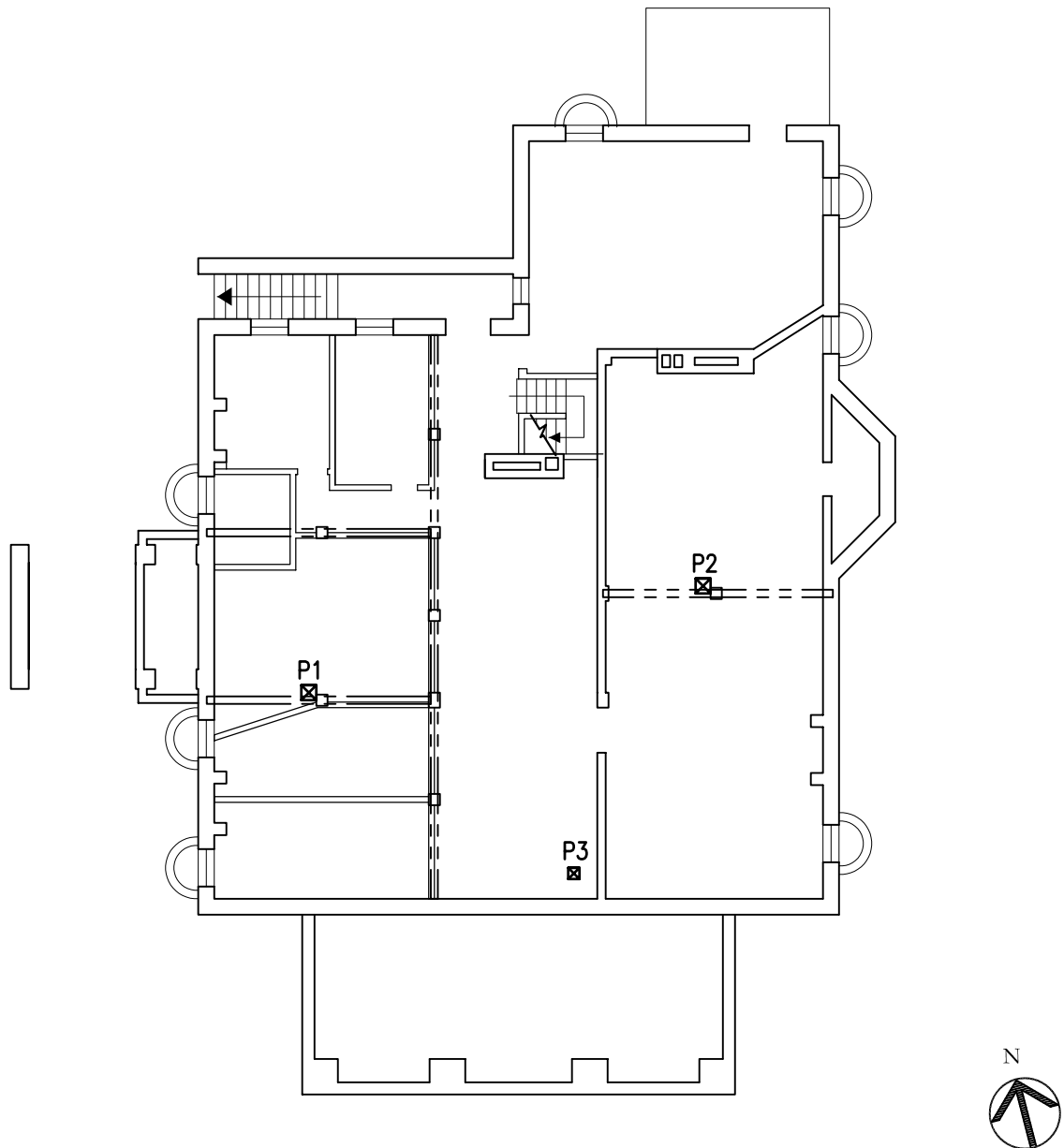
Photo 24: Probe 2 details for deadening layer in first-floor below vestibule.



Photo 25: Probe 3 in Room B02 adjacent to the 8x10 first-floor girder supporting the wall between Rooms 104 and 106.



Photo 26: Probe 3 wood sample from 8"x10" girder in Room B02 located adjacent to existing notch.



PROBE SELECTION

P1 - PLEASE REMOVE AN AREA OF THE CEILING PLASTER AND LATH APPROXIMATELY 16"X16" IN SIZE, EXPOSING FLOOR JOISTS AND THE SIDE OF THE WOOD GIRDER. THE INTENT IS TO OBSERVE THE CONDITION OF THE BEAM, FLOOR JOISTS AND ADJACENT CEILING.

P2 - PLEASE REMOVE AN AREA OF THE CEILING PLASTER AND LATH APPROXIMATELY 16"X16" IN SIZE, EXPOSING THE SIDE OF THE WOOD GIRDER. THE INTENT IS TO OBSERVE THE CONDITION OF THE BEAM AND FLOOR JOISTS.

P3 - PLEASE REMOVE AN AREA OF THE CEILING PLASTER AND LATH APPROXIMATELY 12"X12" IN SIZE, EXPOSING THE FLOOR JOISTS. THE INTENT IS TO OBSERVE THE CONDITION OF THE FLOOR JOISTS AND TO CONFIRM THE SPACING UNDER THE VESTIBULE.

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STRUCTURAL ENGINEERING

ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

PROBE PACKAGE OF BASEMENT FLOOR

DRAWING NUMBER:

FIGURE S-6

DATE:

12.22.05

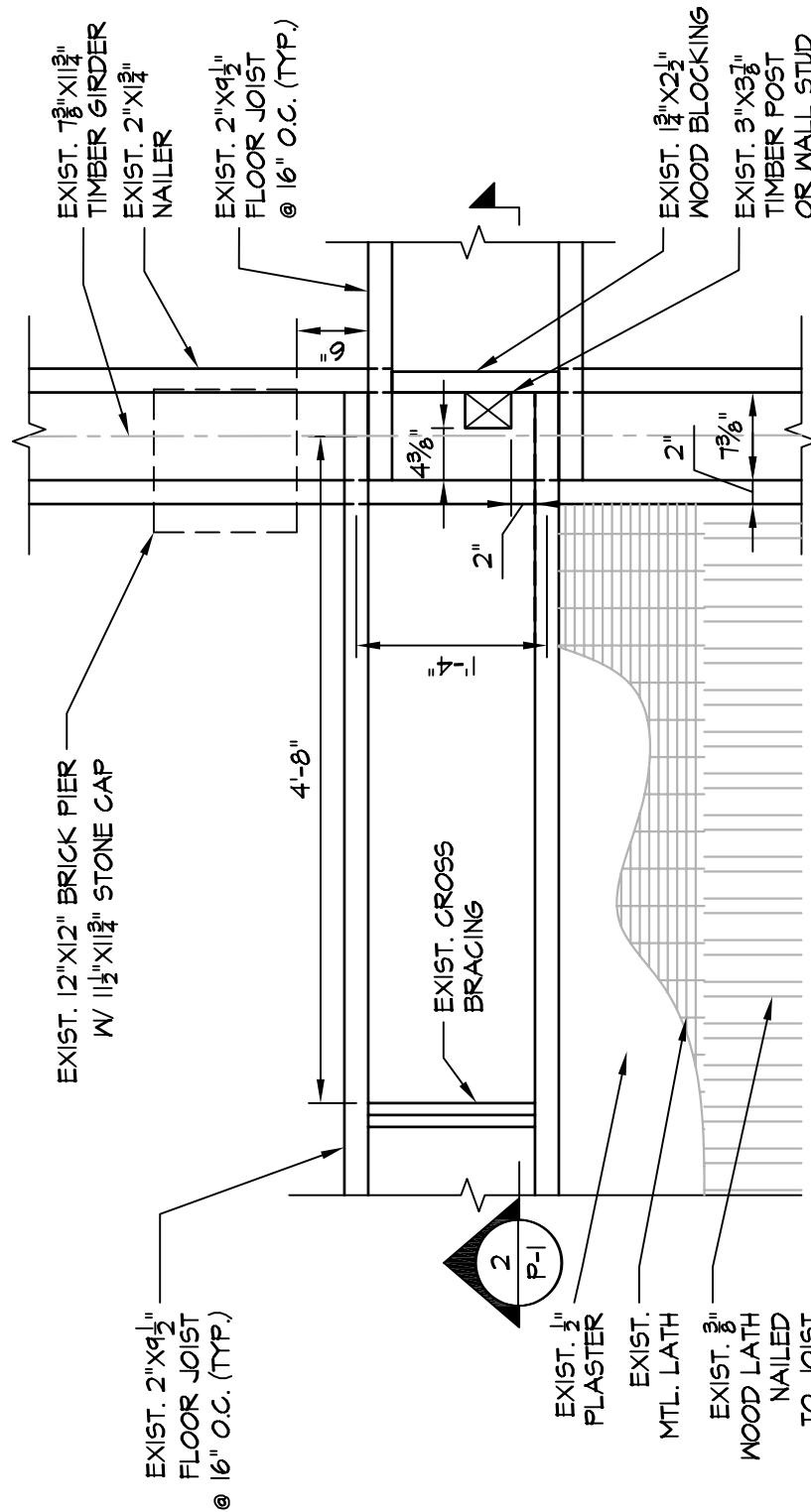
SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL



1
P-1

PROBE #1 PLAN DETAIL

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

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DRAWING TITLE:

PROBE DRAWINGS

DRAWING NUMBER:

FIGURE S-7

DATE:

12.22.05

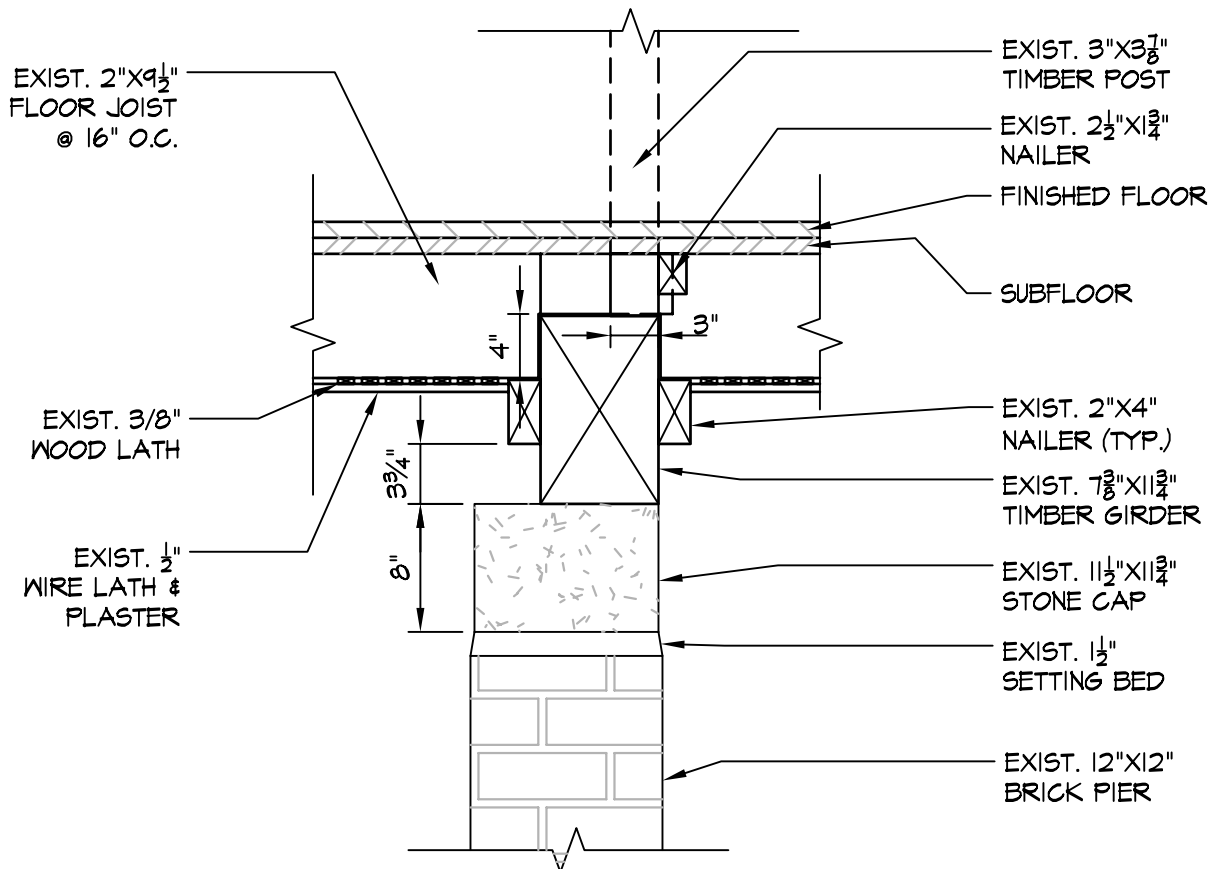
SCALE:

3/4"=1'-0"

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**PRESIDENT'S HOUSE
ON CARR'S HILL**



2
P-1

PROBE #1 SECTION LOOKING EAST

SCALE: 1"=1'-0"

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1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

PROBE DRAWING

DRAWING NUMBER:

FIGURE S-8

DATE:

12.22.05

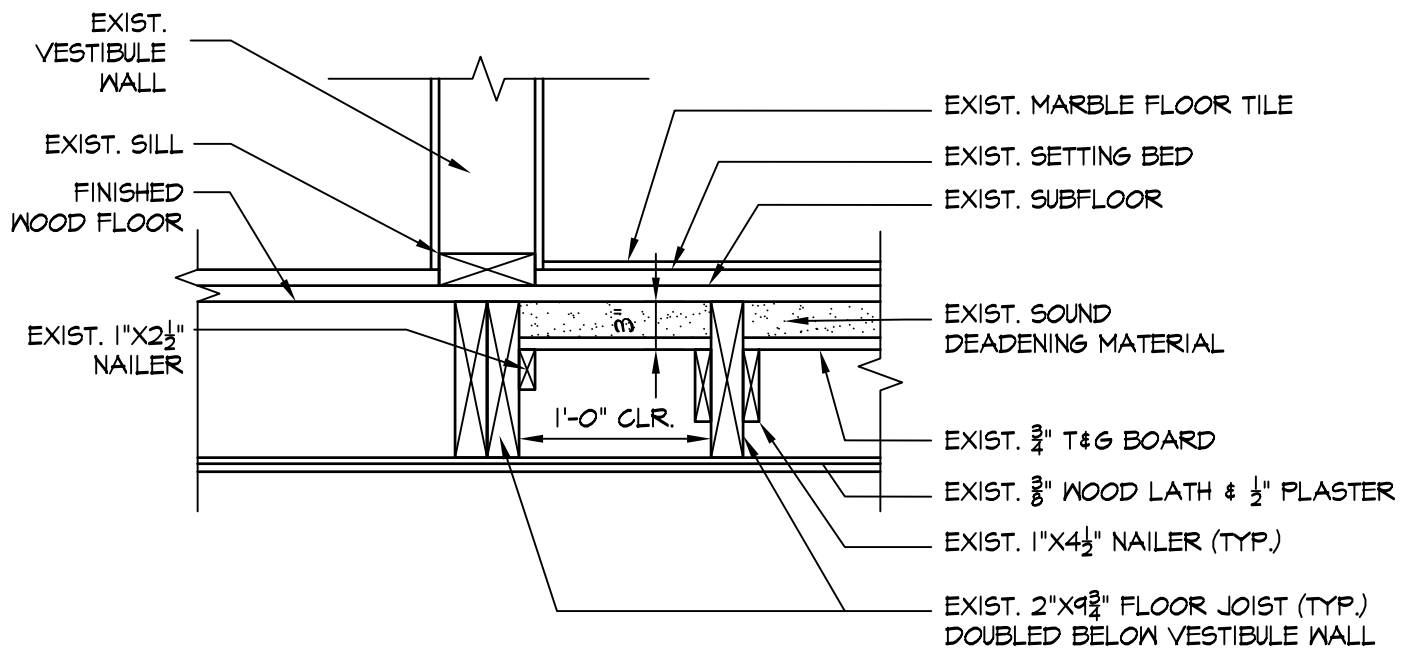
SCALE:

1"=1'-0"

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**PRESIDENT'S HOUSE
ON CARR'S HILL**



1
P-2

PROBE #2 SECTION DETAIL
 SCALE: 1"=1'-0"

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1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:
PROBE DRAWINGS

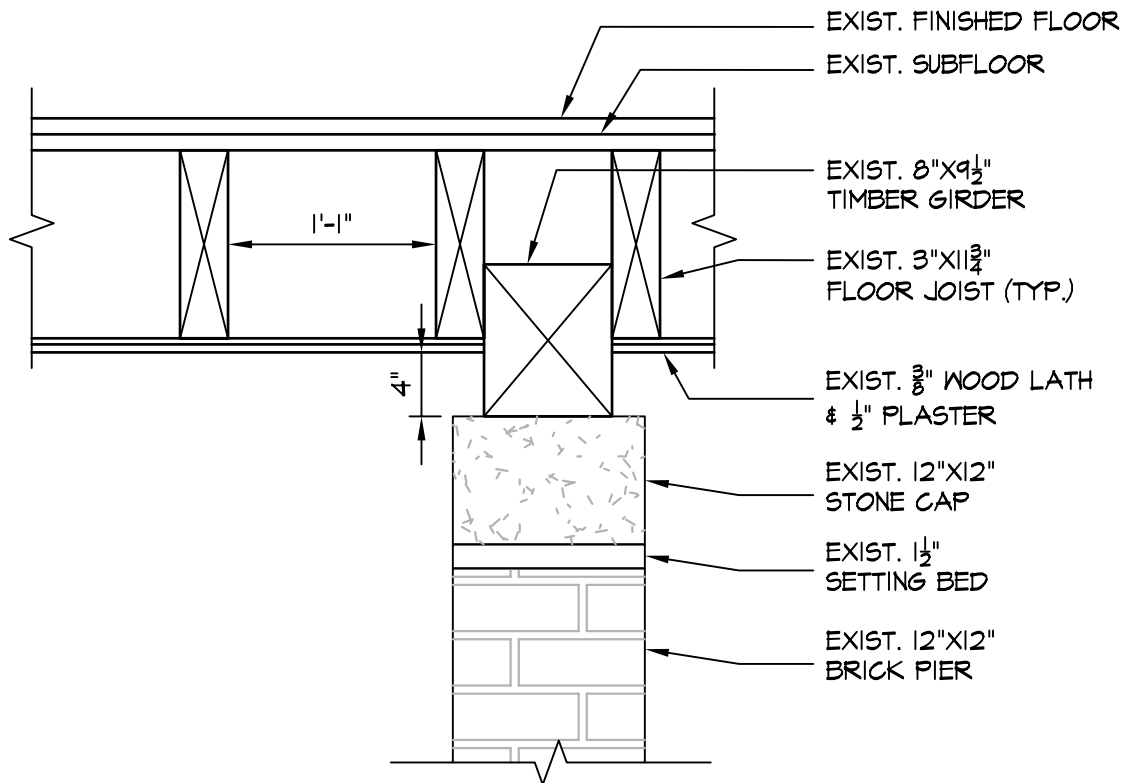
DRAWING NUMBER: **FIGURE S-9**

DATE: **12.22.05** SCALE: **1"=1'-0"**

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**PRESIDENT'S HOUSE
ON CARR'S HILL**



PROBE #3 SECTION DETAIL

P-3 SCALE: 1"=1'-0"

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1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

PROBE DRAWINGS

DRAWING NUMBER:

FIGURE S-10

DATE:

12.22.05

SCALE:

1"=1'-0"

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**PRESIDENT'S HOUSE
ON CARR'S HILL**

PRESIDENT'S HOUSE ON CARR'S HILL

BUILDING SYSTEMS CONDITIONS

HVAC

General Description

Heating for the house was originally provided by a coal-fired “furnace” located in the core of the house in the basement. The piping mains, which run exposed at the ceiling of the basement and appear to be original to the building, are oversized and configured in a 1-pipe arrangement. They slope back to the present mechanical crawlspace below the sun room (Room 101), thus affecting headroom throughout the basement. Given the size of the mains, the original system was likely either steam, relying on the sloped mains for returning condensate to the furnace, or a “gravity” feed heating water type, relying on the effects of temperature gradients and natural convection for water circulation (no documentation to clarify this exists on the original drawings). The branch supply and return pipes to each radiator are tapped from the mains in a 1-pipe arrangement. There is no visible labeling on the tee fittings. Given their apparent vintage, it is presumed they are not an engineered “mono-flow” diverting-tee-fitting that induces flow through the branch piping (developed in the 1930s).

Steam or heating water (HW) was distributed to free-standing cast-iron radiators on each of the four floor levels in the main house through the 1-pipe system. These radiators and associated piping appear to be the original 1907 vintage, though no records exist to confirm or contradict this assumption. The piping is steel with threaded fittings and is not insulated. Branch piping runs exposed to radiators on the first floor, and is concealed within masonry wall pockets to radiators on the second and third floors. Some radiators have ventilated architectural enclosures. Each radiator has a non-electric thermostatic control valve – a modern device likely installed sometime within the last 20 years to gain individual and automatic control of each radiator.

The campus medium-temperature heating water (MTHW) system is the current heating source for the house and adjacent cottage. Underground supply and return piping from the MTHW system enter the mechanical crawlspace below sun room 101 at the east wall and supplies a water-to-water heat exchanger. Based on available documentation, this service connection was made prior to 1985 since the heat exchanger and mechanical crawlspace appear as existing in the 1985 sun room addition drawings.

Equipment contained within this mechanical crawlspace includes the heat exchanger, heating water pumps, heating water controls, expansion tank and exhaust fan. Three individual circulating pumps serve the main President's House, sun room (Room 101), and the cottage. Cast-iron baseboard radiators also were installed in the sun room at this time. This configuration remains in place with no apparent major alterations.

PROBLEMS OF REPAIR

The three HW pumps are controlled by wall-mounted, heating-only thermostats. The thermostat for the main house HW pump is located in rear hall (Room 118). The thermostat for the HW pump serving the cast-iron baseboard radiators in the sun room is located near the doorway from the kitchen.

Air conditioning is provided by five (5) separate split systems configured to serve the house as follows: first floor, sun room (Room 101), kitchen (Room 102), second floor, and third floor. Air conditioning and duct systems for the first and second floors initially appear in drawings dated 1974. Systems for the sun room and the third floor were first installed in the 1985 addition. Since that time, the equipment has been replaced. The age of air handlers and condensing units currently ranges from one to ten years. The equipment and duct systems for the kitchen (and pantry) were installed in the 2003 renovation of these spaces.

The Ruud air handler for the first floor (referred to as AH#1 in the report figures) is located in hall (Room B09) and the ducts are routed at the ceiling of the basement. The Carrier condensing unit (CU#1) for this system is located on the roof of porte cochere (Room 113). This system includes a small Skuttle humidifier tapped into the return duct.

Sun Room 101 is cooled and heated by a Ruud split-system heat pump. The air handler (AH#2) is located above the ceiling of this room and is accessed from a roof hatch. Supply and return ducts are routed through this same ceiling space. The condensing unit (HP#2) is located on grade at the east wall of this space.

Kitchen 102 and Pantry 103 are cooled and heated by a Ruud split-system heat pump. The air handler (AH#3) is located above a dropped wooden ceiling in coat porch (Room 120) and its condensing unit (HP#3) is located on grade outside the west wall of this room. Ducts from the air handler are routed into the kitchen and pantry ceilings. The kitchen range has a light commercial-grade exhaust hood.

The air handlers (by Carrier and Ruud) for the second and third floors (AH#4 and AH#5, respectively) are located in attic (Room 304). Their respective condensing units (CU#4 and CU#5, by Carrier and York) are located on the roof of porte cochere (Room 113). The third floor system includes a small Skuttle humidifier tapped into the return duct. Ducts serving the second floor are routed from attic (Room 304) to dropped ceilings at the second floor. Ducts serving the third floor are routed from attic into roof spaces. These air handlers have a ducted outside air intake that runs to the operable arched window in the front portico. When the window is open, some fresh air is likely introduced into the systems. However, there are no balancing dampers in the return and outside air ducts, so the effectiveness of this arrangement is indeterminable.

Duct mains are predominantly galvanized steel with either internal lining or external insulation wrap. Insulated flexible ducts are used for connections to air outlets and inlets. Floor registers are used for the first floor, high wall registers are used at the second floor,

PRESIDENT'S HOUSE ON CARR'S HILL

and round ceiling diffusers are used in the third floor. Linear slot diffusers are used in the sun room (Room 101).

The laundry-room (Room B01) and playroom (Room 301) are cooled by window air conditioners. Electric baseboard heat is installed along the north wall of playroom.

A ceiling or in-line fan controlled by a wall switch exhausts each bathroom. An exhaust fan ventilates the mechanical crawlspace; it was not in service at the time of the field survey. There is a large-diameter propeller fan in the attic (Room 304) that was operating at the time of the field survey. This fan appears to have originally served as a “whole house” fan to draw air up through the house introduced from open windows and exhaust it through the arched window in attic. This ventilation technique was frequently used prior to the development and predominance of mechanical air-conditioning systems.

There are six portable dehumidifiers to remove moisture from air in the basement.

Conditions

1. Portions of refrigerant piping in the attic are not sufficiently insulated or protected from damage by foot traffic or stored materials.

2. The ventilation fan for the mechanical crawlspace below the sun room (Room 101) is inoperative. This results in overheating of the crawlspace.

3. The temperature in the majority of the basement is uncontrolled (radiators are installed in the Bedroom (Room B07) and sitting room (Room B08). The heating water piping is not insulated, resulting in uncontrolled heat dissipation into the space, and it is likely the window air conditioner in the laundry must operate unnecessarily at times as a result. At a minimum, the heating mains routed along the basement ceiling should be covered with rigid pipe insulation.

4. The predominant problem is the water heating system's inability to adequately control temperatures in the first, second, and third floors—an apparent recurring complaint by the inhabitants. This is no surprise, since the very nature of the heating water piping arrangement provides no controllable means for creating a pressure differential across the radiators, with resulting low flow through them. The non-electric thermostatic radiator valves installed as an attempt to gain individual control at each of the radiators further hinder flow through the radiators. Replacement of the 1-pipe heating water mains with a 2-pipe arrangement would provide positive heating water flow to each of the radiators and proper operation of the thermostatic radiator valves for suitable individual room temperature control. In addition, the new heating water mains could be installed without concerns for sloping and tighter to the basement ceiling structure, thus providing better headroom. The branch piping located in the basement that serves each of the radiators also should be replaced as part of this work, since the piping is currently exposed and accessible. Replacement of the branch piping to the second-and third-floor radiators

PROBLEMS OF REPAIR

would require removal/replacement of plaster at the wall pockets. Further destructive investigation is required to determine the interior condition of these branch lines. All piping should be properly insulated. Simultaneous replacement of the existing heat exchanger, HW pumps, controls, and appurtenances also is recommended.

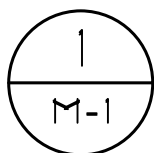
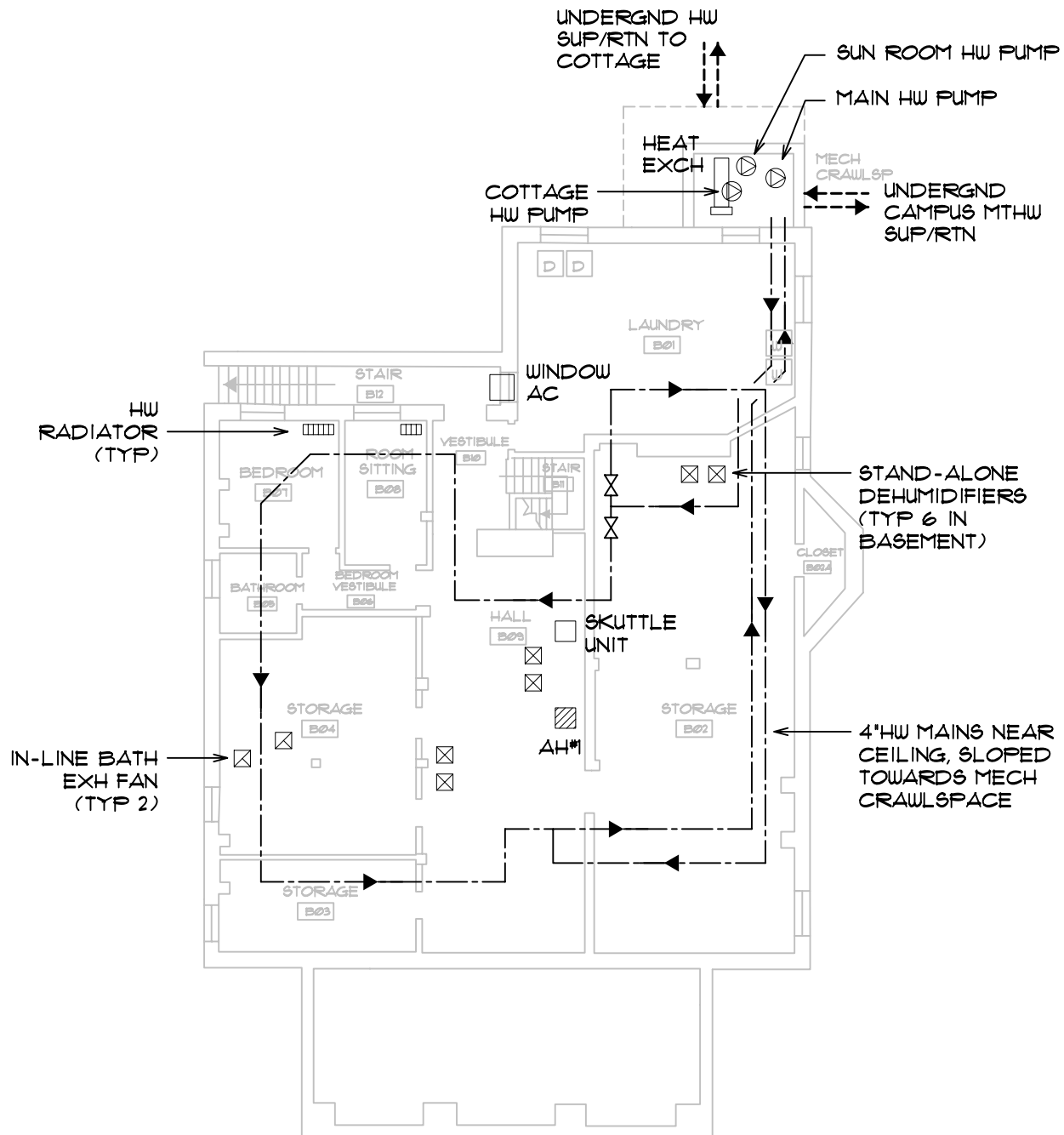
5. The “whole house” fan in the attic cannot perform any actual effective ventilation of the attic or the house. When this fan operates, air within the attic is simply recirculated from the discharge side of this fan back to its intake since there is no barrier between the two. In addition, the air circulated by the fan is blown towards the arched window at the front portico and the outside air intake duct for the second-and third-floor air handlers. If the fan is to be used for ventilating the house, a proper control scheme needs to be developed with the appropriate modification to its intake and discharge arrangement.

6. The outside air intake duct for the air handlers that serve the second and third floors (located in the attic) is not directly connected to a permanent opening to the exterior, but instead relies upon an operable arched window in the front portico. Air drawn into the open intake duct is likely a mixture of recirculated attic air and outside air. The open window allows uncontrolled temperature and humidity fluctuations in the attic, with possible damage to stored materials, and uncontrolled infiltration of unconditioned air into the third floor. In addition, no balancing dampers exist in the outside air branch ducts to each of the two air handlers. Technically, this outside air intake is not required by building codes since the house has operable windows in occupied spaces. However, if deemed desirable, a permanent exterior intake louver should be installed to allow the window to be closed and balancing dampers should be installed in each of the outside air intake ducts to the air handlers.



Outside air intake duct in Attic 304 (Item 6).

7. The sun room has two thermostats—one for the heat pump and one for the baseboard radiators—which can be confusing to users. Replace dual thermostats with a single thermostat (one-stage cooling, two-stage heating).



MECHANICAL PLAN

SCALE: 1/16" = 1'-0"



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100 10th Street, NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE:

BASEMENT PLAN

DRAWING NUMBER:

FIGURE M-1

DATE:

12.22.05

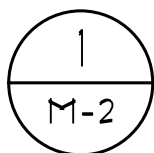
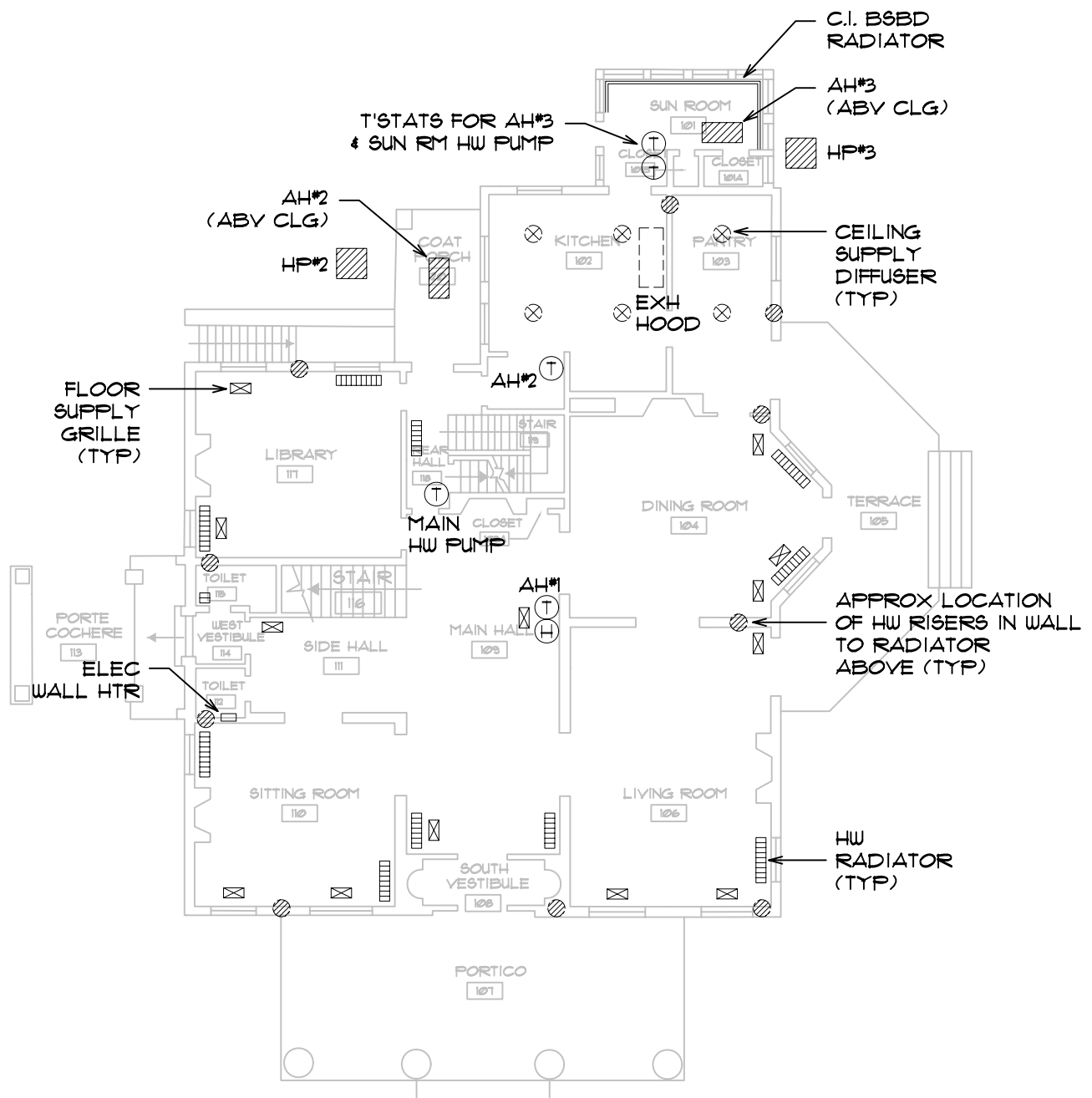
SCALE:

1/16"=1'-0"

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PRESIDENT'S HOUSE
ON CARR'S HILL



MECHANICAL PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

FIRST FLOOR PLAN

DRAWING NUMBER:

FIGURE M-2

DATE:

12.22.05

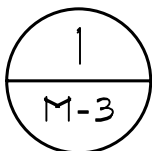
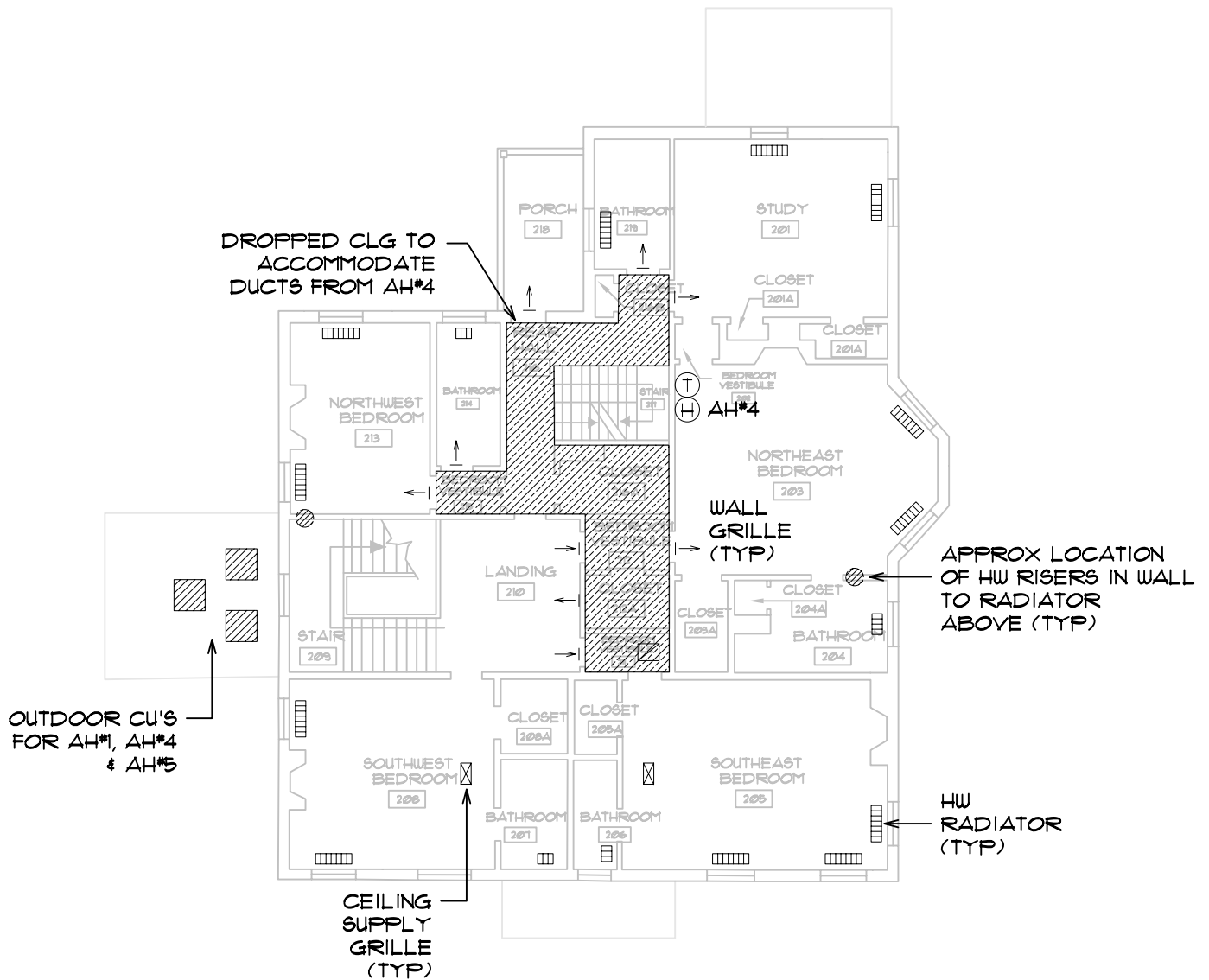
SCALE:

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PRESIDENT'S HOUSE
ON CARR'S HILL



MECHANICAL PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

SECOND FLOOR PLAN

DRAWING NUMBER:

FIGURE M-3

DATE:

12.22.05

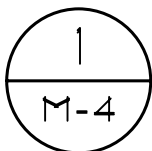
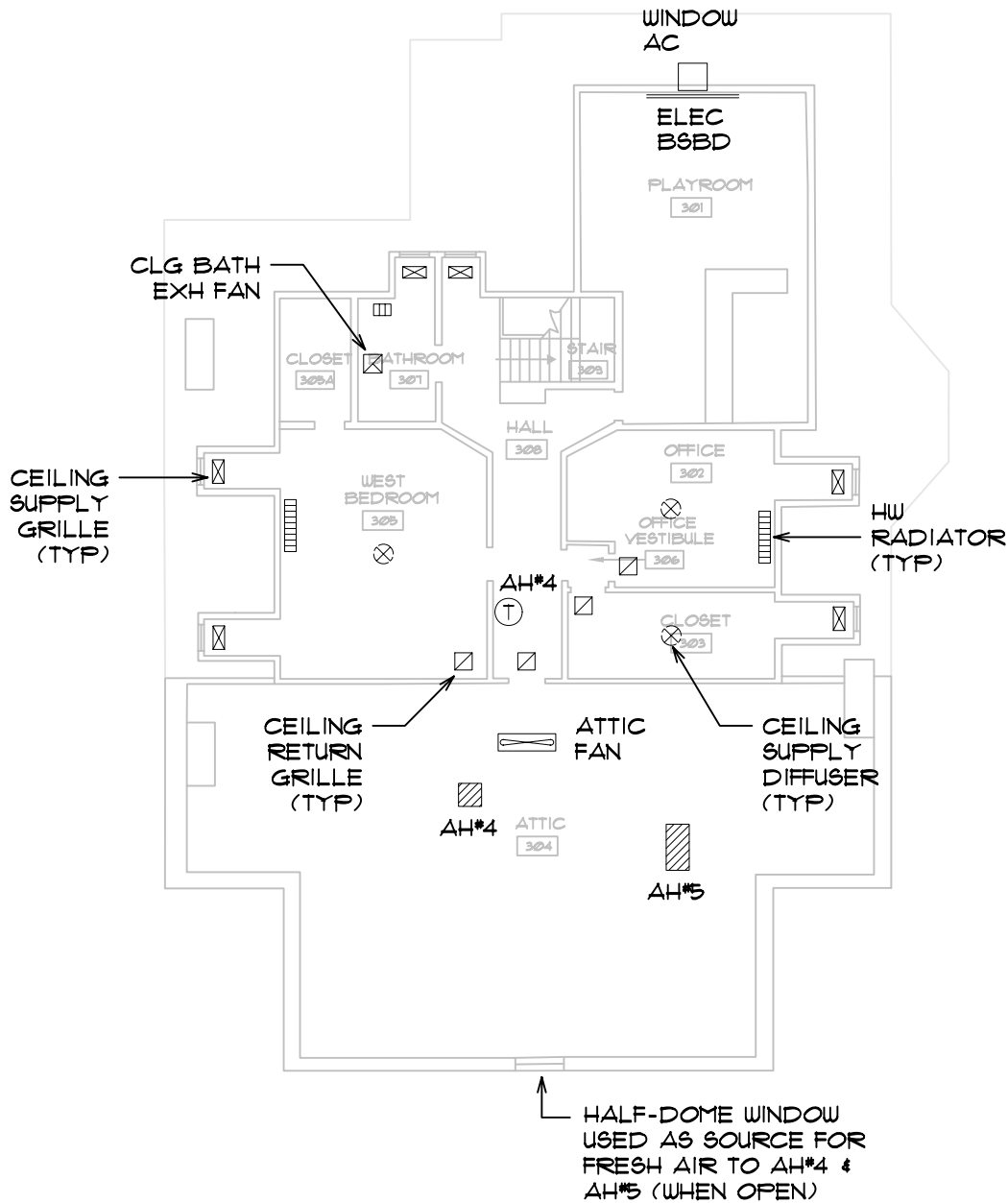
SCALE:

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PRESIDENT'S HOUSE
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MECHANICAL PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

THIRD FLOOR PLAN

DRAWING NUMBER:

FIGURE M-4

DATE:

12.22.05

SCALE:

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PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL

PLUMBING

General Description

Domestic plumbing systems for the President's House are comprised of residential-grade bathroom fixtures throughout and modern vintage fixtures in Kitchen 102 and Pantry 103. The fixtures in bathrooms are a combination of relatively dated and newer vintage, and are in good to fair condition. Plumbing fixtures are predominantly vitreous china and, with a few exceptions, do not appear to be low-water consumption type.

Sanitary waste and vent piping is predominantly cast iron, with some galvanized steel branch connections within undisturbed walls above the basement level. A small amount of PVC piping exists for the condensate drain piping at the air handlers in Attic 304. Within the last year, the underground waste line beneath the basement floor and underground piping from the house to the sanitary manhole has been replaced.

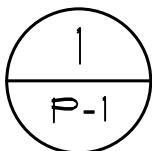
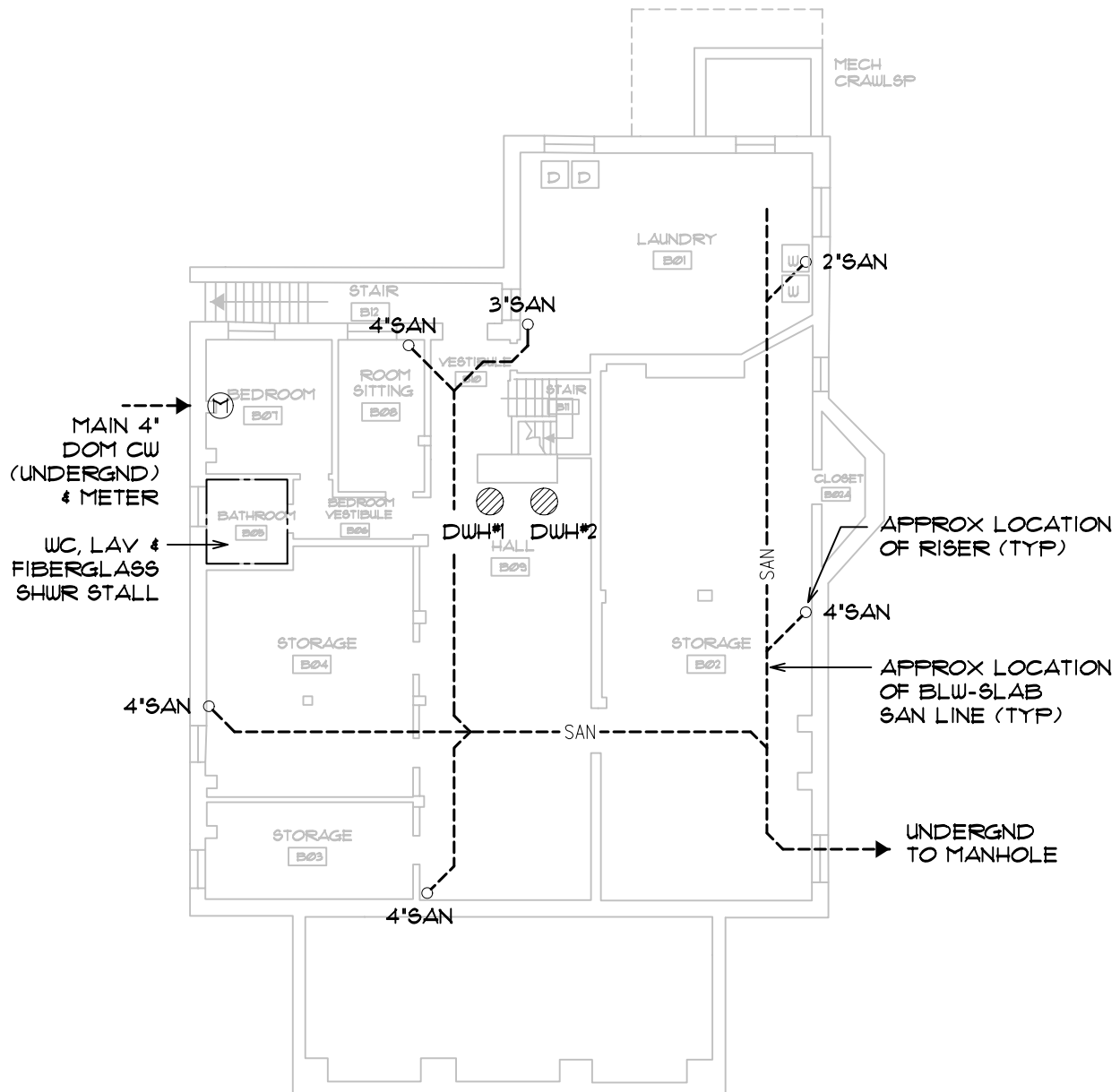
A 4-inch main water supply enters through the west wall of Bedroom B07, and immediately reduces down to a smaller diameter. There is a main shut-off and meter at this location; no backflow preventer exists. Water-supply piping mains are routed at the ceiling of the basement and are predominantly copper. Some sections of old galvanized-steel piping exist concealed within walls to serve fixtures in the first, second, and third floors.

Domestic hot water is produced by two water heaters located Hall B09. One water heater (referred to as DWH#1 in the report figures) is electric (119 gal with two 4.5kW elements) and the other (DWH#2) is natural gas fired (75 gal, 75 MBH input). Due to complaints of a shortage in hot-water supply, these units were recently re-piped in a series arrangement, with the gas unit upstream of the electric unit. This re-piping has reportedly alleviated the shortage problem.

There is no fire-suppression sprinkler system to provide coverage for the house.

Conditions

1. Reports of low water pressure to the master bathroom (Room 204) are indicative of the presence of galvanized steel piping, and its tendency for internal corrosion and resulting occlusion over time. As repairs and renovations have occurred in recent years, galvanized water-supply piping has been replaced with copper. However, original galvanized-steel pipe risers and branches remain within undisturbed walls. A comprehensive replacement of remaining galvanized-steel water piping with copper piping should be undertaken to insure water of sufficient pressure can be delivered to all plumbing fixtures. Ball isolation valves should be used in lieu of gate valves.



PLUMBING PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

BASEMENT PLAN

DRAWING NUMBER:

FIGURE P-1

DATE:

12.22.05

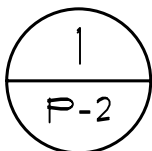
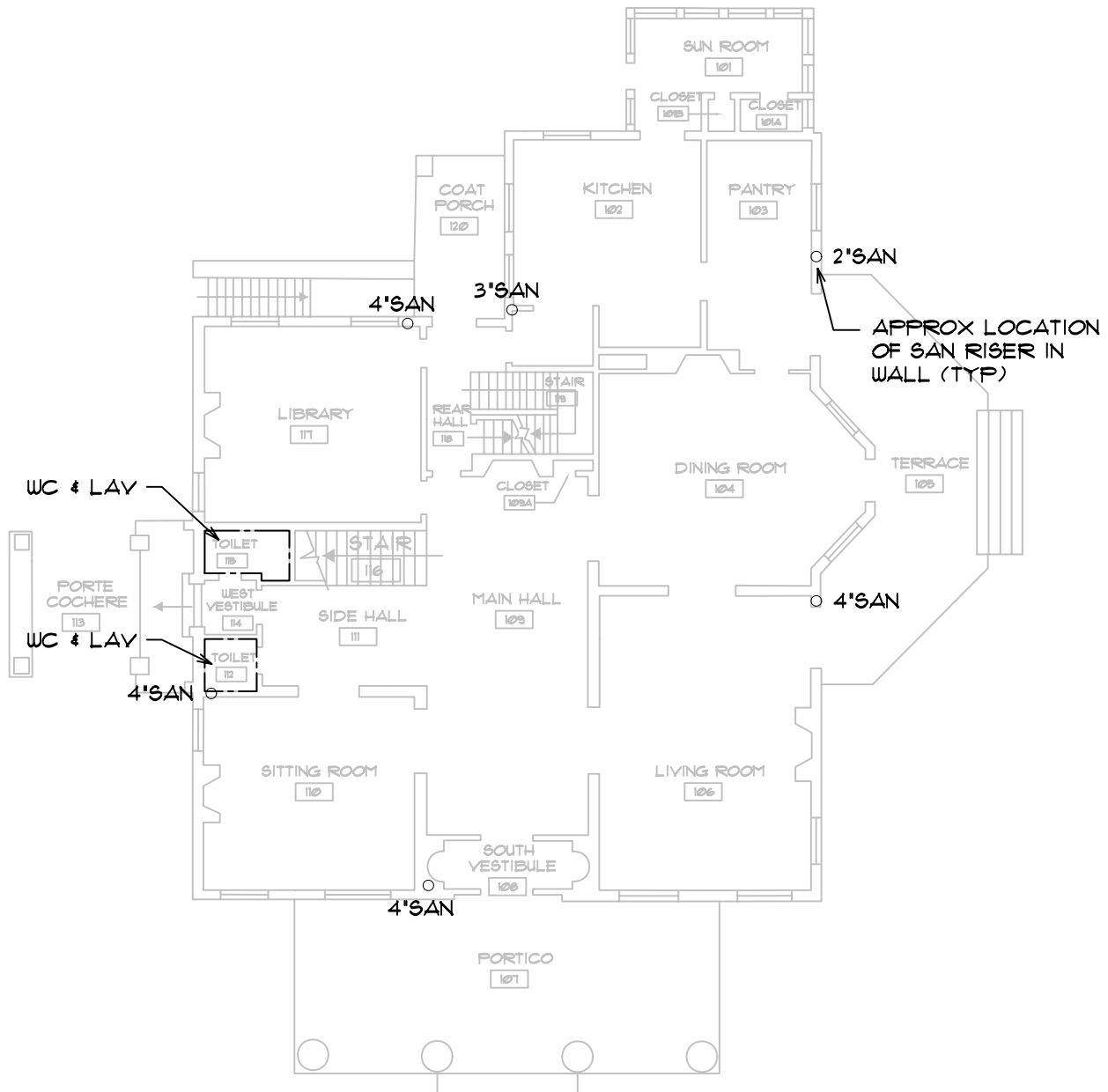
SCALE:

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PRESIDENT'S HOUSE
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PLUMBING PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

FIRST FLOOR PLAN

DRAWING NUMBER:

FIGURE P-2

DATE:

12.22.05

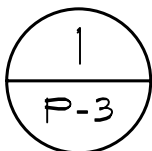
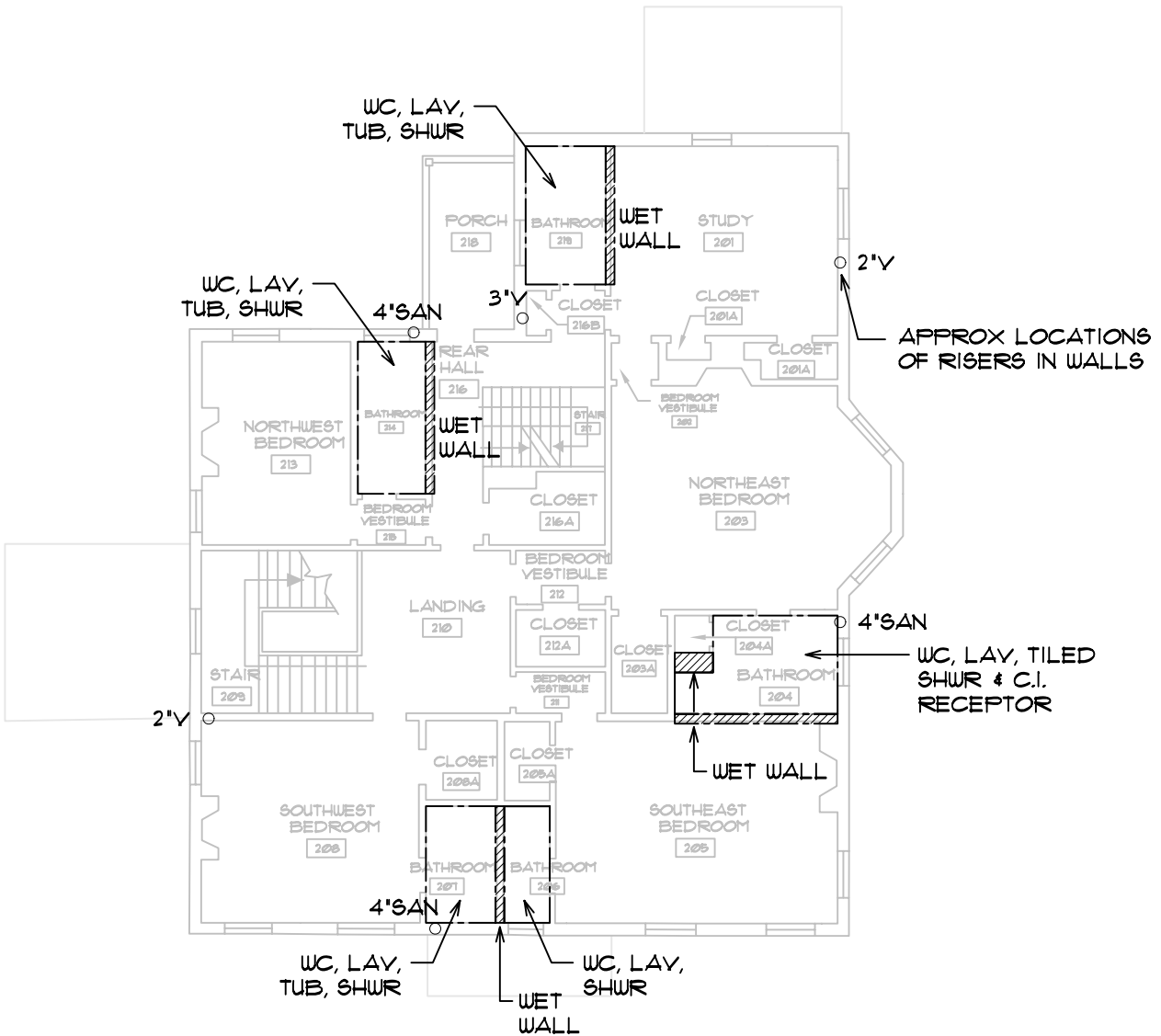
SCALE:

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PRESIDENT'S HOUSE
ON CARR'S HILL



PLUMBING PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

SECOND FLOOR PLAN

DRAWING NUMBER:

FIGURE P-3

DATE:

12.22.05

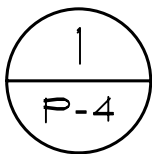
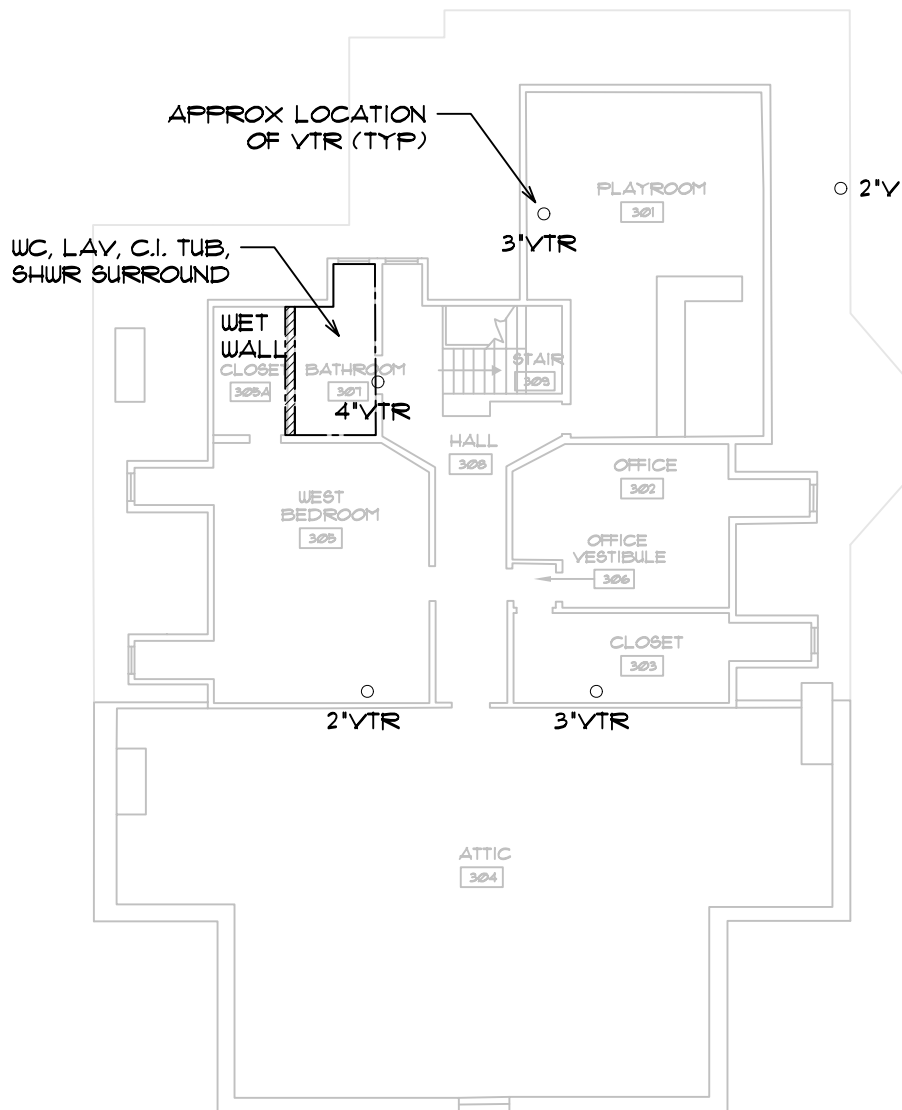
SCALE:

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PRESIDENT'S HOUSE
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PLUMBING PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

THIRD FLOOR PLAN

DRAWING NUMBER:

FIGURE P-4

DATE:

12.22.05

SCALE:

1/16"=1'-0"

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PRESIDENT'S HOUSE
ON CARR'S HILL

PROBLEMS OF REPAIR

ELECTRICAL

General Description

The main electrical feed to the President's House is 120/208V, 3-phase, 4-wire underground from a switchboard located in Bayly Art Museum. This feeder enters the laundry (Room B01) and terminates in a wireway, where feeder taps for several panels are made. The main feeder is 4#250 MCM (3-phase conductors and one neutral conductor) in rigid metal conduit. The conduit serves as the equipment ground, as no grounding conductor is contained within the main feeder conduit. The feeder is protected by a 250A, 3-pole breaker in the Bayly Art Museum switchboard. No historical measured electrical demand data is available to determine the loading on the main feeder.

There are a total of four main panels and one enclosed circuit breaker (ECB) tapped from the main service conductors in the wireway. Most are 3-phase, except as noted below. Panel directories are included in each panel and appear to have been kept current. The wireway is filled beyond capacity.

Panel #1	200A main breaker, old Westinghouse type NAB (contains 20A, 3-pole branch breaker for the second-floor sub-panel)
Panel #2	200A main breaker, Square D type QO (contains 100A, 2-pole branch breaker for cottage panel and 100A, 3-pole breaker for Panel #4)
Panel #3	100A main breaker, Square D type NQOD
Kitchen Panel	200A main breaker, 208V, 1-phase, Square D type QO
ECB	100A breaker, 2 pole, serves Buckingham Palace

Sub-panels fed from the above main panels include:

Panel #4	100A main lugs only, Square D type NQOD, located in Laundry B01
Second-Floor Panel	Main lugs only, old Westinghouse, located at Stair Landing 201
Cottage Panel	200A main breaker, located in the cottage
Patio Panel	Square D, installed at grade level behind a patio wall

Panel feeders are in metal conduit. Branch circuits consist of wiring in electrical metallic conduit or flexible metal conduit (newer), wiring in surface metal raceway, and "BX" cable or "greenfield" (older). Devices are mounted in metal outlet boxes. Maintenance personnel report that all knob-and-tube branch wiring has been disabled and/or removed.

Receptacles throughout the house are grounding type. Ground-fault-type receptacles are installed in bathrooms and the newly renovated kitchen. Given the types of wiring

PRESIDENT'S HOUSE ON CARR'S HILL

and the lack of a dedicated ground in the main service from Bayly Art Museum, many of these receptacles rely upon bond jumpers to their metal outlet boxes and branch circuit cabling for grounding.

Lighting is predominantly incandescent in non-service spaces. Fluorescent lighting is used in much of the basement. The newer recessed incandescent lighting in the kitchen is controlled by a programmable dimming system, located in laundry.

Conditions

1. The 250A, 3-phase, 120/208V main service feeder from the switchboard in Bayly Art Museum does not have a dedicated equipment ground. A grounding system-including grounding conductors, driven rod and connection to underground metal cold water pipe-should be installed to provide effective means for system and equipment grounding.

2. The 250A, 3-phase, 120/208V main service feeder from the switchboard in Bayly Art Museum may be at or near overload conditions. Load monitoring during the cooling season should be implemented to verify the maximum load draw. Should load monitoring indicate the existing feeder is overloaded, this feeder should be replaced with a 400A, 3-phase, 120/208V feeder (4#500MCM) and the 250A overcurrent device in the switchboard replaced with a 400A breaker.

3. The 8"x8" wiring trough below the main panels within which the main feeder is tapped for panel feeders is beyond the NEC allowable limit for conductor fill.

4. Grounding of many receptacles, switches, and fixtures relies upon the "BX" or "greenfield" metallic sheathing, rather than dedicated equipment ground conductors, with the exception of more recent renovation work such as the kitchen/pantry. While this existing condition is not in violation of the National Electrical Code, it is not a modern best-practice method. Ideally, all of the branch circuit wiring without dedicated ground conductors should be replaced to insure proper grounding of all plug-connected appliances (such as floor and table lamps) and life safety.

5. Some wiring devices (switches, receptacles, coverplates) are dated, of varying types and colors, and in some cases painted over. They should be comprehensively replaced throughout the house with modern devices and coverplates suitable for the room finishes.

PROBLEMS OF REPAIR

SPECIAL ELECTRICAL

General Description

The President's House is protected by a combination fire alarm and security system, including smoke detectors, motion sensors, door contacts, and break-glass sensors. The system is monitored remotely and maintained by a local security system firm (Security Concepts). An emergency "push to talk" station is located in the kitchen and connects directly to the University of Virginia Police Department.

A low-voltage Nutone intercom system is installed to provide communication throughout certain rooms of the house.

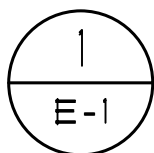
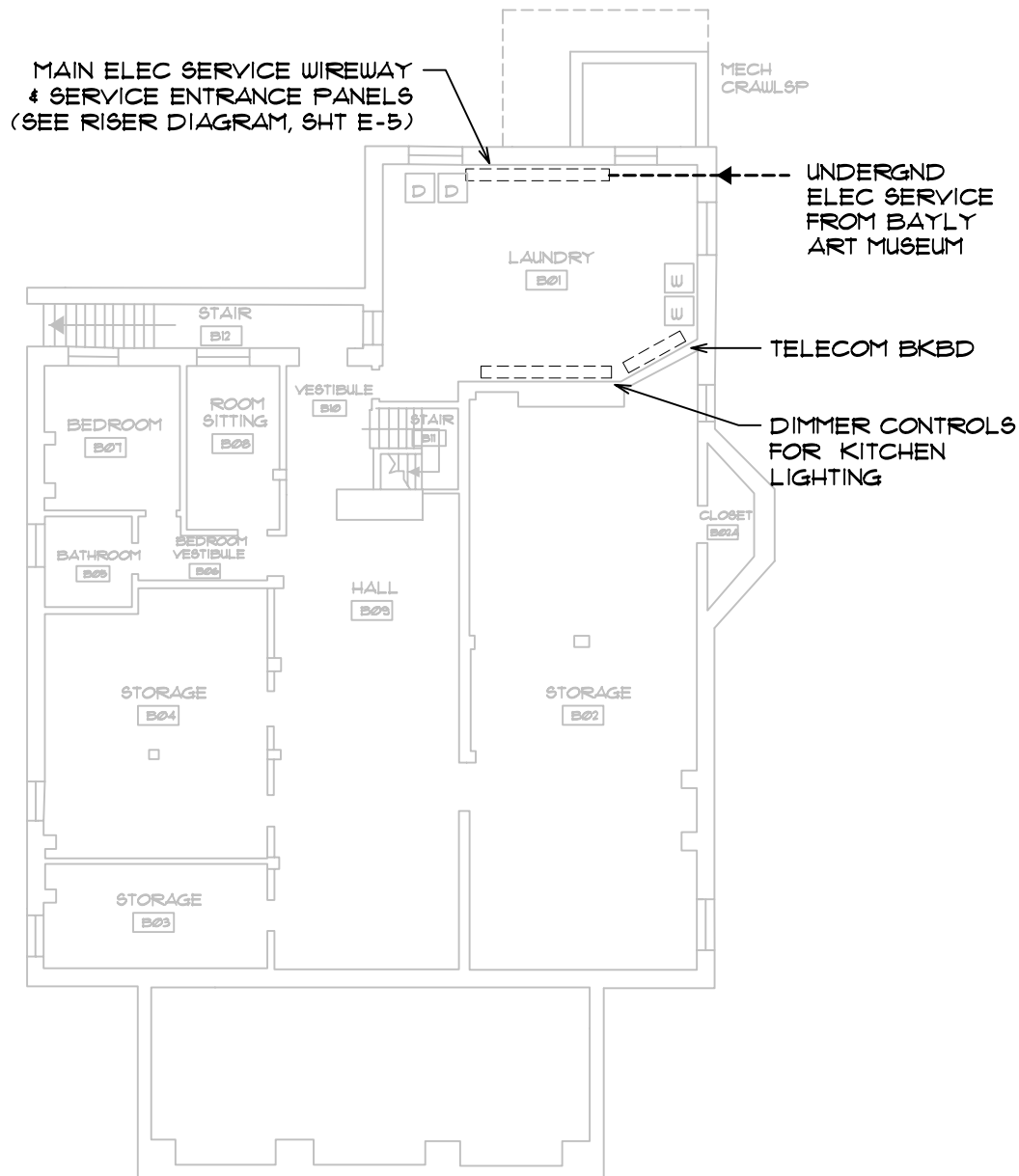
Telephone and data services enter laundry along the south wall. A plywood backboard contains punchdown blocks and equipment related to these systems. A university fiber optic line for data systems serves the house, as does a cable television line from Adelphia. According to the ITC Department, the data system for the house is on a more-secure network. The house is provided with wireless technology.

Some low-voltage wiring is exposed on walls – presumably to avoid destruction of the building fabric. It could not be determined which system this wiring is related to.

There is no lightning protection system installed on the building.

Conditions

1. The building does not currently have a lightning protection system. A risk assessment as recommended per NFPA 78 indicates this building has a risk value assessment of "severe" based on its structure type, construction type, relative location, topography, occupancy, and contents.



ELECTRICAL PLAN

SCALE: 1/16" = 1'-0"



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5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

BUILDING SYSTEM ENGINEERING

2RW CONSULTANTS, INC.
100 10th Street, NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE:

BASEMENT PLAN

DRAWING NUMBER:

FIGURE E-1

DATE:

12.22.05

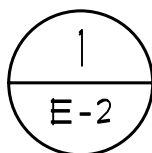
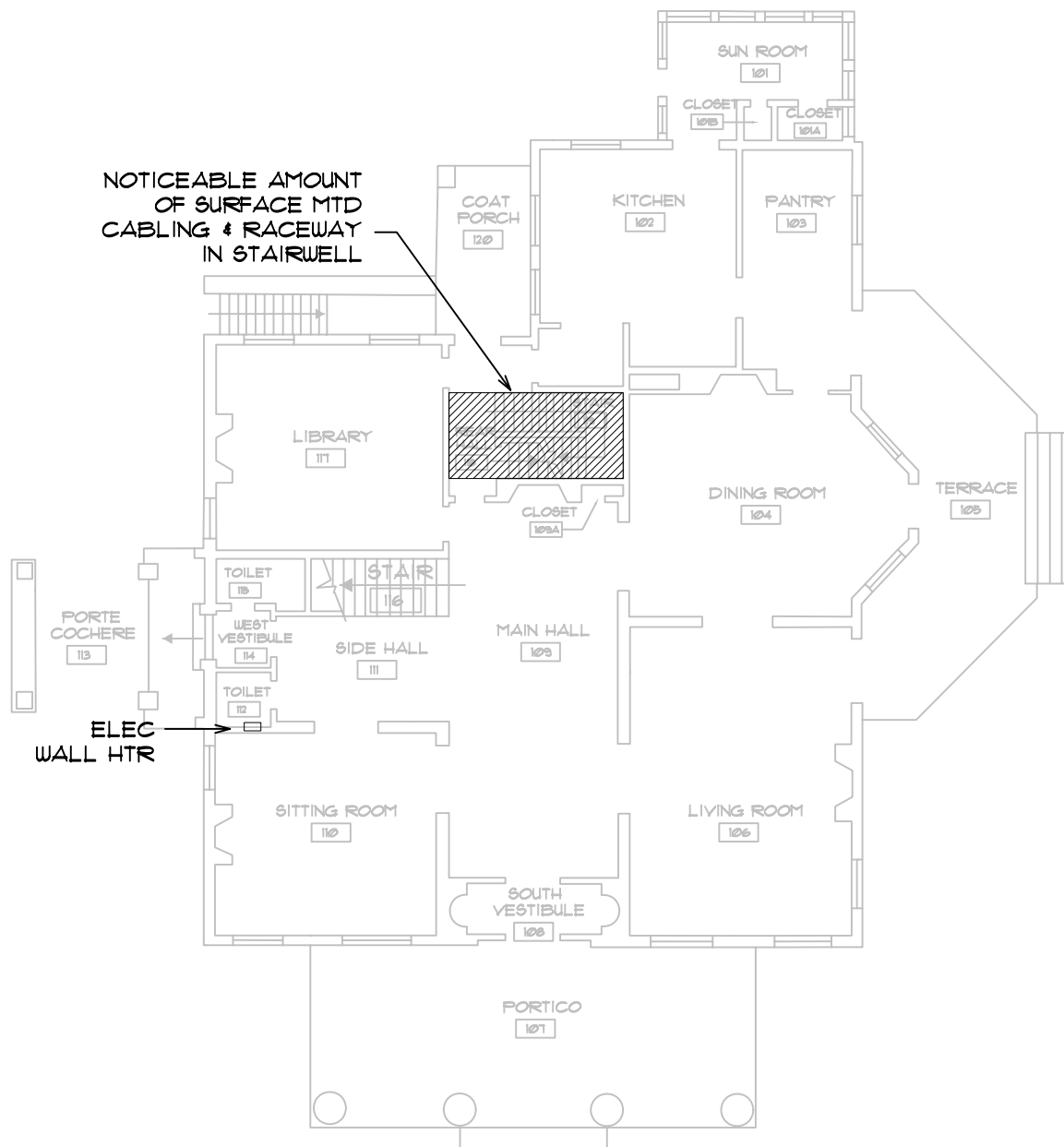
SCALE:

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UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL



ELECTRICAL PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

FIRST FLOOR PLAN

DRAWING NUMBER:

FIGURE E-2

DATE:

12.22.05

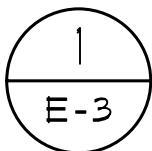
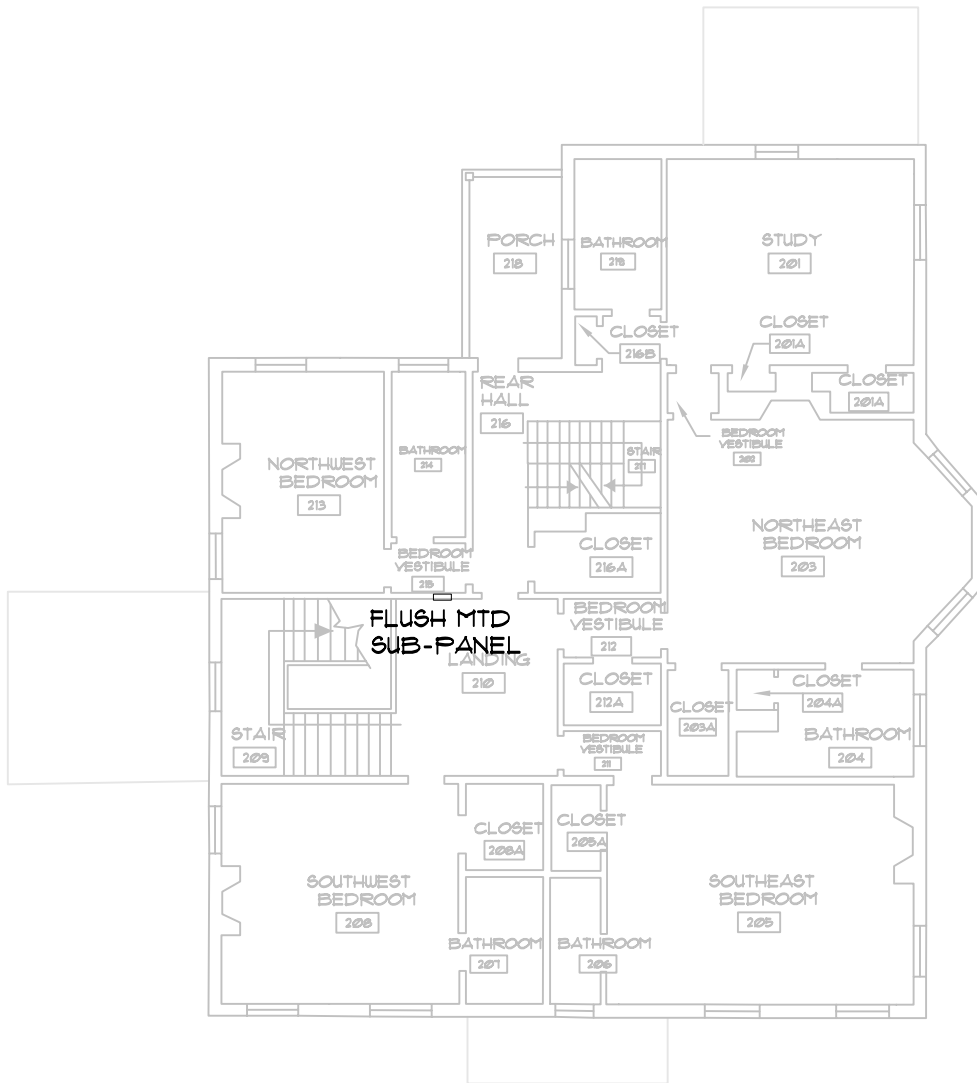
SCALE:

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PRESIDENT'S HOUSE
ON CARR'S HILL



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100 10th Street, NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE:

SECOND FLOOR PLAN

DRAWING NUMBER:

FIGURE E-3

DATE:

12.22.05

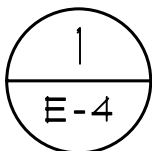
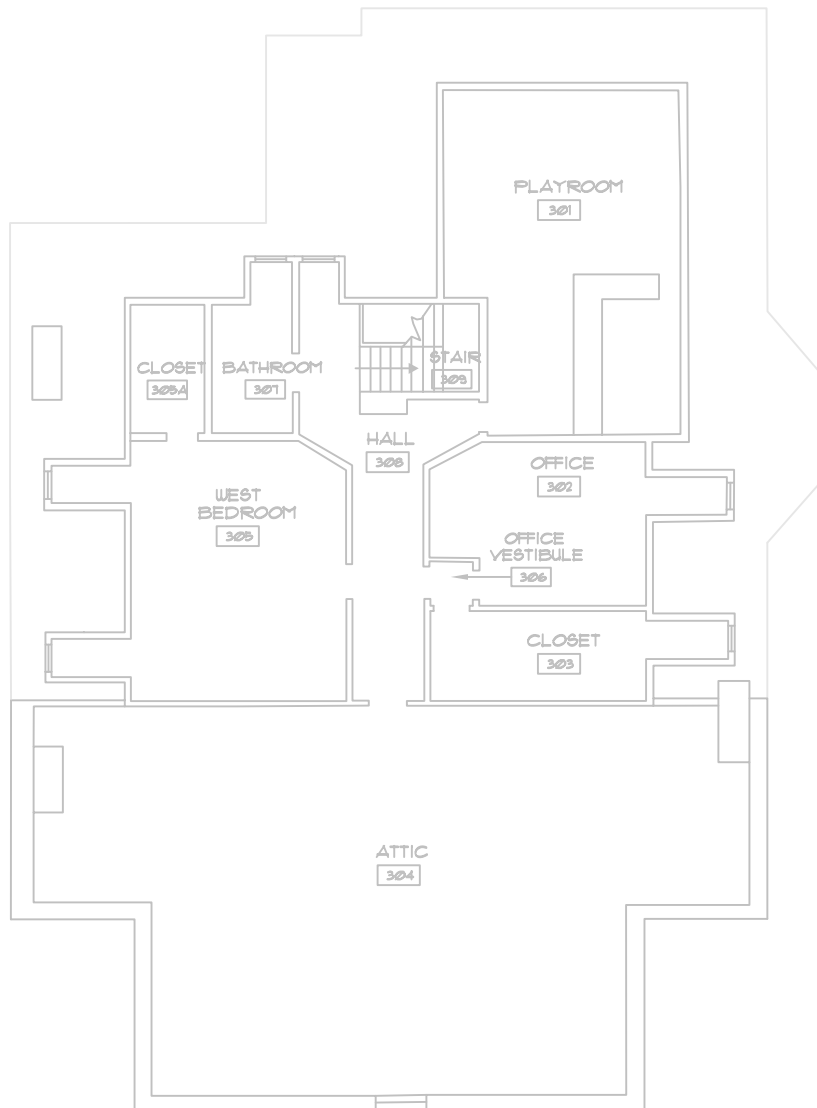
SCALE:

1/16"=1'-0"

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PRESIDENT'S HOUSE
ON CARR'S HILL



ELECTRICAL PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

THIRD FLOOR PLAN

DRAWING NUMBER:

FIGURE E-4

DATE:

12.22.05

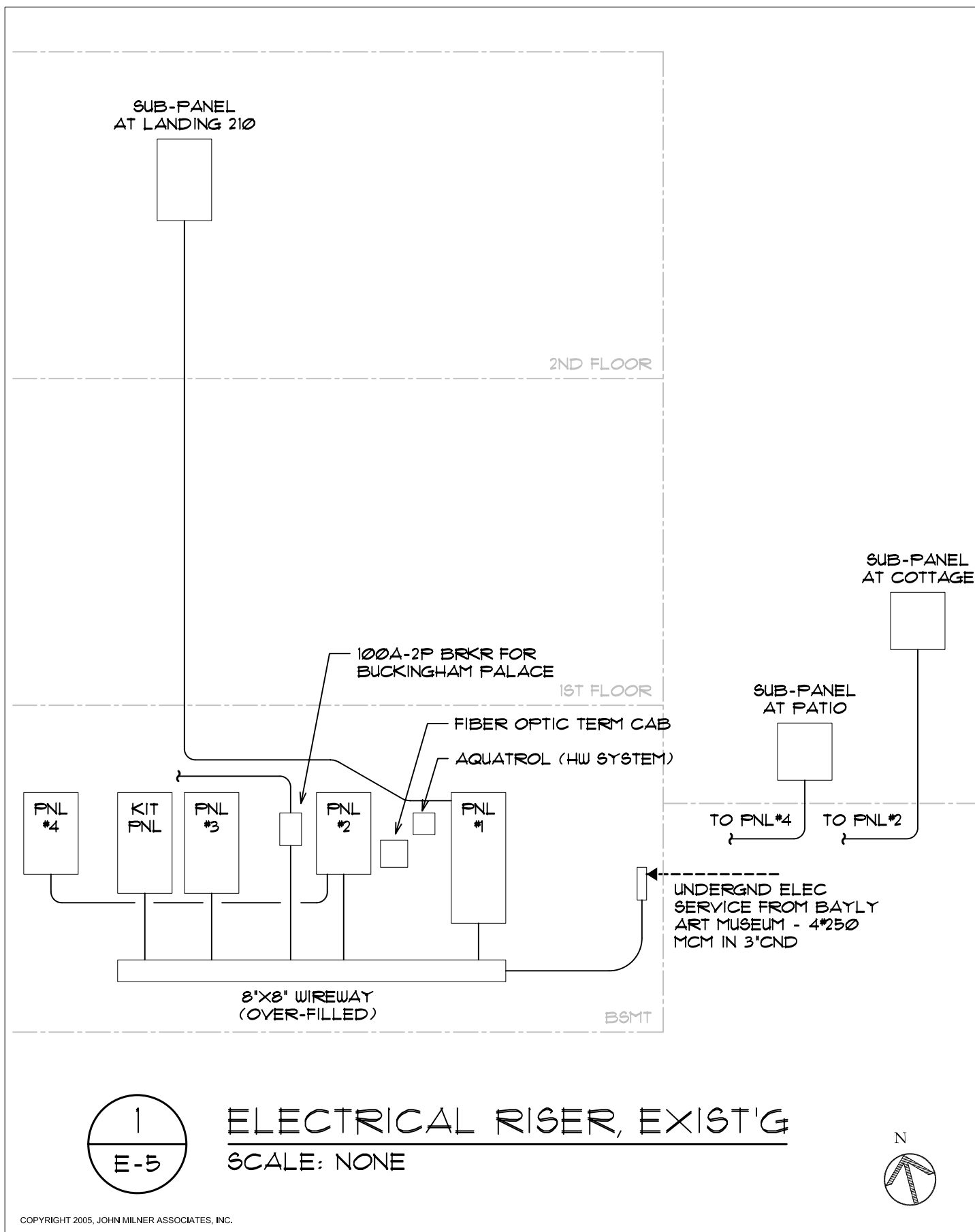
SCALE:


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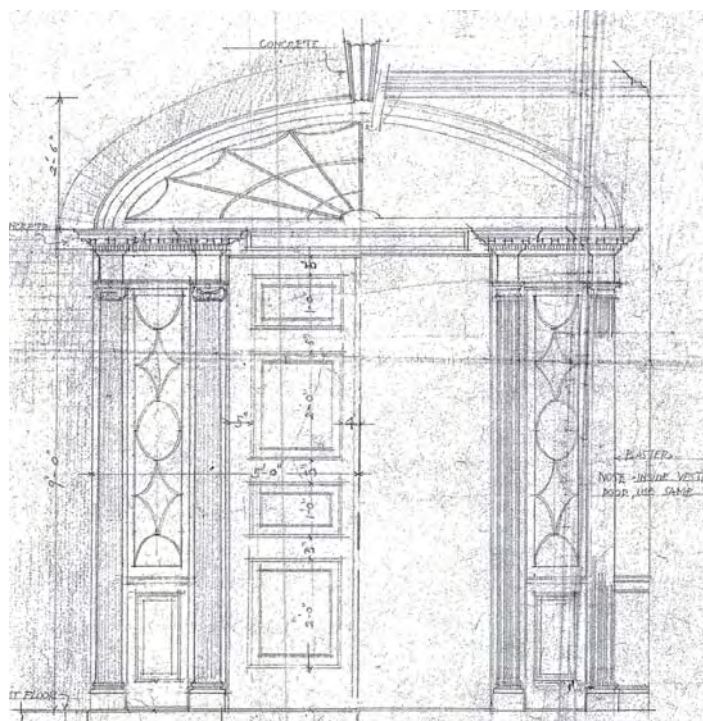
PRESIDENT'S HOUSE
ON CARR'S HILL



JOHN MILNER ASSOCIATES, INC. ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS 5250 Cherokee Ave., Suite 300 Alexandria, VA 22312 BUILDING SYSTEM ENGINEERING 2RW CONSULTANTS, INC. 100 10th Street, NE, Suite 202, Charlottesville, VA 22902	DRAWING TITLE: ELECTRICAL RISER DRAWING NUMBER: FIGURE E-5 DATE: 12.22.05 SCALE: NONE	 UNIVERSITY OF VIRGINIA PRESIDENT'S HOUSE ON CARR'S HILL

U N I V E R S I T Y O F V I R G I N I A

PRESIDENT'S HOUSE ON CARR'S HILL



RECOMMENDATIONS FOR REPAIR AND RESTORATION

PRESIDENT’S HOUSE ON CARR’S HILL

RECOMMENDATIONS FOR REPAIR AND RESTORATION

INTRODUCTION

The President’s House on Carr’s Hill is a significant building in the Rugby Road-University Corner Historic District. As such, recommended work on the building will follow the *Standards for the Treatment of Historic Properties* (the *Standards*). The *Standards*, established by the Secretary of the Interior through the National Park Service in accordance with the National Historic Preservation Act of 1966, establishes professional standards and provides advice on the preservation of historic resources. They promote responsible preservation practices that help protect the nation’s irreplaceable historic resources. The *Standards* can be applied to virtually all types of properties, whether buildings, landscapes, bridges, roadways, statuary or archeological components.

Being neither technical nor proscriptive, the *Standards* cannot be used by themselves to make essential decisions about which features of a historic building should be saved and which can be changed. Instead, they provide an approach to problem-solving rather than a set of solutions to specific design issues. Following a balanced, reasonable, and disciplined process helps ensure that all critical issues are considered. The guidance provided by the *Standards* helps in choosing the most appropriate treatment or treatments based on the relative importance of a property in history, its physical condition, the proposed use, and mandated code and accessibility requirements. Alteration of historic buildings for reuse, safety, accessibility, maintenance and new construction within a historic context are addressed.

The *Standards* is based on the premise that historic resources are more than objects of aesthetic merit; they are repositories of historical information. They provide a framework for evaluating preservation activities and emphasize preservation of historic fabric, honesty of historical expression, and reversibility. Individual decisions should

PRESIDENT'S HOUSE ON CARR'S HILL

be made on a case-by-case basis with the level of craftsmanship, detailing, and quality of materials being appropriate to the significance of the resource. The durability of the *Standards* over nearly forty years has attested not only to their soundness, but also to the flexibility of their language.

The language of the *Standards* is contained in United States Department of the Interior, National Park Service, 36 CFR (*Code of Federal Regulations*), Part 67. The ten standards are quoted in full below, followed by a brief discussion of the implications of each.

Standard 1 – A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

Standard 1 recommends compatible use in the context of adaptive re-use and changes to historic buildings and landscapes. This standard encourages owners and managers to find uses that retain and enhance historic character, not detract from it. For example, adaptive re-use projects should be carefully planned to minimize impacts and avoid destruction of historic features, materials, and spaces.

Standard 2 – The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

Standard 2 recommends the retention and preservation of character-defining features. It emphasizes the importance of preserving integrity and as much existing historic fabric as possible. Alterations that repair or modify existing historic fabric are preferable to those that require total removal.

Standard 3 – Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.

Standard 3 focuses on authenticity and discourages the conjectural restoration of an entire property, feature, or design. It also discourages combining and/or grafting historic features and elements from different properties, and constructing new buildings that appear to be historic. Literal restoration to a historic appearance should only be undertaken when detailed documentation is available and when the significance of the resource warrants restoration.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

Standard 4 – Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

Standard 4 recognizes that the physical record of evolution of each property should be respected since later changes may have acquired their own significance. Understanding historic significance is just as important as understanding the original design, appearance, and function.

Standard 5 – Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

Standard 5 recommends preserving the distinctive historic components of a building or landscape that represent its historic character. Workmanship, materials, methods of construction, floor plans, and both ornate and typical details should be identified prior to undertaking work.

Standard 6 – Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

Standard 6 encourages property owners to repair historic character-defining features instead of replacing them when historic features are deteriorated or missing. In cases where deterioration makes replacement necessary, new features should closely match historic conditions in all respects. Before any features are altered or removed, property owners are urged to document existing conditions with photography and notes. These records assist future choices that are appropriate to the historic character of the property.

Standard 7 – Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.

Standard 7 warns against using chemical and physical treatments that can permanently damage historic features. Many commercially available treatments cause irreversible damage. Sandblasting and harsh chemical cleaning, in particular, are extremely harmful to wood and masonry surfaces because they destroy the basic physical properties of materials and speed deterioration.

PRESIDENT'S HOUSE ON CARR'S HILL

Standard 8 – Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.

Standard 8 addresses the importance of below-ground prehistoric and historic features. This issue is of paramount importance when a construction project involves excavation. An assessment of the archeological potential of a site prior to work is recommended. If archeological resources are found, some type of mitigation may be required. Solutions should be developed that minimize the need for excavation of previously unexcavated sites.

Standard 9 – New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

Standard 10 – New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Standards 9 and 10 are linked by the issues of compatibility and reversibility of additions, alterations, and new construction. Both standards are intended to minimize the damage to historic fabric caused by building additions, and ensure that new work will be different from, but compatible with, existing historic conditions. Following these two standards will help to protect a building's historic integrity.

Against this background, the *Standards* address four specific types of treatments: preservation, restoration, rehabilitation, and reconstruction. Of the four, preservation standards require retention of the greatest amount of historic fabric, features, and materials. Restoration standards allow for an accurate depiction of the property's appearance at a particular time, or through a evolutionary phase, in its history. Rehabilitation acknowledges the need to alter or add to a property to meet continuing or new uses and retaining historic character. Reconstruction standards establish a framework for re-creating vanished historic elements with new materials and is generally used for interpretation.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

Preservation

Preservation is defined as the process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize features, generally focuses on the ongoing maintenance and repair of historic materials and features. Removals, extensive replacement, alterations, and new additions are not appropriate. Preservation stresses protection, repair and maintenance.

Preservation is a key component of the work recommended for the President's House. Limited substantive changes have been made to the President's House over the years and the majority of materials are original to the early days when the house was constructed. Changes that have been made to the President's House have been tastefully done with the resulting cohesive building respectful of its site and its position on the university campus.

Restoration

Restoration is defined as the process of accurately depicting the form, features, and character of a property during its historic period. In this context, historic plans, documents, and photographs are be used to guide the work. Limited and sensitive upgrading of mechanical, electrical, and plumbing systems, as well as code-related work to make a property functional, are all appropriate within a restoration project. Depending on the scope of work ultimately selected by the university, components of the project outlined in the recommendations following this introduction may be considered a restoration.

Rehabilitation

Rehabilitation is defined as the process of creating a compatible use in a historic property through carefully planned minimal alterations and compatible additions. Often referred to as "adaptive re-use," rehabilitation protects and preserves the historic features, materials, elements, and spatial relationships that convey historical, cultural, and architectural values. In this context, new, expanded, or upgraded facilities should be designed to avoid adverse impacts to historic elements. They should also be constructed of compatible materials. Retention of original historic fabric should be the primary consideration in undertaking a program of rehabilitation and adaptive reuse. The level of recommended work on the President's House will not approach the level of rehabilitation.

Reconstruction

Reconstruction is defined as the process of accurately depicting the form, features, and character of a non-surviving historic property for the purpose of replicating its appearance at a specific period of time and in its original location.

PRESIDENT'S HOUSE ON CARR'S HILL

ARCHITECTURAL

GENERAL

1. It is recommended that the university undertake a code analysis review of the building. This plan would take construction type, use, occupancy levels, egress patterns, and accessibility into account as part of the evaluation.

ROOF

1. At the downspout at the southeast corner:
 - a. Observe the base of downspout during a heavy or steady rain to insure that the recent replacement of the line below grade has succeeded in eliminating the backup of water.
 - b. Regrade the area around the downspout to provide positive drainage away from the wall.
 - c. Monitor conditions after regrading to determine if it once again settles. If it does, the line should be dug up and repaired.
2. At the porte cochere roof, eliminate the overflow at the west end by adding a gutter along the west side with a downspout either at the north or south end.
3. Fill depression in the ground adjacent to the west side of the porte cochere knee wall when the work in Item 2 above has been accomplished. Provide positive drainage away from the wall.
4. At the east end of the terrace, modify the grade to provide positive drainage from the 8-inch PVC pipe to a point of discharge. This will also require a modification of the planting in this area.
5. Repair flashing and rotting wood trim at head of dormer located over the third-floor hallway. Reattach loose slates on dormer wall.

PORTICO

1. Reattach the screen cloth on the inside face of the lunette screen.

MASONRY WALLS

1. Rake out and repoint defective mortar joints and fill holes in the brick walls using mortar of the same mix and color as that which exists. Assume a quantity of approximately 800 sf.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

2. Rake out and repoint defective mortar joints in the two chimneys on the east elevation. Assume a quantity of approximately 75 sf..
3. Repair cracks in stone watertable using an injection grout especially formulated for this purpose. Assume approximately 5 lineal feet of repair.
4. Cut out the pipe or conduit adjacent to the south downspout on the west wall. Fill the hole as part of the work in Item 1 above.
5. Cut out deteriorated brick on the east side of the knee wall supporting the columns for the porte cochere and replace with new brick of the same texture and color. Assume approximately 10 sf..
6. When positive drainage has been provided for rainwater from the porte cochere as recommended in Item 2 under Roofing, cut out defective brick and replace with new brick of the same texture and color. Assume 8 bricks to be replaced.

PORCHES

1. At the portico, replace defective or missing sealant in the joints of the stone steps. Assume approximately 8 lineal feet of joint.
2. Also at the portico, monitor the patches in the edge of the stone border at the center of the steps. When they reach the point of failure, they should be immediately replaced.
3. At the terrace, rake out and repoint defective joints in the flagstone steps. Assume approximately 8 lineal feet of joint.

WINDOWS AND SHUTTERS

1. Repair the wood window head at the underside of the window at the west window in the south wall of sitting room (Room 110). When defective wood has been replaced, paint to match.
2. At the west window in the south wall of the living room (Room 106), replace the missing portion of shutter hinge.
3. At the east window in the south wall of the living room, reinstall the filler at the base of the screen.
4. At the south window in the east wall of the living room, remove the existing upper shutter hinge of the north shutter and reinstall to properly fit flush against the wood jamb. Repair any damage caused by the defective installation.

PRESIDENT'S HOUSE ON CARR'S HILL

PLASTER

Given the period of construction, various components of the plaster assemblies could be lime or gypsum based. The use of lime plaster decreased in the early twentieth century as more easily workable gypsum-based systems were introduced. Available documentation on the President's House does not identify the plaster type or thickness. The typical thickness for such systems, usually applied in three coats, is up to 1 ½". In general, the flat plaster in the building is in very good condition. The majority of cracks in the plaster have been caused by structural movement. Following the completion of structural repairs, as outlined in the structural recommendations, areas of cracking and delamination can be repaired.

1. Rake out any loose material at cracks in flat plaster and provide plaster patch.

Flat Plaster Repair	Room Number	Approximate Quantity
Living Room	106	60'
South Vestibule	108	2'
Main Hall	109	14'
Sitting Room	110	7'
Side Hall	111	4'
Stair	116	58'
Library	117	20'
TOTAL		165'

2. Rake out any loose material at cracks in decorative plaster and plaster patch.

Decorative Plaster Repair	Room Number	Approximate Quantity
Living Room	106	4'-6"
South Vestibule	108	1'-6"
Main Hall	109	1'-6"
Sitting Room	110	1'-6"
Stair	116	3'
TOTAL		12'

3. Inject adhesive mixture into areas of delaminated flat plaster where possible, and patch cracks. In addition, there is an area of crown molding approximately 6' in length in the sitting room, located between the windows on the south wall, exhibiting a pattern of map cracking that needs to be repaired.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

Delaminated Plaster Repair	Room Number	Approximate Quantity
Living Room	106	23 SF
South Vestibule	108	2 SF
Stair	116	10 SF
Library	117	8 SF
TOTAL		43 SF

4. Remove inappropriate plaster patch, provide new patch.

Patch Repair	Room Number	Approximate Quantity
Main Hall	109	3 SF
TOTAL		3 SF

FLOORING

The quarter-sawn oak flooring is in sound condition. The following recommendations are made for the observed conditions.

1. Remove floor patches made with inappropriate wood and use quarter sawn oak finished to match floor.

Floor Patch Repair	Room Number	Approximate Quantity
Living Room	106	1 SF
Side Hall	108	1 SF
Library	117	1 SF
TOTAL		3 SF

2. There are two small burn marks by the living-room fireplace and a larger-diameter water-stain mark in the side hall whose visibility could be lessened through sanding and a bit of scraping. The total area of work would be no larger than three square feet. Care must be taken not to overly sand the floor and create additional damage; therefore, it is unlikely that the stains will be entirely removed. If complete elimination of the stains is desired, a more invasive approach would be to replace the damaged boards. However, that approach is discouraged so that the historic fabric can be preserved.

3. Floorboards joints near the terrace door have widened to a point which promotes penetration of water and debris. Approximately 20 sf of flooring material should be carefully removed, prepared and reinstalled to correct the problem. It is possible that some boards will need to be replaced and that the board closest to the door will need to be of a slightly wider stock to infill the remaining gap.

PRESIDENT'S HOUSE ON CARR'S HILL

4. Hardwood floors were originally a darker color than currently exists. Samples of early or original floor finish were found beneath the HVAC duct flanges under the floor grills in the S.E. room, and under the S.W. radiator in the hall. Around the perimeter of the duct flanges, several millimeters of wood had been removed in the most recent sanding. It is thought that the duct work and grills were introduced in 1974, so these finish samples date to at least this date, if not earlier. The samples displayed an appearance typical of an aged varnished floor that has darkened due to an oxidized wood surface, an aged and degraded varnish, and an accumulation of dirt and wax over time. No evidence of a stain was observed.

Removing the existing finish, applying an appropriate wood stain, and refinishing the flooring should be considered. A darker floor coloring would mask imperfections, such as the marks discussed under Item 2 and reduce the contrast at joint lines. The total area of floor to be refinished would be approximately 2,700 sf.

WALL AND CEILING FINISHES

1. Paint has accumulated to the point of obscuring detail on some woodwork on the first floor. It is recommended that paint be stripped from the woodwork in the south vestibule, on the south wall of the main hall (doorway to south vestibule), the face string of the main stair, and fireplace surround (mantel) in the sitting room. Prior to this work, areas should be selected, in collaboration with the Office of the Architect, to remain unstripped on each of the elements. These representative samples will preserve the historic chronology of paint finishes

2. Paint has built up on the clam-shell feature in the south vestibule niche. The university could consider removing the paint build-up to restore the original details. Removal could be accomplished by hand, with no chemicals, or by using a neutral paint stripper in a gel or paste form. Should it be desired to include the work in a project, testing of both methods should be completed to determine the gentlest removal method.

3. A small area of paint, less than 4 square inches, is peeling at the sitting room's north wall's cornice and should be repaired.

4. The joint between the window casing and plaster wall at the window on the stair is opened likely due to thermal expansion. Following the completion of structural repair work, this joint may be filled using a paintable sealant.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

WOODWORK

1. Picture rails are in good condition, but there are several small areas in the living room and library where some uplift of the woodwork is visible. Since the picture rails are no longer being used, the uplift appears to be old, and the condition does not impact the aesthetics of the space, no repair is recommended.

2. Due to localized structural deflection at the south vestibule, a gap has formed between the flooring and base molding on both east and west sides. Each side is approximately 4'-6" in length. The gap could be eliminated by shaping and inserting a contoured infill strip finished flush with the baseboard, but since it not very noticeable upon entering and exiting the house, it is recommended that no modifications be undertaken.

3. Open joints in the woodwork are visible in the doorway between the south vestibule and main hall as well as in the arched opening between the main hall and side hall. It appears that these openings are caused by movement induced by deflection of the structure. Following the completion of structural repairs, joints may be filled as part of the recommended repainting of the area (see Wall and Ceiling Finishes).

4. The fireplace surround in the sitting room is in good condition, but there are some open joints at moldings as well as several shrinkage cracks in the face of one board. Following paint removal from the wood (Painting, Item 1), the minor cracks may be filled as part of the recommended repainting of the area (see Wall and Ceiling Finishes).

5. The newel post and balustrade are somewhat loose. The newel post should be tightened to reduce movement. Following this work, the original finish of the newel post and handrail should be restored.

CONCRETE AND MASONRY

1. The marble surround of the firebox has a minor crack and small loss of material. It is recommended that the missing material be replaced with mortar to prevent the further loss of historic material.

2. A concrete threshold, a non-original component of the building, located in the living room at the door leading to the terrace is cracked. Although the crack is minor, it could be replaced with marble to be more in character with other thresholds.

PRESIDENT'S HOUSE ON CARR'S HILL

3. The marble threshold of the inner south vestibule door has a hairline crack dividing the stone into two, almost equal, segments. This was likely caused by localized structural deflection (see structural section). The two segments are stable and in alignment and therefore do not need to be replaced at this time. Should they become loose or misaligned in the future, replacement would be warranted.

MISCELLANEOUS

1. The painted metal supply and return floor grilles, that are part of the air-conditioning system, are generally scratched. They should be replaced with a higher-quality and more-attractive brass or bronze model. There are twelve supply and two return floor grilles on the studied area of the first floor that need to be replaced.

2. The grille on the south side of the radiator cover located below the northernmost window along the east wall is split horizontally. Unless a matching material can be located, the historic material should not be replaced.

RESTORATION ITEMS

Based on documentary research and site investigations, a series of architectural restoration items is being recommended for the President's House to restore the architectural character of first-floor spaces and some exterior components. They are not intended to remove all modifications made to the spaces since the original construction, but to respect and preserve sensitively completed minor modifications that have become a part of the building's history. The building, now approaching its centennial anniversary, has the majority of its historic features intact and continues to function well as the president's home and no program changes are anticipated that would result in changes to the historic fabric.

1. Pocket Doors. As described in the in the previous chapters of this report, the original leaded-glass and wood pocket doors used to separate the sitting room from the main hall, the sitting room from the side hall, the living room from the main hall, the living room from the dining room and the dining room from the main hall were removed prior to 1959. Since being removed, these doors have been stored in the garage attic. An inventory of these doors and a comparison to the McKim, Mead & White plans revealed the following:

RECOMMENDATIONS FOR REPAIR AND RESTORATION

Pocket Door Dimensions	Likely Original Location
5'-11 ¾" wide by 8'-6" tall	Between living room and main hall
5'-11 ¾" wide by 8'-6" tall	Between sitting room and main hall
5'-11 ¾" wide by 8'-6" tall	Between dining room and main hall
5'-5 ¾" wide by 8'-6" tall	Between sitting room and side hall
3'-0 ¼" wide by 8'-6 ¾" tall	Between living room and dining room (one of two leaves)
3'-0 ¼" wide by 8'-6 ¾" tall	Between living room and dining room (second of two leaves)

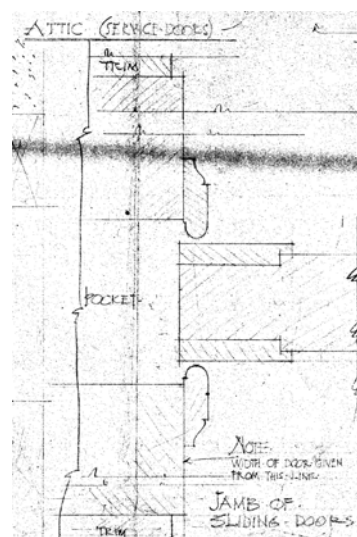
It is also apparent from the dimensions that all of the wall openings were reduced in width to receive the solid-wood, swinging-door replacements.

Location	Original Opening	Current Opening
Between living room and main hall	6'-0"	4'-6"
Between sitting room and main hall	6'-0"	4'-6"
Between dining room and main hall	6'-0"	4'-6"
Between sitting room and side hall	5'-6"	4'-6"
Between living room and dining room	6'-0"	4'-6"

The doors are in very good condition, and we recommend that the university consider restoring these doors to their position in the President's House. If they were to be reinstalled, the following tasks would need to be completed:

- A. Rebuild appropriately sized doorways with jambs, casings, trim, base moldings and plasterwork. Details of the construction are provided in the original document
- B. Modify dining room wainscot in conjuncture with cabinet restoration (see Item 3 below).
- C. Select appropriate concealed modern hardware to facilitate operation of the doors.
- D. Check all glass and coming. Repair as required.
- E. Repair any notable scratches and restore existing finishes.

Although it is possible for appropriately installed pocket doors to be utilized on accessible routes or as part of a means of egress it does make reinstallation more challenging and additional hardware may be required. This hardware could cost approximately between eight



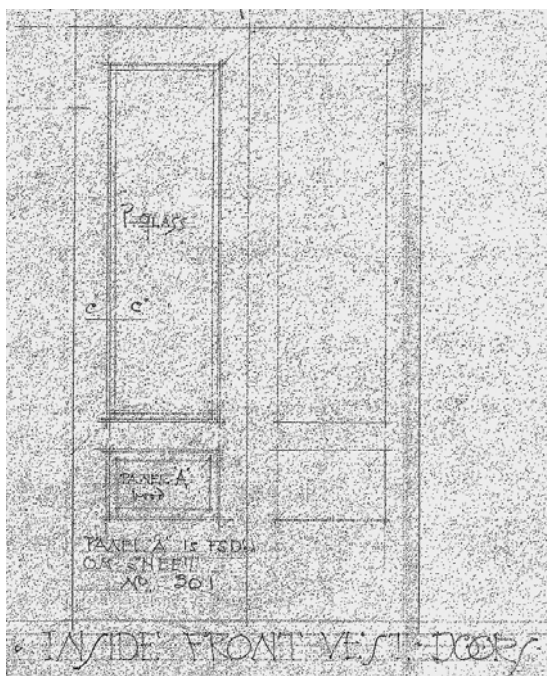
Detail 1907, pocket door jamb by McKim, Mead & White.

PRESIDENT'S HOUSE ON CARR'S HILL

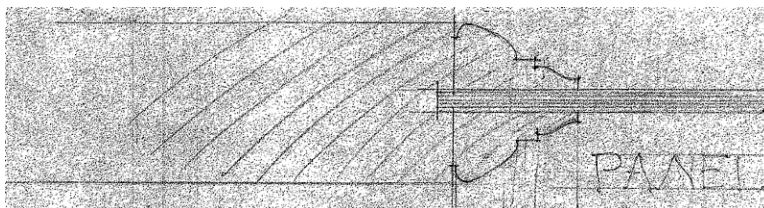
and ten-thousand dollars for each set of doors. Reinstallation of the doors needs to be considered in the context of a code analysis plan, after it is performed, for the entire building.

2. South Vestibule Doors. Original plans for the building show a pair of in-swinging doors separating the south vestibule from the main hall. Drawing number 315 of the set provides the elevation and detail shown below. It is not known if plate glass was used, as shown on the drawings, or if leaded glass to match the first-floor pocket doors was used.

These doors were replaced in the 1959 renovations with doors that matched the exterior doors in the vestibule. Since that time, these doors have also been removed and no doors are currently in the opening. It is recommended that the original doors be reconstructed if the code analysis proves that it is feasible.



Elevation (left) & Detail (below) 1907, south vestibule door by McKim, Mead & White



RECOMMENDATIONS FOR REPAIR AND RESTORATION

3. Restoration of Historic Finishes. It is recommended that the historic wall and trim finishes be restored on the first floor of the President's House. The following conclusions were reached by Mr. Mark Kutney, architectural conservator of the University of Virginia. Conclusions are based on samples collected on site 21 through 23 November 2005, that were examined under low-power magnification (50X) to determine the first period trim (wood) and wall (plaster) finishes. Colors listed were derived by comparing actual paint fragments to chips from the Munsell Book of Color, the Glossy Collection, under magnification and several lighting conditions. Color names included are subjective descriptions.

Dining Room (Room 104)

Dining Room	First Period Color Munsell Identification	Description	Closest Sherwin-Williams Match
Crown Molding	2.5Y 8/4 to 2.5Y 8.5/2	Off-white	SW 6387 and 6386
Walls	5Y 7/4 to 5Y 8/2	Pale green to pale gray green	SW 6136
Trim	5Y 8.5/2	Off-white	SW 6134
Ceiling	N9.25	White	SW 7004*

*Although Munsell N9.25 corresponds to SW 7006 in the S.W. room, and the closest Munsell match for the N.W. room and N.E. room ceilings is N9.25, these two samples more closely match the commercial color SW 7004.

Two samples were taken along the south wall, above the chair rail, on both sides of the door, to check for the absence of portions of the paint stratigraphy in order to shed some light on the presence and history of cabinets for china along this wall as displayed in McKim, Mead & White's original drawings. Both samples lacked a large portion of the paint history, but it is not conclusive whether this was due to the presence of cabinets, or due to a recent plaster repair campaign. Additional sampling and examination is required to further investigate this proposal.

PRESIDENT'S HOUSE ON CARR'S HILL

Living Room (Room 106)

Living Room	First Period Color Munsell Identification	Description	Closest Sherwin-Williams Match
Crown Molding	5Y 9/2	Off-White	SW 6679
Walls	2.5YR 4/8	Red	SW 6349
Trim	5Y 9/1	Off-White	SW 6672

Several samples were taken along the west and north walls to check for the absence of portions of the paint stratigraphy in order to shed some light on the presence and history of cabinets for books along these walls as displayed in McKim, Mead & White's original drawings. One would expect a missing portion of the earliest paint history down low on the wall where the cabinets were installed. Once the cabinets were removed, paint would then be applied to these surfaces, and this would be reflected in the paint history.

Several of the samples taken up near the cornice contained the earliest red layers and two taken down low on the west and north walls were void of the earliest layers, which is what one would expect if cabinets had been present. Unfortunately, one sample taken just above the baseboard on the west wall, in an area where one would expect the cabinets to be located, displayed the earliest red layers. Until further and more defined sampling can be carried out along these walls, the paint history data are inconclusive about the presence of cabinets.

Main & Side Hall (Rooms 109 & 111)

Main & Side Hall	First Period Color Munsell Identification	Description	Closest Sherwin-Williams Match
Crown Molding	10YR 9/1	Off-white	SW 6091
Walls	10YR 7/6	Orange-brown	SW 2858
Trim	10YR 8/2	Off-white	SW 6099

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The first generation of finish on the interior side of one leaf of the front door is a reddish stain and varnish. It is plausible this finish was intended to imitate a mahogany surface, and therefore more closely match the original 1st floor mahogany pocket doors located in the attic of the garage.

Only four paint layers were found on the mantle on the north wall, starting with a very pale yellow. This color shows up very late in the layer sequence as seen in samples containing a complete paint history. This information is consistent with a 1985 UVA drawing detailing a new mantle in this location.

Several samples were taken from the wall above the mantle in an effort to detect an outline of an early or original over mantle. All of these samples revealed a very late and short history, suggesting that this wall had been heavily reworked recently, probably at the time the current mantle was installed. A sample from the wall taken just around the corner, above the door to the N.W. room, displayed a more complete paint history.

Sitting Room

Sitting Room	First Period Color Munsell Identification	Description	Closest Sherwin-Williams Match
Crown Molding	N9.25	White	SW 7006
Walls	N9.25	White	SW 7006
Trim	N9.25/	White	SW 7006
Ceiling	10YR 8/2	Off-white to tan	SW 6099

This room appears to have been treated in an all white scheme initially, except for the ceiling. The 1st finish on the wall is very thin and contains very pronounced brush marks, suggesting a thin wash or whitewash. The color for the 2nd period is a greenish off-white or very pale grey green, Munsell 5Y 8/2. As in the 1st period, this 2nd period color is found on both the trim and walls.

PRESIDENT'S HOUSE ON CARR'S HILL

Evidence for wallpaper was not conclusively found, but the unusual combination of white trim and cornice, with off-white or tan ceiling in the first period, would make more sense with wallpaper.

One sample was taken 6" above the mantle shelf in order to investigate the possibility of an original overmantle in this room, as seen in the McKim, Mead and White drawings. This sample was found to be missing the early portion of the paint history as seen in other wall samples. Given the amount of replastering that was detected throughout the first floor rooms, it would be difficult to place much significance in this result.

Library (Room 117)

Library	First Period Color Munsell Identification	Description	Closest Commercial Match
Crown Molding	2.5Y 9/2	Off-white	SW 0051
Walls	7.5GY 7/2	Pale grey-green	SW 6178
Trim	N/A	Stained/varnished wood	N/A
Ceiling	N9.25	White	SW 7004*

*Although Munsell N9.25 corresponds to SW 7006 in the S.W. room, and the closest Munsell match for the N.W. room and N.E. room ceilings is N9.25, these two samples more closely match the commercial color SW 7004.

All the trim in this room contains the same evidence for the dark or black stain and thin varnish. The stain appears to have enough body to it, that it would have filled the pores of the wood to a certain degree. Some wood samples were found to be a ring-porous hardwood (such as oak), but more precise identification would require additional on-site examination and/or sampling. The combination of the hardwood substrate and the dark or black stain and varnish, suggest the possibility of an ebonized surface treatment. See section "back hall" for a comparison with those varnished surfaces.

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Rear Hall (Room 118)

Two samples were removed from the newel post in order to compare their appearance under the microscope to the stained and varnished trim samples from the Library. It can be seen in areas of paint damage, that the back hall displayed a darkened varnish as an original or early surface. In the Library there is an initial dark, almost black staining material in the pores of the wood that has some body to it, suggesting that it would have filled the pores of the wood to a degree. The open pores also molded an impression in the first layer of paint that was applied to the surface. The stain is followed by a resinous layer, or varnish. The wood appears to be a ring-porous hardwood, such as an oak. On the other hand, the original surface of the newel post displays only a varnish on the wood. The darkened appearance is mainly due to an aged varnish and dirt. The newel post also appears to be made of a pine

4. Cabinets. The cabinets located in the attic hallway should be returned to their original location in the house. It is possible that they were removed from the dining room (see the Architectural Description).

Both cabinets appear to contain the same finish history, even though the bases are slightly different between them. It is difficult to draw any conclusions from comparisons of the paint histories of the cabinets with that of the trim in either the dining room or the living room. Although the Munsell color match 5Y 9/2 for the cabinets (SW 6679) was found to be the same as that for the trim in the living room, the color matches for the dining room and cabinets were so close as to be within the normal margin of error for color matching. It appears that the cabinets were moved from their original location fairly early in their life, as there was relatively little paint history found on either one. The cabinets were moved to the third floor only after being painted twice, and the 3rd floor baseboard had only been varnished once.

If they were to be reinstalled, the following tasks would need to be completed:

- A. Modify dining room wainscot in conjuncture with pocket door restoration (see Item 1 above).
- B. Check all glass and coming and repair as required.
- C. Repaint with historically accurate paint color.

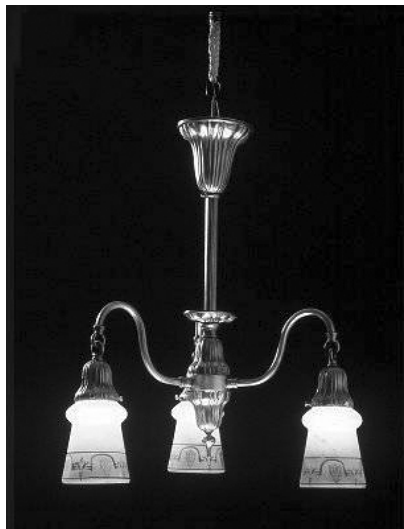
5. Light Fixtures. The majority of lighting in spaces on the first floor, with the exception of the kitchen area, is accomplished through the use of floor and task lighting. Existing built-in lighting can be found in the following key rooms, but is not original to the building.

PRESIDENT'S HOUSE ON CARR'S HILL

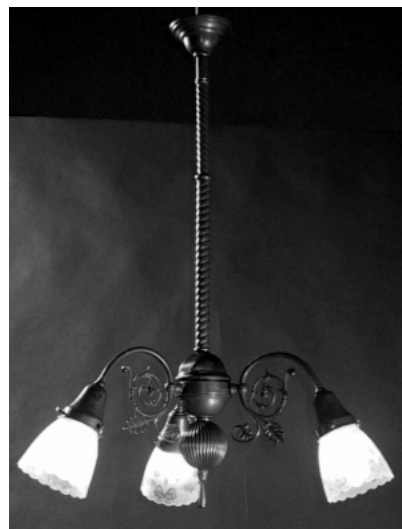
Built-in Lighting	Munsell Identification
Dining Room, Room 104	Brass chandelier, visible wiring
South Vestibule, Room 108	Basket style, brass and cut-glass ceiling light
Main Hall, Room 109	Basket style, brass and cut-glass ceiling light
Main Hall, Room 109	2 wall sconces flanking mantelpiece on north wall, installed 1985
Main Hall, Room 109	2 wall sconces flanking door to south vestibule, installed 1985
Main Hall, Room 109	Directional recessed ceiling for art illumination
Sitting Room, Room 110	Directional recessed ceiling for art illumination
Sitting Room, Room 110	Two electrical junction box covers above mantel indicate previously removed fixtures.
West Vestibule, Room 114	Basket style, brass and cut-glass ceiling light
Stair, Room 116	2 dual-arm wall sconces flanking window on west wall, installed 1985
Second-Floor Stair Lobby	Brass and glass chandelier

Unfortunately, the original drawings and documentation are largely silent on the design of original lighting in the building. The only description that has been located is for the original dining-room chandelier that was ordered in 1909 from the Horn & Brannen Manufacturing Company. According to a letter in the University of Virginia Archives, (RG2/1/2.427.I), it was approximately 30" "across the corners" (i.e., square, triangular or rectangular) made with amber art-glass panels and brass with a brushed finish.

The university should consider replacing the dining-room fixture with one that more accurately matches this description. Additional research may reveal more information regarding the fixture. It is also recommended that remaining first-floor fixtures be replaced with ones that are more appropriate to the house's Colonial Revival features. Below are images of some fixtures that would be found in a home of the period.



Ca. 1900 chandelier.

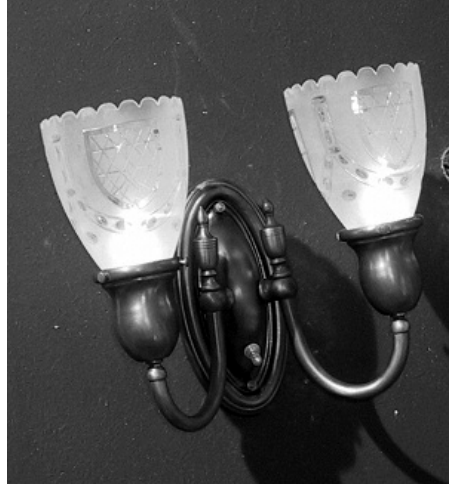


Ca. 1905 chandelier.

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*Early-twentieth-century reproduction
Colonial Revival fixture*



Ca. 1905 sconce.



Ca. 1900 sconces.



Left. 1920 Sconce by Horn & Brannen.



1910 floor lamp by Horn & Brannen (shade missing).

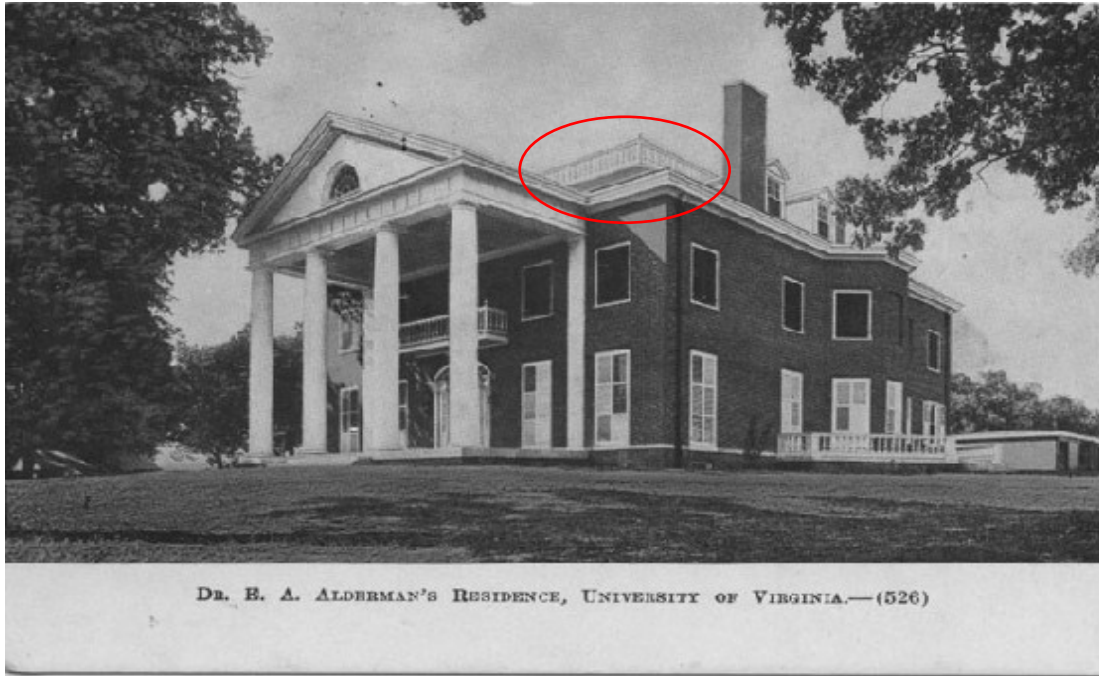
PRESIDENT'S HOUSE ON CARR'S HILL

6. Balustrade. The McKim, Mead & White design included a wood balustrade surrounding the upper portion of the roof. Based on archival evidence, it is known that the balustrade was constructed and remained until at least the second decade of the twentieth century. It no longer exists and no information could be located to indicate the date of removal. The assumed reason for its removal is that the wood deteriorated. There are limited locations from which it can be seen. Nevertheless, it is recommended that consideration be given to reinstalling the balustrade. If there is concern regarding the installation of a wood structure that will take continued maintenance and periodic replacement, consideration should be given to replicating the balustrade with a fiberglass reinforced polyester custom fabrication using historic details.



Postcard dated 1914 - 1921 (University of Virginia Visual History Collection).

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Undated postcard that appears to predate previous image because of the absence of shrubs (University of Virginia Visual History Collection).

7. Porte Cochere Roof. The roof of the porte cochere is being used to house HVAC equipment. At best, this is an unsightly location for equipment that is easily visible because there is nothing to screen it from view. As part of an upgrade or redesign of the mechanical systems, it is recommended that this mechanical equipment be removed. For the most part, other equipment serving the house has been well located and is generally screened from the public's view.

PRESIDENT'S HOUSE ON CARR'S HILL

STRUCTURAL

A previous investigation made by Dunbar, Milby, Williams, Pittman & Vaughan (DMWP&V) in the summer of 2004 concluded with a proposal involving major structural intervention in order to address apparent floor-joist deflections and calculated framing overstress. This study serves to review existing conditions and provide some parallel analyses in review of the proposed structural intervention, leading toward possible alternate approaches which might result in less damage to the historic interior finishes of the home.

ANALYSIS SUMMARY

Robert Silman Associates, PLLC (RSA) performed a structural analysis of the floor and roof framing of the President's House to serve as a means of comparison to the proposed strengthening. This analytical portion of the investigation involved review of original documentation and confirmation of framing configuration as discussed above in the Structural Condition Findings. A detailed evaluation of the load path, tracing roof and floor loads down through the building, was critical in this study. The result of the analysis is summarized in Figures S-11 through S-13, which graphically depict the allowable live-load capacities of the floor areas as calculated by RSA. The allowable live load is compared to the current code requirements for a residential construction of this nature to assess the need for structural strengthening.

THIRD-FLOOR FRAMING

Figure S-11 indicates calculated live-load capacities at the third-floor framing level. The typical floor joists are found to have a residual live-load capacity generally greater than the code-required 30 psf for habitable attics and sleeping areas. Isolated areas below interior walls and posts which transfer roof loads result in localized overstress of the floor framing, and often correspond with some of the largest areas of localized sagging in the floors.

SECOND-FLOOR FRAMING

Figure S-12 indicates calculated live-load capacities at the second-floor framing level. Similar to the general floor framing at the third-floor level, most of the floor areas can support greater than 30 psf live load, which is required for sleeping areas, or 40 psf required elsewhere. Noted exceptions to this are the upper hall or landing area and the bathrooms to the south (Rooms 206 and 207), where calculated live-load capacities are insufficient to meet code requirements. The main walls to the north and

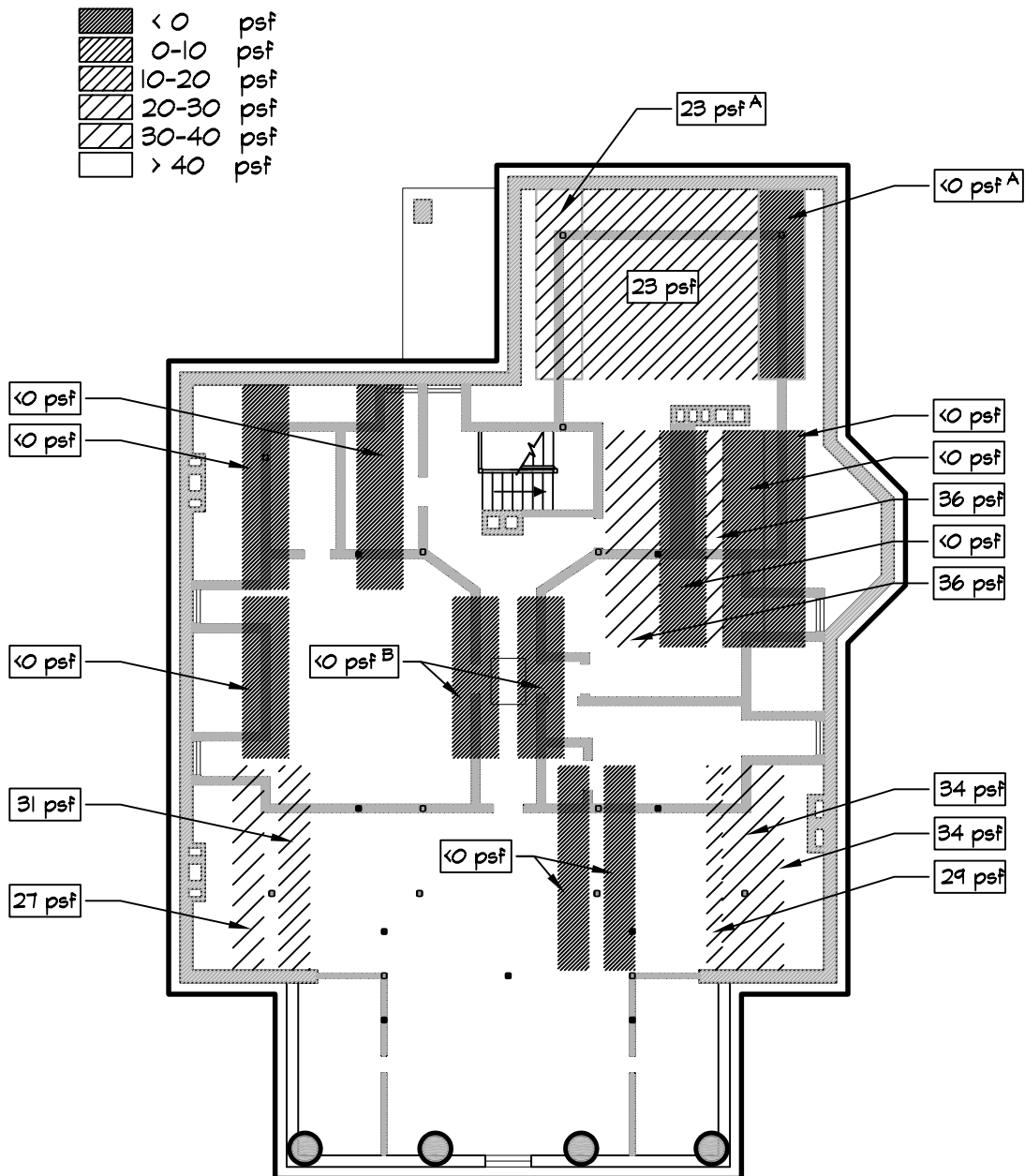
RECOMMENDATIONS FOR REPAIR AND RESTORATION

south of the landing are supported on beams which must span in the east - west direction over the main entrance hall of the first-floor level. Our calculations show these elements to be significantly overstressed, which is corroborated by observation of excess deflections apparent in the first-floor ceiling as well as at the third-floor level.

FIRST-FLOOR FRAMING

Figure S-13 shows the calculated live-load capacities. The floor joists are generally well above the 40 psf code-required live-load, with some noted exceptions. The areas of stone or tile finish at the main entrance vestibule and west-hall entrance have significantly reduced live-load capacities and, in the case of the main vestibule, show excessive deflections. Most of the timber girders supporting first-floor bearing walls were found to be overstressed to a significant degree under the imposed dead loads, prior to the application of allowable live loads. These findings corroborate observations of deflections and plaster cracking in the walls and floors above. The timber members themselves are frequently split along the grain at both the side and bottom faces.

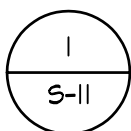
Given the reported heavy use of the lower level, RSA recommends a detailed evaluation of the floor joists in the heavily loaded areas. These high-traffic areas may experience as much as 100 psf on some occasions. Further discussions with the owner may shed light on the frequency of these events, which may in turn be translated into a relevant load duration factor for the wood-joist analysis. Another reason for a more detailed study is the likely history of utility modifications and potential cutting in the wood which was very apparent in some of the timber girders.



A IF THE WALL AND ROOF LOAD IS SPREAD TO AT LEAST 5 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 40 PSF.

B IF THE ROOF LOAD IS REMOVED AND THE REMAINING LOAD IS SPREAD TO AT LEAST 3 JOISTS THEN THE LIVE LOAD CAPACITY IS 43 PSF.

THIRD FLOOR PLAN W/ LIVE LOAD CAPACITIES OF THIRD FLOOR FRAMING



SCALE: 1/16" = 1'-0"



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STRUCTURAL ENGINEERING

ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

LIVE LOAD CAPACITIES

DRAWING NUMBER:

FIGURE S-11

DATE:

12.22.05

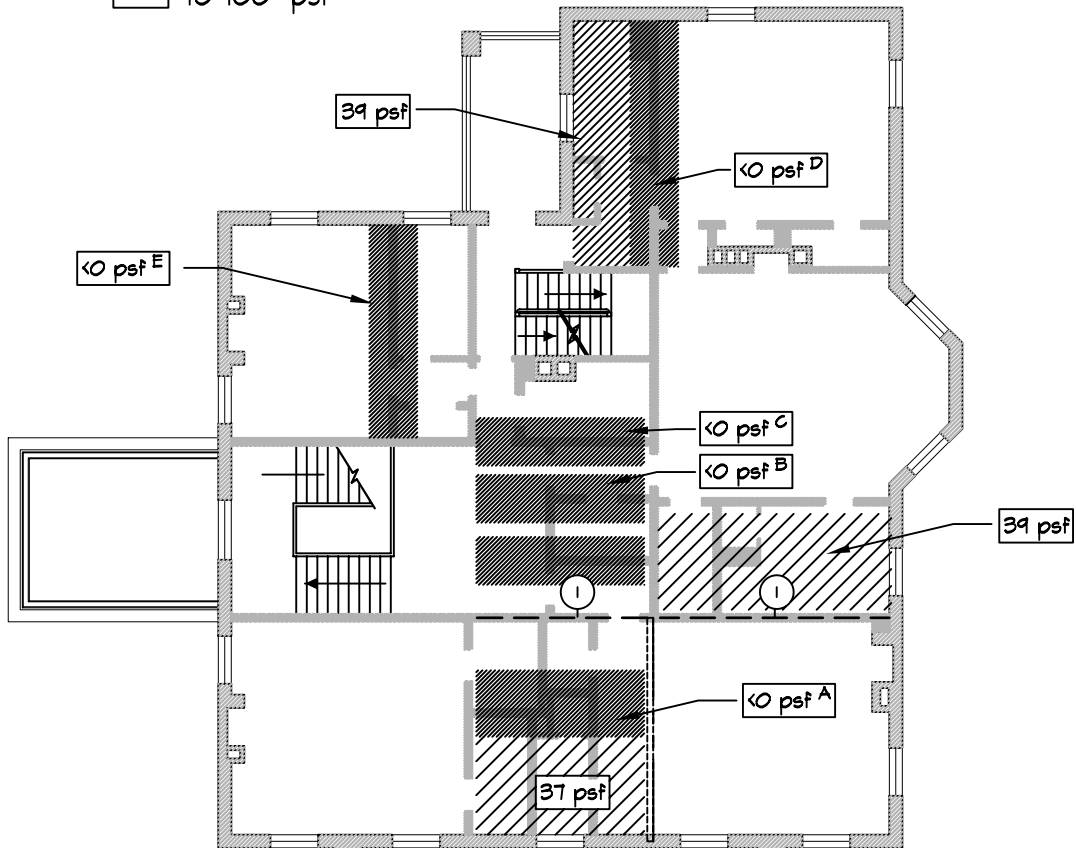
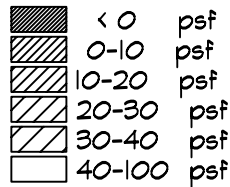
SCALE:

1/16"=1'-0"

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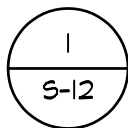
**PRESIDENT'S HOUSE
ON CARR'S HILL**



① BEAM OVERSTRESSED DUE TO DEAD LOAD

- A IF THE WALL LOAD IS SPREAD TO AT LEAST 3 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 40 PSF.
- B IF THE WALL LOAD IS SPREAD TO AT LEAST 3 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 22 PSF. IF THE WALL LOAD IS SPREAD TO AT LEAST 5 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 43 PSF.
- C INSERCTION OF NEW BEAM AT THIRD FLOOR LEVEL WOULD INCREASE LIVE LOAD TO 34 PSF.
- D IF THE WALL LOAD IS SPREAD TO AT LEAST 3 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 6 PSF. IF THE WALL LOAD IS SPREAD TO AT LEAST 5 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 23 PSF.
- E IF THE WALL LOAD IS SPREAD TO AT LEAST 5 JOISTS THEN THE LIVE LOAD CAPACITY IS GREATER THAN 13 PSF.

SECOND FLOOR PLAN W/ LIVE LOAD CAPACITIES OF SECOND FLOOR FRAMING



SCALE: 1/16" = 1'-0"



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STRUCTURAL ENGINEERING

ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

LIVE LOAD
CAPACITIES

DRAWING NUMBER:

FIGURE S-12

DATE:

12.22.05

SCALE:

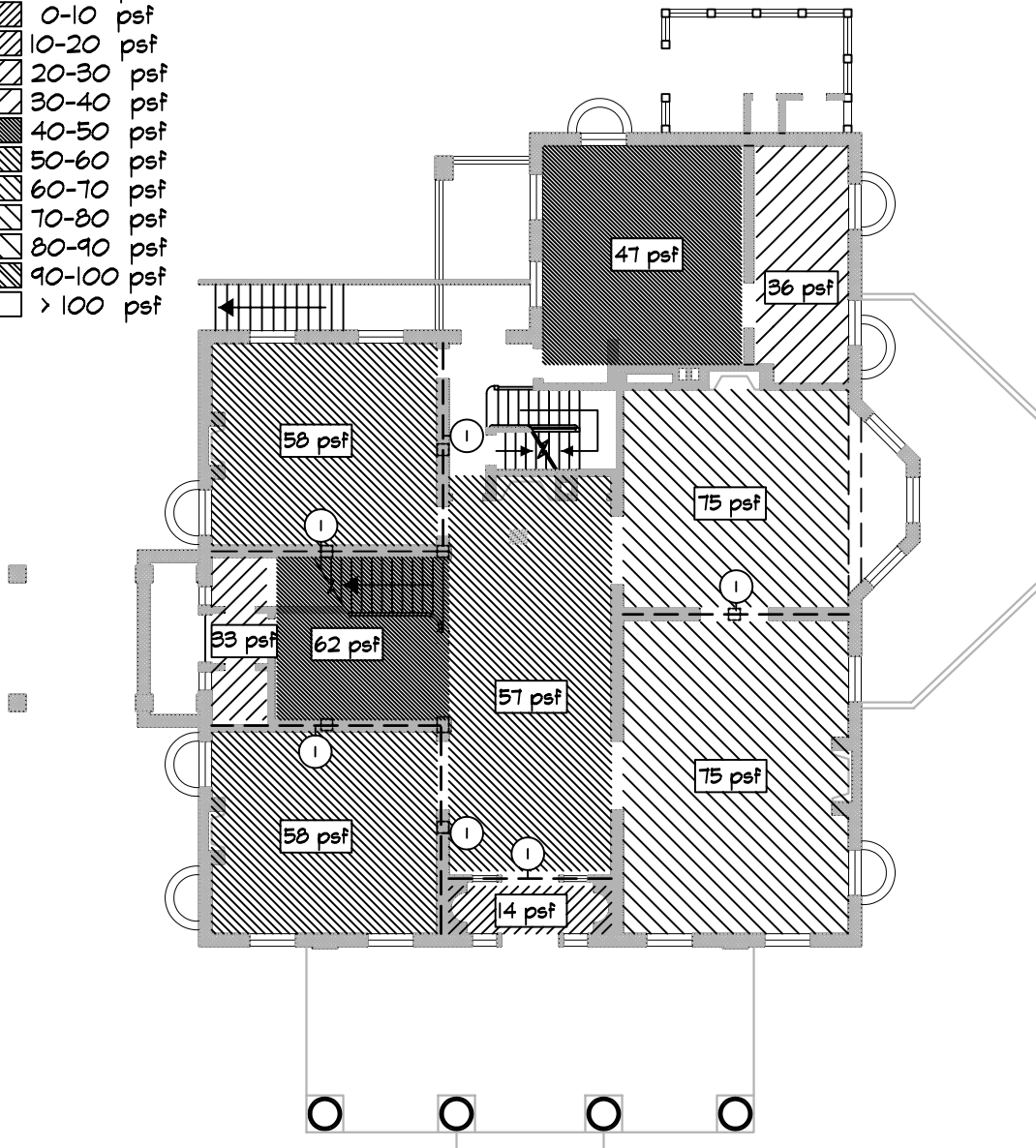
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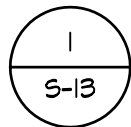
PRESIDENT'S HOUSE
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	< 0 psf
	0-10 psf
	10-20 psf
	20-30 psf
	30-40 psf
	40-50 psf
	50-60 psf
	60-70 psf
	70-80 psf
	80-90 psf
	90-100 psf
	> 100 psf



① BEAM OVERSTRESSED DUE TO DEAD LOAD

FIRST FLOOR PLAN W/ LIVE LOAD CAPACITIES OF FIRST FLOOR FRAMING



SCALE: 1/16"=1'-0"



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STRUCTURAL ENGINEERING

ROBERT SILMAN ASSOCIATES, PLC
1053 31st Street, NW Washington, DC 20007

DRAWING TITLE:

**LIVE LOAD
CAPACITIES**

DRAWING NUMBER:

FIGURE S-13

DATE:

12.22.05

SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



**PRESIDENT'S HOUSE
ON CARR'S HILL**

RECOMMENDATIONS FOR REPAIR AND RESTORATION

REVIEW OF PROPOSED STRUCTURAL STRENGTHENING

The proposed strengthening by DMWP&V is divided into two phases of work. Phase I addresses strengthening at the attic-floor level, with localized shoring implications at the second-floor and possibly lower levels. Phase II includes strengthening at the first-and second-floor framing levels. Structural calculations were provided by the University of Virginia to accompany the design for both phases and were reviewed by RSA.

RSA reviewed the structural calculations for the proposed strengthening and was in general agreement with most material weight assumptions and design parameters. Our analysis assumed that partition loads are somewhat lighter than the number used in the previous analysis (19 psf versus 25 psf) based on the assumption of a gypsum wall plaster versus cement plaster. Of particular importance in establishing design parameters is the assumption of wood species and grade, which the engineer assumed to be Southern Pine No. 1. RSA recommended wood samples to be taken as part of our investigation and confirmed that this assumption proved valid. The summary report for this testing by Anthony & Associates, Inc. is included in the appendix.

PHASE I CONSTRUCTION

The Phase I drawings address structural capacity and floor levelness within the occupied portions of the third-floor level. The structural drawings clearly indicate calculated live-load capacities in excess of the stated requirement of 30 psf for habitable attics and sleeping areas; however, floor reinforcement is still indicated in these areas to address the widespread sagging of floor joists at this level. The design calculations assumed some localized roof loads transferring into the third-floor partitions, but less so than that used in RSA's analysis. Where joists run parallel to interior partition walls, the design calculations generally assume that the wall is supported by a single joist (unless specifically noted otherwise on the original drawings). It is common practice for joists to be doubled below partition walls; however, the notation on the original plans do seem to specifically address this in some areas and not in others. A specific example of where double joists are used below a partition where it is not indicated on the original drawings is at the first-floor vestibule. Probe #2, as detailed in Figure S-9, uncovered a double joist at this wall location. In addition, the load-sharing role of the double layer of floor boards as well as cross-bridging between the floor joists would further diminish the local overstresses calculated due to partition loads.

A significant problem area structurally is the third-floor central corridor. Though the general joist framing was found to have sufficient capacity for the floor loads away

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from the corridor walls, both the design calculations by DMWP&V and those of RSA found significant overstress directly below these walls. Our calculations, in fact, show higher levels of overstress at these locations because we assumed (based upon field observations) that there is roof load bearing on these walls in addition to the ceiling within the central skylight area. Observation of this space from the unfinished attic revealed some posting of the shallow-roof hip members down onto the ceiling framing, which in turn bears on the central walls. Our calculated floor deflections in this area also match very well with the survey values of the third-floor sagging. The design drawings show reinforcement at the base of these partitions. These reinforced joists frame into a new beam at the third-floor level to the north while bearing on an existing wall to the south. The large reactions to the south are ultimately supported by a heavily reinforced beam on the second floor, which is part of the Phase II reinforcement.

One seeming problem in the Phase I design is the coordination of third-floor wall reconstruction. Drawing A-1 indicates significant lengths of interior wall to be rebuilt; however, it is apparent from the engineering approach that the same walls are currently bearing portions of the roof load and require reinforcement of the joists below them. Rebuilding these walls as such would require additional shoring of the roof framing, which would likely have to continue down below the third-floor level.

PHASE II CONSTRUCTION

The Phase II drawings detail the structural strengthening at the second-and first-floor framing levels. At the second-floor level, significant reinforcing of floor joists and beams is prescribed in areas calculated by the engineer to be overstressed, such as at the upper hall or landing area (Room 210); however, reinforcing is also prescribed for adjacent areas shown to have sufficient capacity. This reinforcement is apparently geared toward addressing deflections and levelness as opposed to strength problems. Two major floor beams, spanning east - west along the south end of the landing (Room 210) and then extending east below the wall at the north side of the southeast bedroom (Room 205) are heavily reinforced due to calculated overstress, and RSA's calculations are in general agreement with these findings and recommendations for these beams under the current loading configuration. The widespread floor-joist reinforcement results in significant damage to interior historic finishes. As such, RSA recommends making only minimal localized interventions where absolutely required to achieve sufficient capacity. In addition, we recommend consideration of alternate approaches at the roof and attic level which might reduce the transfer of load down onto the second level.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

The first-floor framing is shown on the design drawings to be reinforced along most of the major timber girders which support the bearing walls of the house. In addition, the piers and pier footings are widened significantly and reinforced. No floor-joist reinforcement is indicated.

RSA concurs with the need to reinforce the main timber girders, as our calculations also show significant levels of overstress. This overstress is corroborated by apparent checking and movement in the timber members as well as plaster cracking in the bearing walls above in apparent response to the excess deflections. As there is no evidence of any significant masonry deterioration in the piers or any apparent settlement problems indicative of foundation overload, we recommend alternate detailing to support the girder reinforcement that would avoid the need to widen the piers and extend the existing footings. Section 1/S-1 in the current design recommendations details this pier and footing reinforcement. No existing footing is shown in this section, with the brick masonry pier extending straight down into the soil and then a new concrete footing extension is doveled into the masonry. Though it is not uncommon for some constructions of this era to lack appropriate footings, it should be noted that the original drawings do indicate a footing of some unspecified size (visually estimated at approximately 2'-0" square). Given the lack of indication of problems with settlement, RSA would not assume a need for foundation reinforcement. Instead, a test pit may be warranted at a pier location to confirm the existing pier footing size; this would also allow for a view of the soils and soil type below the slab and around the footings.

Though not indicated on the DMWP&V drawings, there are two areas of joist framing which would likely warrant some reinforcement. Of particular concern is the framing below the entrance vestibule (Room 108). This framing was reviewed more closely in our study of Probe #2. Here we find the double joist below the vestibule wall as well as the joists below the tiled vestibule area to be significantly overstressed. This overstress is reflected in the apparent deflections in the floor above as well as patterned cracking in the first-floor wall finishes. The other area of overstress calculated by RSA is around the bathrooms and vestibule leading into the side hall. A simple sistering approach from below could address these localized areas of joist overstress.

SUGGESTED ALTERNATIVES FOR STRUCTURAL INTERVENTION

The engineering approach prescribed by DMWP&V is presented in a clear and well-detailed manner; however, the net result of this work is a major loss of historic finishes within some of the most significant finished spaces on the first-and second-floors. Figure S-14 illustrates the goal of the suggested alternate approach, which is to

PRESIDENT'S HOUSE ON CARR'S HILL

minimize finish damage and overall impact to the first and second floor levels (labeled as Zone B). Ideally, the alternate approach would limit work to the attic and basement levels (labeled as Zone A). The following summarizes the recommended steps needed to achieve this goal.

One immediate approach to the reduction of damage is to focus reinforcement only within areas of overstress. The current design calls for floor reinforcement in areas of overstress as well as areas which are shown to have sufficient capacity, but suffer from sagging or floor unevenness. The clear drawback to taking this alternate approach would be that the occupants would need to live with uneven and perhaps somewhat flexible floors in the known areas. It is our opinion that this compromise is merited given the savings in cost, time of construction, and the preservation of historic fabric and is appropriate for a building of this historic significance. This compromise, however, is not sufficient to address all the significant structural issues within the home, and there remain a number of sensitive finish areas that would require substantial structural reinforcement with the Zone B area under the current loading configuration.



Figure S-14: Strengthening and Preservation Approach. Zone A indicates areas of significant structural intervention. Zone B indicates areas of preservation with minimal structural intervention.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

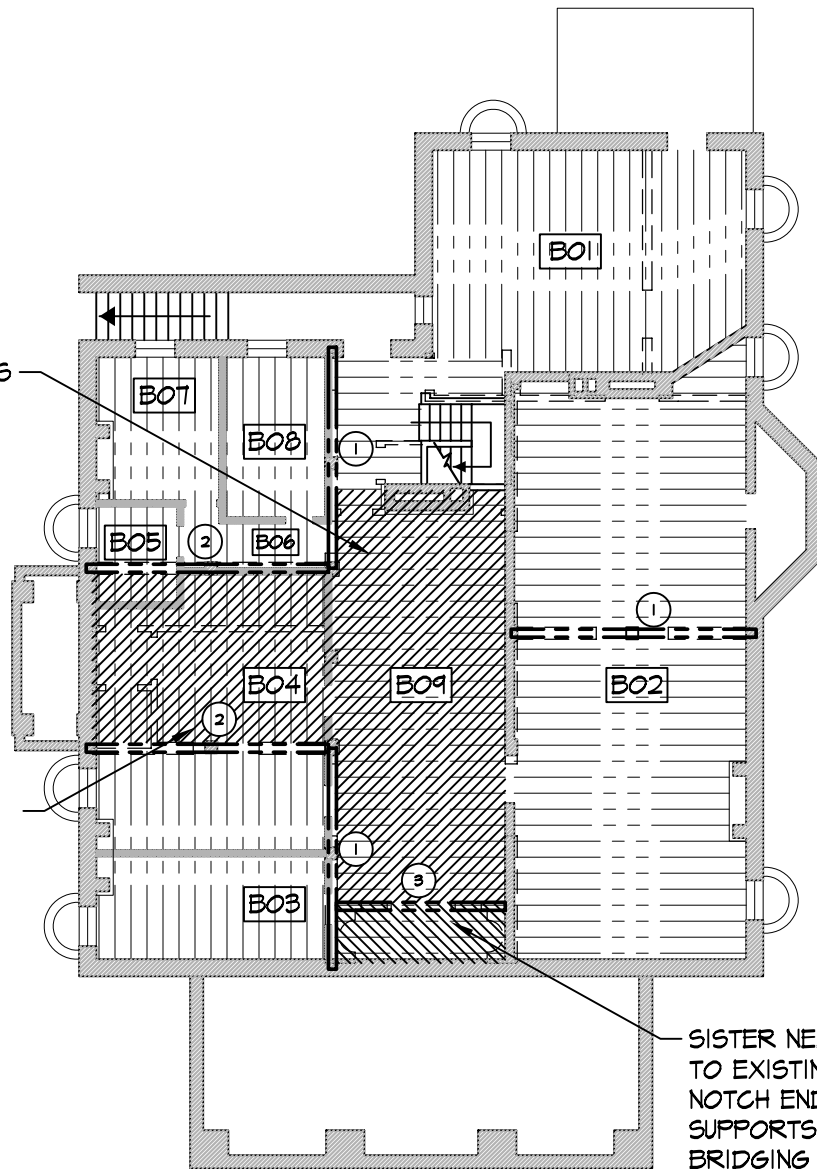
Perhaps the most significant problem to be solved goes back to the notion of roof support, as introduced in Figure S-2. Because much weight within the central portion of the roof must be supported vertically through interior partition walls, which do not align with the ultimate basement lines of support, significant reinforcement is indeed required to maintain this current load path. However, we see great possibility in developing ways of shifting that load path at the uppermost level, so as to dramatically reduce the weight bearing within the interior portion of the building. This approach would likely involve greater loss of finishes within the third-floor or attic level; however, this loss would not be of comparable historic value to the finishes in the levels below.

Redirecting loads in this manner can very quickly reduce the structural impact on sensitive floor areas below. Based on this philosophy of working in Zone A, RSA has designed two slightly different methods for structural rehabilitation. At the basement-level access to the first-floor framing can be made without interfering with the existing historic finishes. Figure S-15 depicts the areas where intervention to the first-floor framing system is necessary. There are five overstressed girders that support the load bearing walls above and are in need of reinforcement. Both options proposed by RSA include two C8x18.75 steel channels on either side of the girders to sandwich the existing wood and relieve the additional stress. Also RSA recommends reinforcing the joists below the main and side halls (Rooms 109 and 111) with new 2x10 joists sistered to the existing joists to give those highly trafficked rooms a higher loading capacity to accommodate the larger parties at the house.

In the second-floor framing our initial evaluation shows that the two major second-floor beams at the south end of the landing and extending east along that line below the north wall of the southeast bedroom would still require strengthening. RSA has proposed two different methods for alleviating the stress on these beams. Both ideas are outlined on Figure S-16. Option #1 is a traditional approach, accessing the beams from the rooms below to add reinforcement to both sides of the existing beams. This scheme does entail opening a hole in the historic plaster ceiling in both the main hall (Room 109) and living room (Room 106) on the first floor. The ceiling would then require a plaster patch to match the existing ceiling as well as painted to match existing finishes. Option #2 would rely on the structural intervention on the third-floor to absorb the roof and third-floor loads before they reached the beams and therefore the beams would require no intervention.

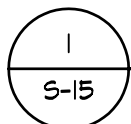
SISTER NEW 2X10 JOISTS
TO EXISTING 2X10 @ 16"
O.C. NOTCH ENDS TO
BEAR ON SUPPORTS.
PROVIDE NEW BRIDGING
AT MIDSPAN.

SISTER NEW 2X10 JOISTS
TO EXISTING 2X10 @ 16"
O.C. NOTCH ENDS TO
BEAR ON SUPPORTS.
PROVIDE NEW BRIDGING
AT MIDSPAN.



SISTER NEW 2X10 JOISTS
TO EXISTING 2X10 @ 12" O.C.
NOTCH ENDS TO BEAR ON
SUPPORTS. PROVIDE
BRIDGING AT MIDSPAN.

- ① EX. 8X10 GIRDER OVERSTRESSED FROM EXISTING LOADS. REMOVE JOISTS ADJACENT TO THE GIRDER AND ADD (2) C8X18.75 STEEL CHANNELS, ONE TO EITHER SIDE OF THE GIRDER W/ STAGGERED THRU-BOLTING @ 2'-0" O.C. PROVIDE WOOD BLOCKING OVER THE GIRDER AND NEW CHANNEL TO SUPPORT THE FLOOR BOARDS. SHIM TIGHT BETWEEN STEEL & MASONRY SUPPORTS. WIDEN MASONRY POCKET AT EXTERIOR WALLS. SERVICES TO BE RELOCATED AS REQUIRED.
- ② EX. 8X12 GIRDERS OVERSTRESSED FROM EXISTING LOADS. REMOVE NAILERS ADJACENT TO THE GIRDERS AND ADD (2) C8X18.75 STEEL CHANNELS, ONE TO EITHER SIDE OF THE GIRDER W/ STAGGERED THRU-BOLTING @ 2'-0" O.C. PROVIDE WOOD BLOCKING OVER THE GIRDER AND NEW CHANNEL TO SUPPORT THE FLOOR BOARDS. SHIM TIGHT BETWEEN STEEL & MASONRY SUPPORTS. WIDEN MASONRY POCKET AT EXTERIOR WALLS.
- ③ SISTER (2) NEW 2X10 JOISTS TO EX. DOUBLE 2X10, NOTCHED AT BEARINGS.



BASEMENT PLAN W/ FIRST FLOOR FRAMING

SCALE: 1/16" = 1'-0"



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FIGURE S-15

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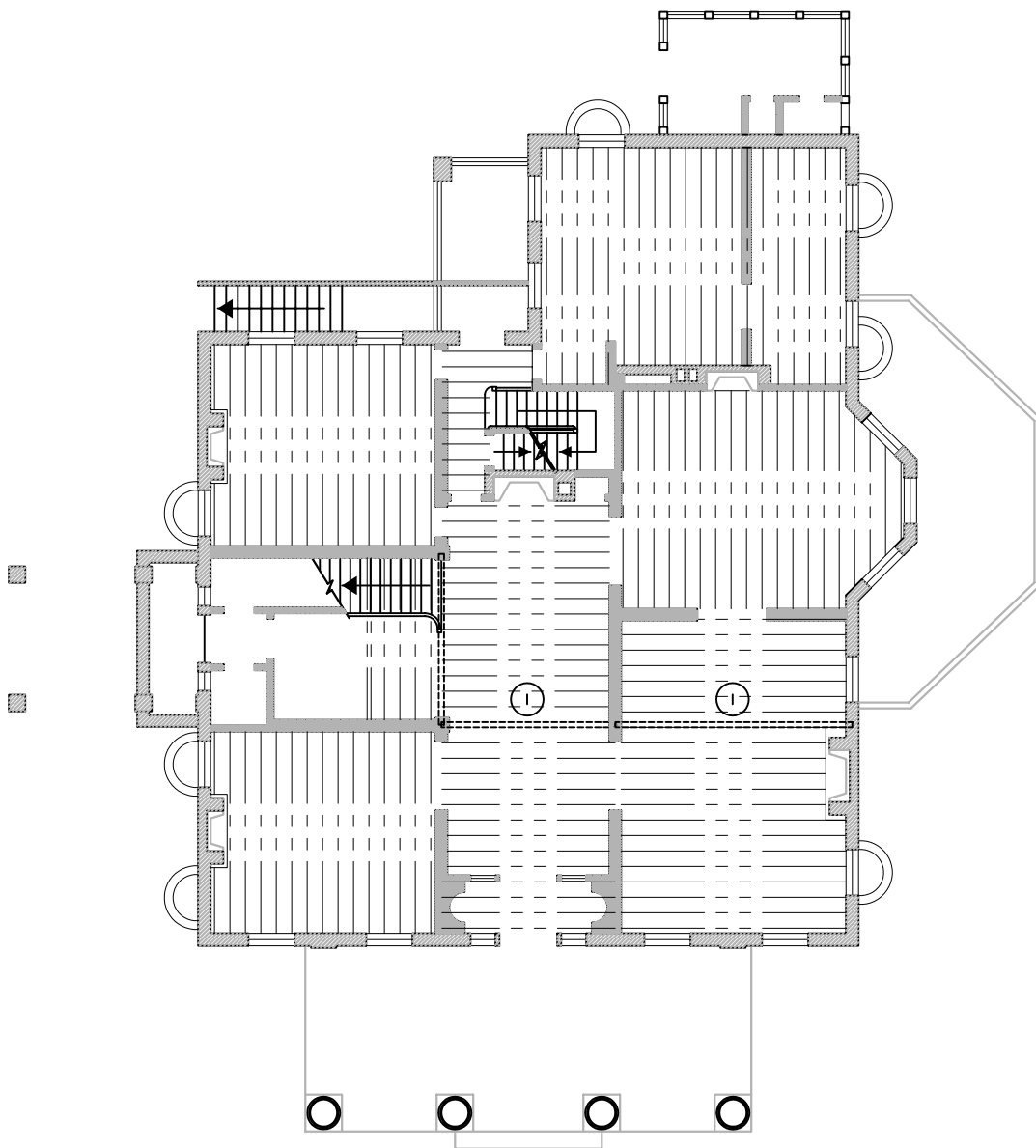
SCALE:

1/16"=1'-0"

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PRESIDENT'S HOUSE
ON CARR'S HILL



① OVERSTRESSED BEAM INTERVENTION OPTIONS:

OPTION #1 - REINFORCE EACH BEAM FROM BELOW WITH (4) $1\frac{3}{4}$ "x11 $\frac{7}{8}$ " LVLs OR (2) C8X18.75 STEEL CHANNEL. INTERVENTION WILL RESULT IN DAMAGE TO PLASTER CEILING FINISHES ON THE FIRST FLOOR.

OPTION #2 - NO REINFORCEMENT REQUIRED WITH THE ADDITION OF A TRUSS SYSTEM ON THE THIRD FLOOR ROOF AND THIRD FLOOR LOADS ARE ABSORBED BY THE TRUSS.

①
S-16
FIRST FLOOR PLAN w/ SECOND FLOOR FRAMING
SCALE: 1/16" = 1'-0"



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FIGURE S-16

DATE:

01.21.06

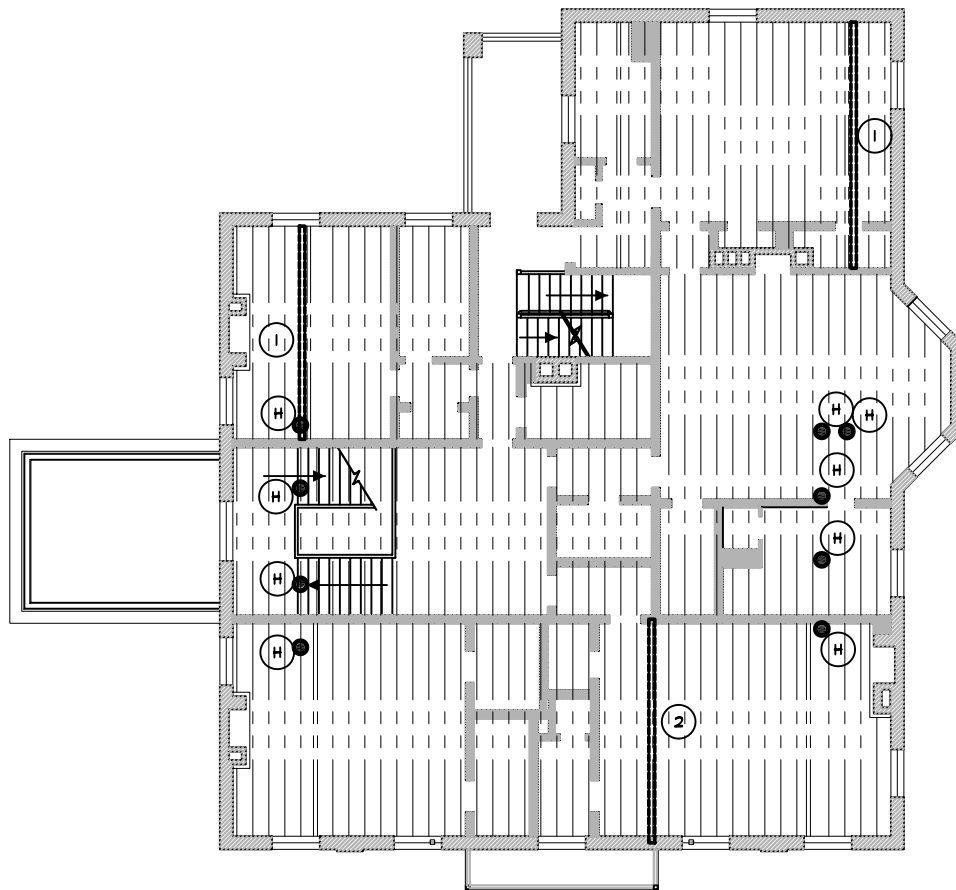
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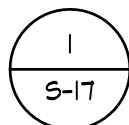
**PRESIDENT'S HOUSE
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- ① ADD A NEW 1 $\frac{3}{4}$ "X14" LVL ATTACHED TO THE KNEE WALL IN THE UNINHABITED ATTIC SPACE, TO SUPPORT ROOF LOADS ON THE KNEE WALLS.
- ② ADD (3) NEW 3 $\frac{1}{2}$ "X1 $\frac{1}{4}$ " LVLs TO EITHER SIDE OF EXISTING 6X12 BEAM.
- H STEEL HANGERS EXTENDING DOWN FROM NEW LVL RAFTERS IN THE ROOF FRAMING.

OPTION #1 - ADD NEW LVLs AT ALL LOCATIONS INDICATED BY 1 AND 2. ADD (9) STEEL HANGERS BETWEEN THIRD FLOOR JOISTS AND ROOF FRAMING.

OPTION #2 - ADD NEW LVLs TO ALL LOCATIONS MARKED 1 AND 2. ADD (4) STEEL HANGERS BETWEEN THIRD FLOOR JOISTS AND ROOF FRAMING.



SECOND FLOOR PLAN W/ THIRD FLOOR FRAMING

SCALE: 1/16" = 1'-0"



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DRAWING NUMBER:

FIGURE S-17

DATE:

01.21.06

SCALE:

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PRESIDENT'S HOUSE
ON CARR'S HILL

RECOMMENDATIONS FOR REPAIR AND RESTORATION

Going back to the initial philosophy of redirecting the loads before the first and second-floor the interventions in the third-floor and attic space are much more involved. Some of the roof loads are currently being supported by continuous knee walls. These walls serve as a boundary separating the third-floor rooms from inaccessible attic space in addition to load bearing elements. The joists below the knee walls were generally found to be overstressed. Some of these joists can be addressed with reinforcement from within the attic space. The space between the knee walls and the perimeter masonry wall offers an area for reinforcing without damage to the ceilings below or the adjacent walls. Both intervention Options #1 and #2 require reinforcement to the knee walls. Some overstressed areas can be addressed through the addition of LVLs to the unexposed side of the walls as shown on Figure S-17. One area where this approach is not possible given the current wall layout is at the knee walls around the dormers. Here, the proposed plan of action is to reinforce these joists with hangers extending down from new attic rafters. The new rafters and hangers would all take place within the plane of roof framing and the unused attic space and would not disturb either the third-floor walls or the second-floor ceilings. In Option #1 nine hangers would be necessary and Option #2 would only require 4 hangers. Figure S-17 also shows a beam in need of reinforcement. This beam is carrying two roof posts and by redirecting the load paths onto the existing posts this beam will require strengthening.

RSA proposes reinforcing the roof structure with the objective of shifting roof loads and some third-floor loads to areas of greater structural capacity. Emblematic of this general approach is the area around the central skylight. As noted above, our findings show that one of the main problems at the third floor framing level is the transfer of roof load through the corridor partitions. Our initial approach to addressing this would be to remove both the roof and ceiling loads from this central area by modifying the structure to span further out to the main high roof perimeter. This concept is depicted in Figure S-18. In practice it could be readily achieved by strengthening the ceiling joists to make the full span, or by working with the shallow-hip roof system in combination with the ceiling joists to affect a tied truss-like system. Spanning over the corridor partitions as such would mean that the reinforcement below these corridor walls would no longer be required. RSA recommends sistering the existing ceiling joists around the skylight with new 1 3/4"x 7 1/4" LVLs to direct the roof loads above to the perimeter of the square and not to the unsupported partition walls below. Also, the addition of two 1 3/4"x11 7/8" LVLs to all four sides of the square are necessary to hold the additional weight and transfer it to the existing posts. Both intervention Options #1 and #2 require the reinforcing of this central square.

PRESIDENT'S HOUSE ON CARR'S HILL

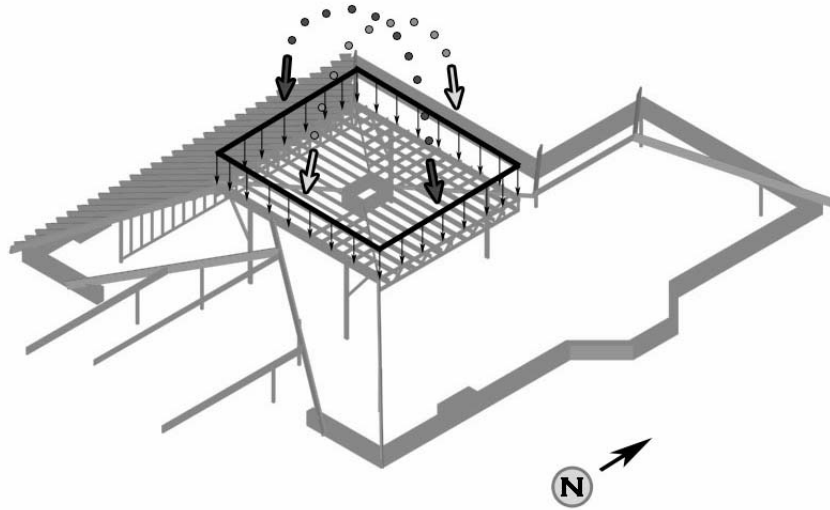
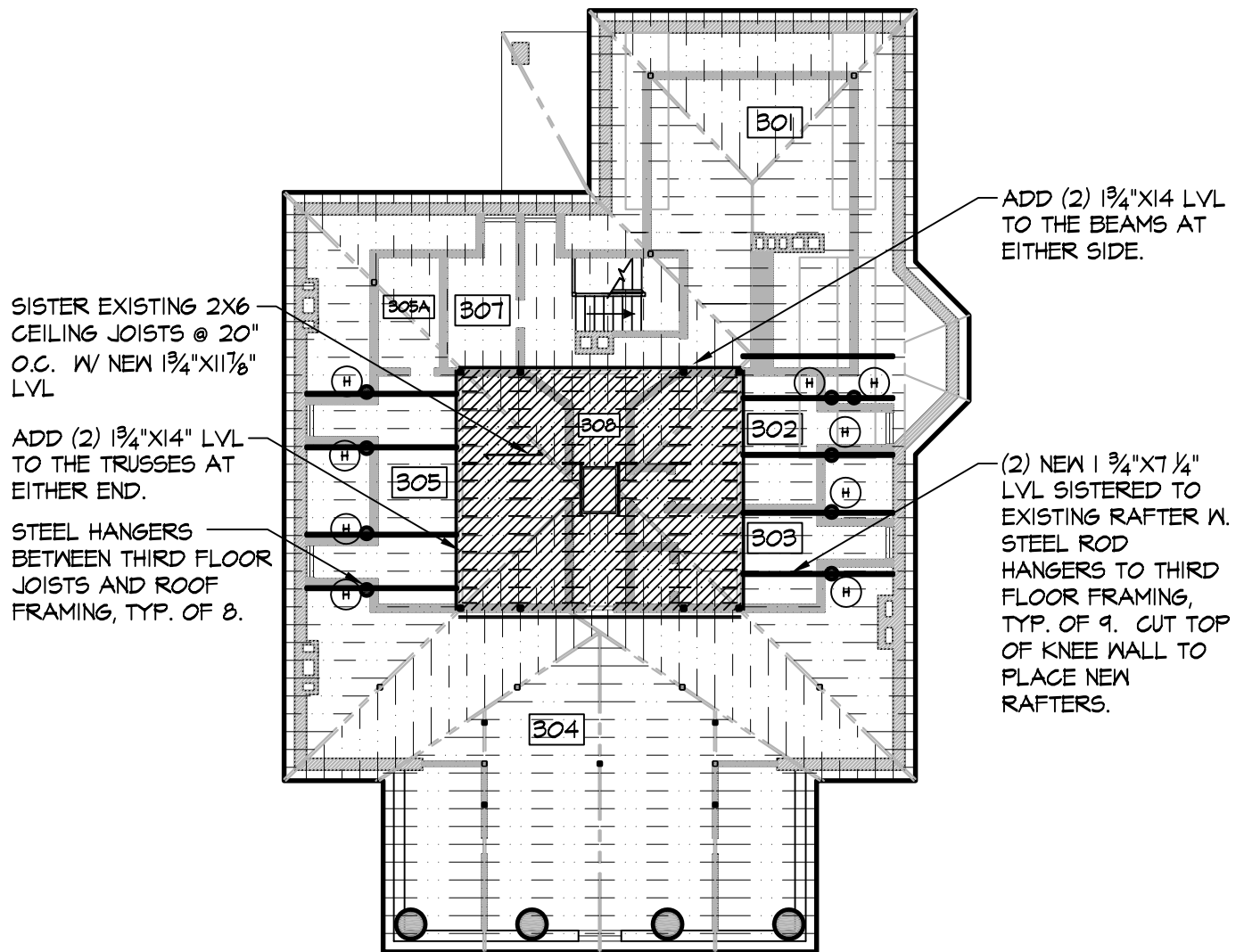


Figure S-18: Corner Diagram depicts transfer of central roof loads around skylight to ridge beams at peak of high roof.

Given that the second-floor beams would be reinforced directly within the second-floor framing in Option #1, this option is a less invasive scheme at the third-floor level. In addition to the central square reinforcing, Option #1 includes adding new LVL rafters to support the knee walls suggested above. Figure S-19 illustrates the repairs necessary in the attic space for Option #1. Eight of the nine new rafters would support hangers that reach down to the third-floor joists and grab the knee wall loads. The ninth rafter would support the awkward connection of the hip roof above the playroom to the rest of the roof.

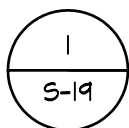
A more dramatic intervention at the attic and roof level, such as that depicted in Figure S-20, could remove an even greater amount of load from the interior framing and transfer it directly to the perimeter masonry bearing wall using a built-up truss system within the attic space. The details of the truss intervention are elaborated on Figure S-21 as Option #2. In this option the proposed truss would likely be built up from light structural steel sections and bolted together on site. The truss would support not only the central roof section but also the connection between the two roofs and some third floor wall loads making the additional support proposed on the second floor framing in Option #1 unnecessary. The south side works well with this approach in that the new truss could be built within the unfinished attic space. The north side presents more conflicts with the existing architectural layout and finishes, however we feel the system could be accommodated if it proved necessary. The approach requires further



OPTION #1

THE ADDITION OF REINFORCEMENT IN THE ATTIC LEVEL ONLY TO THE CENTRAL FLATTER SQUARE. SISTERED 2X6 CEILING JOISTS AND THE ADDITION OF (2) LVLs ON ALL FOUR SIDES OF THE SQUARE WILL DIRECT THE ROOF LOADS MORE ACCURATELY ONTO THE EXISTING 4X6 POSTS. REINFORCE RAFTERS AND ADD STEEL ROD HANGERS TO SUPPORT THE THIRD FLOOR FRAMING. THIS OPTION REQUIRES ADDITIONAL REINFORCEMENT ON SECOND FLOOR LEVEL TOO.

OPTION #1



THIRD FLOOR PLAN W/ ROOF FRAMING

SCALE: 1/16" = 1'-0"



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FIGURE S-19

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SCALE:

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evaluation if it is to be pursued, but represents the extreme end of possible strengthening methods which could feasibly be taken to solve the structural problems of the lower floors while minimizing the impact to the historic finishes of the first-and second-floor levels.

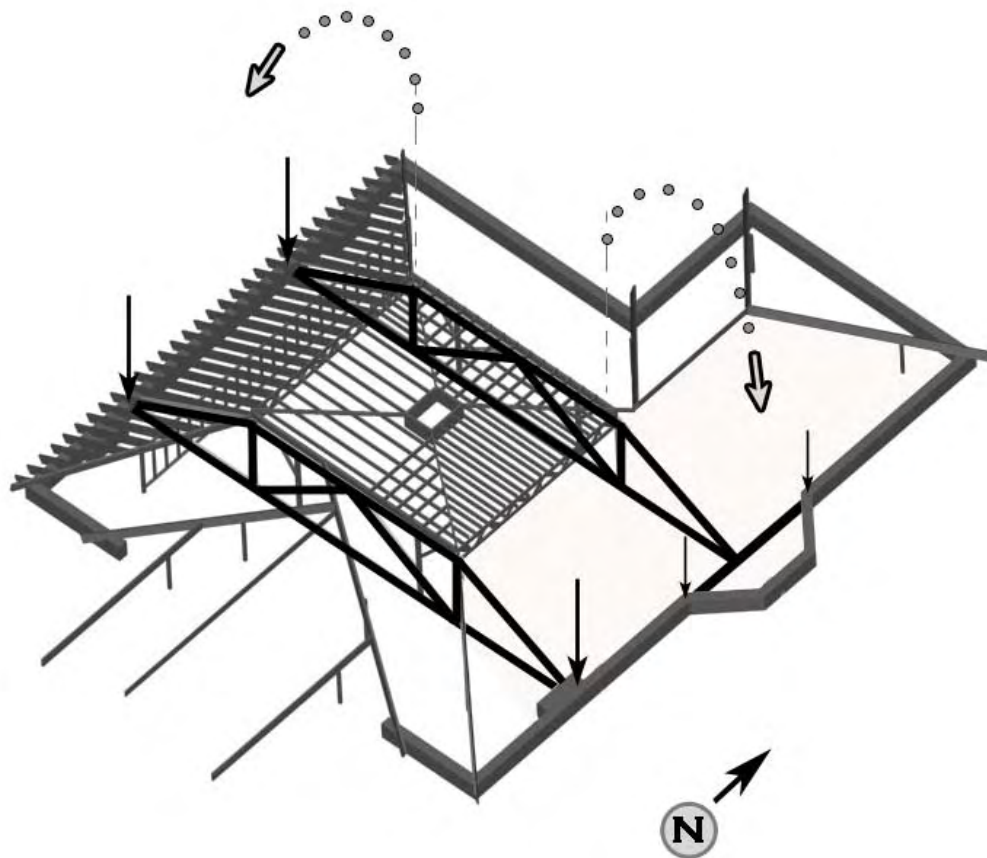
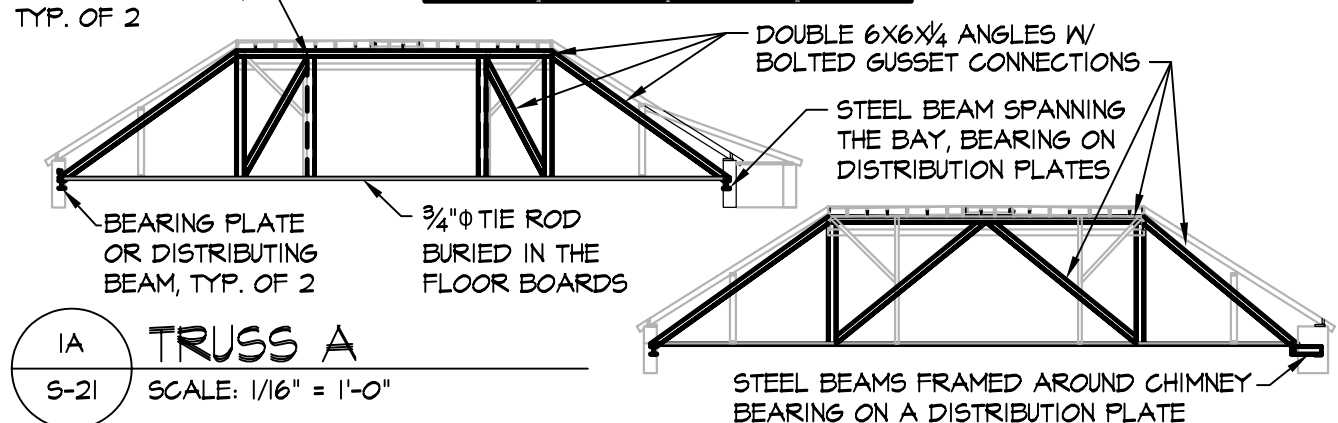
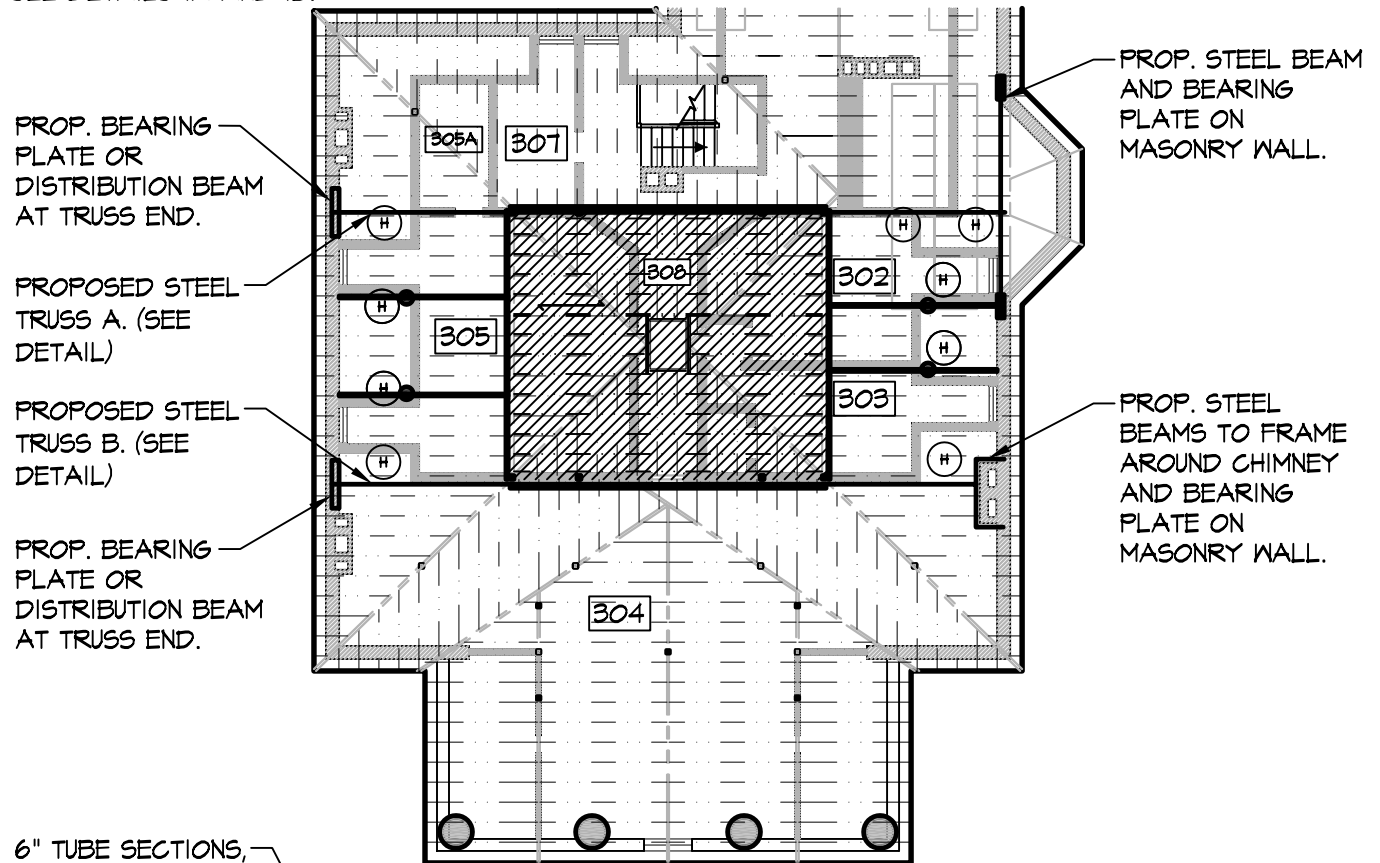


Figure S-20: Concept Diagram depicts intersection of attic trusses to minimize loads transferred to floor levels below.

The two proposed options of intervention outline the basic structural needs of the house; however, the final appropriate solution may be a combination of the two methods or intermediate between these approaches. Mixing the two options may conclude in a more cost effective and historically appropriate method.

OPTION #2

IN ADDITION TO THE REINFORCEMENT IN OPTION #1 (SISTERED CEILING JOISTS, LVL INSERTION AND THE ADDITION OF (4) HANGERS) 2 NEW STEEL TRUSSES ARE ADDED AT THE ATTIC/THIRD FLOOR LEVEL. THE TRUSSES RUN EAST AND WEST ALONG THE CENTRAL ROOF SQUARE, ONE EMBEDDED INTO THE WALL AND THE OTHER EXPOSED IN THE ATTIC STORAGE AREA. THROUGH THE TRUSSES ALL ROOF LOADS AND SOME THIRD FLOOR LOADS WILL BE ABSORBED THEREFORE WORK WILL BE DONE ON THE SECOND FLOOR. SEE DETAILS 1A AND 1B.



1A TRUSS A
S-21 SCALE: $\frac{1}{16}" = 1'-0"$

1B TRUSS B
S-21 SCALE: SCALE

1 OPTION #2
S-21 THIRD FLOOR PLAN W/ ROOF FRAMING
SCALE: $\frac{1}{16}" = 1'-0"$



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FIGURE S-21

DATE:

01.21.06

SCALE:

$\frac{1}{16}" = 1'-0"$

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


































PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL

BUILDING SYSTEMS

HVAC

The current systems do not provide adequate temperature and humidity control for a historical building such as the President's House. A comprehensive modernization of the HVAC systems throughout the house is recommended to provide more reliable space temperature and humidity conditioning with modern equipment, take advantage of the available central heating and chilled-water utilities, provide adequate service access for equipment and rid the perimeter of the house of unsightly and noisy mechanical equipment. As with any major system modernization, it is recommended that heating and cooling load calculations be performed to properly size new equipment and determine required air and water flows. The following is an HVAC comparison matrix that is a tool used to compare the benefits of the various alternatives as well as their impact on the building. It was used to arrive at the final recommendations.

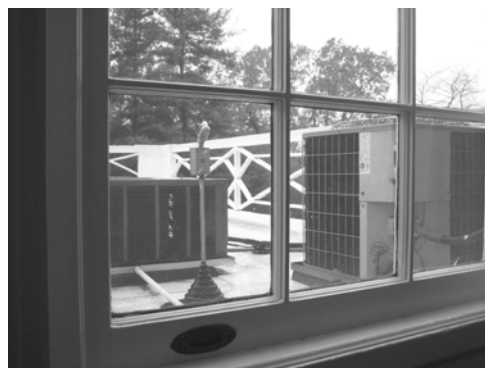
<div>  UNIVERSITY OF VIRGINIA PRESIDENT'S HOUSE ON CARR'S HILL </div>									
HVAC COMPARISON MATRIX	Impact on Historic Fabric	Overall Comfort Level	Seasonal Transitions	Temperature Control	Humidity Control	Construction Disruption	Maintenance	Initial Cost	Operational Cost
No Changes in Radiator Piping					N/A				
Provide Two Pipe Radiator Mains					N/A				
Replace Branch Pipes to Radiators and Mains					N/A				
Replace Split AC System with Campus CHW									
Replace HVAC Systems with all air High Velocity System									
Key:  Very Good  Good  Fair  Poor									

RECOMMENDATIONS FOR REPAIR AND RESTORATION

1. Remove the existing 1-pipe heating water mains at the ceiling of the basement, branch piping to radiators located on the first floor and sun room, and branch connections to risers for second and third-floor radiators. Replace with new 2-pipe, reverse-return heating water mains at ceiling of basement, branch piping to the existing first-floor and sun-room radiators, and branch connections to existing risers for second and third-floor radiators. New piping is to be copper insulated with rigid fiberglass. The existing non-electric thermostatic valves at the radiators are to remain. Replace the heat exchanger and expansion tank in the mechanical crawlspace with new. Create a new mechanical/electrical room in the laundry (Room B01) (Figure M-5) and install new heating water pumps for the President's House (lead and lag) and cottage.

2. As a further measure, also replace the heating water risers embedded in the walls to the second-and third-floor radiators. This will require disturbance of wall finishes and plaster repair. Replacement of the cast-iron radiators is not recommended, as they appear to be part of the original building fabric and are capable of providing comfortable radiant heating.

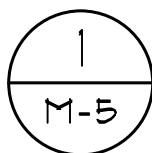
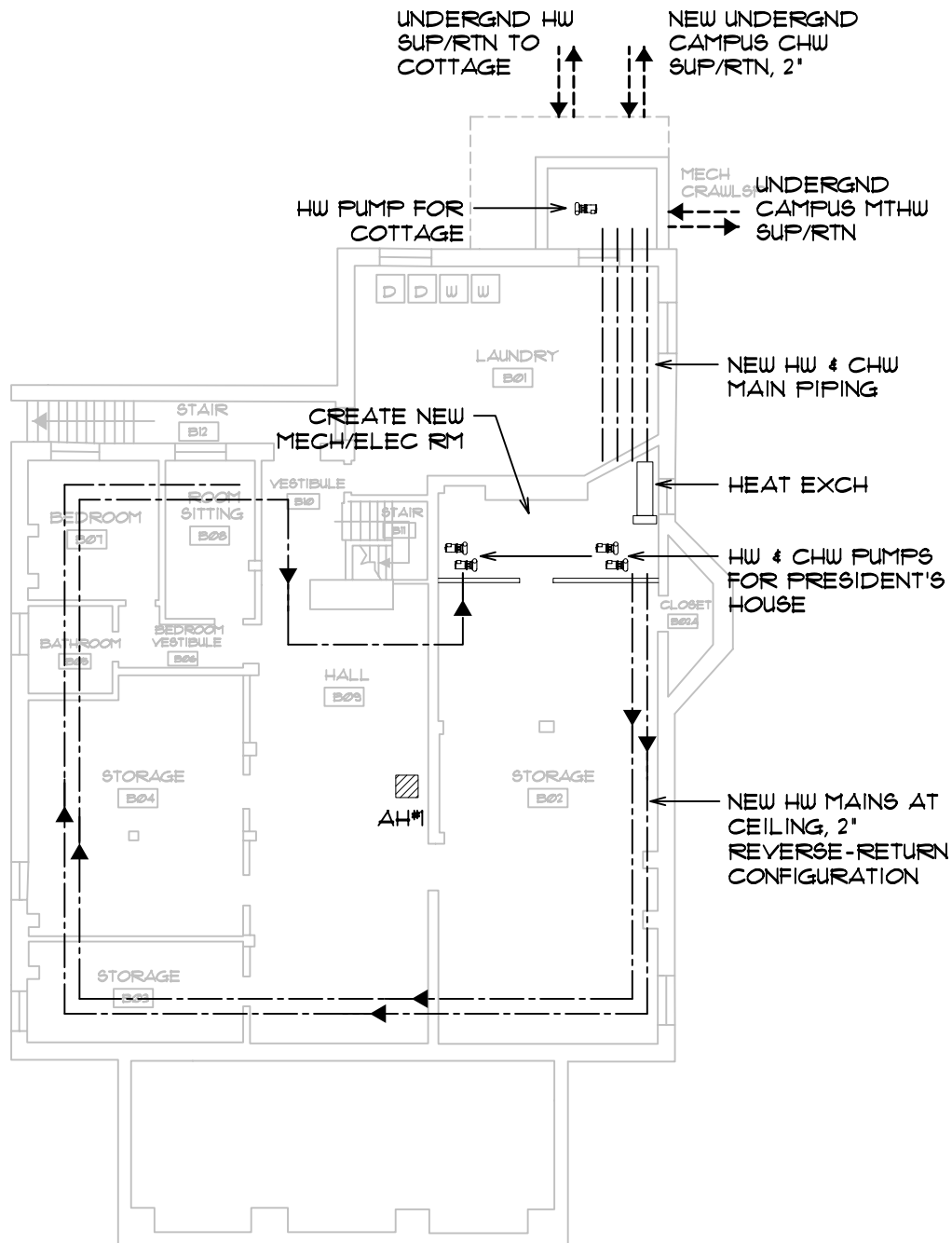
3. Replace split systems (air handlers and outdoor units) with blower coils that utilize CHW and HW coils (4-pipe units). All air handlers should be configured for summertime dehumidification and wintertime humidification control. In addition, the units can be used for space heating during temperate months (Note that measures to reduce/prevent outside air infiltration through the building envelope—such as weatherstripping of windows and doors—should be implemented to accomplish effective humidity control.) Connect to existing ducts and rebalance airflows according to calculated loads. Outdoor air-intake ducts are not deemed necessary, since the air handlers will only operate on demand from thermostats and, therefore, provide only intermittent building pressurization. Outside air should be introduced into the building through a 4-pipe blower coil located in the attic, which tempers and dehumidifies the air. This air would provide make-up for bath and kitchen exhaust fans and positively pressurize the building to minimize undesirable air infiltration.



Outside units on Porte Cochiere (Item 3).

PRESIDENT'S HOUSE ON CARR'S HILL

4. Install electric/steam humidifiers at AH#1 (first floor) and AH#4 (second floor).
5. Replace window AC unit for the Laundry (Room B01) with small fan coil that utilizes HW and CHW coils.
6. Remove window AC unit from Playroom 301. Extend branch duct to playroom from AH#5.
7. Connect to campus CHW system (arts precinct loop) this loop was installed in 2005 in close proximity to the President's House (see Figure M-6). Install chilled-water pumps for the President's House (lead and lag) in the newly created mechanical/electrical room (see Figure M-5). Install CHW piping to the CHW coils the new 4-pipe blower coils.
8. Replace all local control thermostats with small-scale building automation system (BAS) to control space temperatures and humidity. Connect to University Systems Control for monitoring and control. As a lower cost alternative to this, provide programmable thermostats for each new air handler, and control components as required for the central plant equipment (heat exchanger, pumps, etc).
9. Install attic fan system specifically to ventilate the attic and prevent high temperatures and humidity.
10. Replace underground heating water supply and return piping from the basement of the President's House to the Cottage. New piping should be copper.



MECHANICAL PLAN

SCALE: 1/16" = 1'-0"



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BUILDING SYSTEM ENGINEERING

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BASEMENT PLAN

DRAWING NUMBER:

FIGURE M-5

DATE:

12.22.05

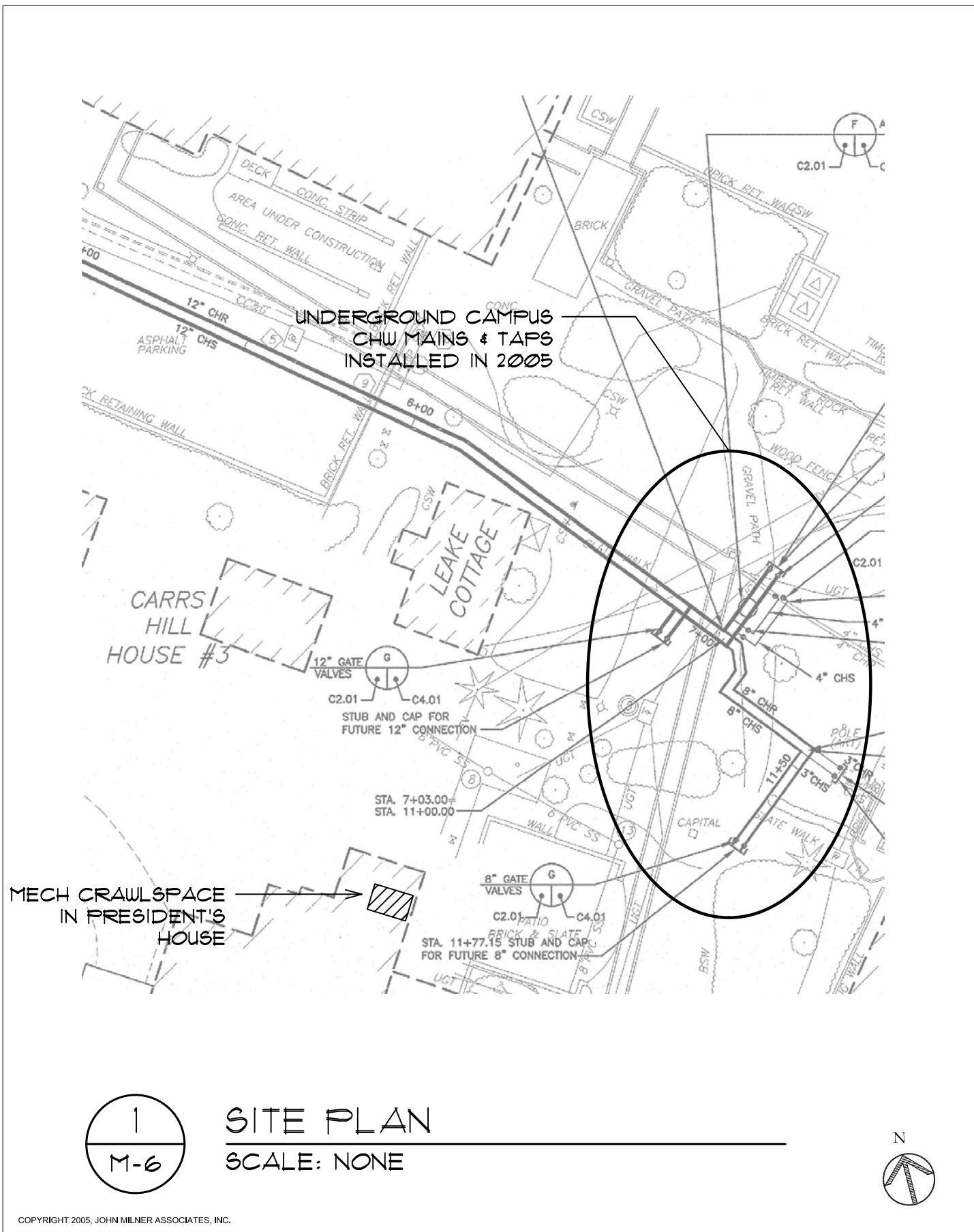
SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL



JOHN MILNER ASSOCIATES, INC.

ARCHITECTS ■ ARCHEOLOGISTS ■ PLANNERS
5250 Cherokee Ave., Suite 300 Alexandria, VA 22312

BUILDING SYSTEM ENGINEERING

2RW CONSULTANTS, INC.
100 10th Street, NE, Suite 202, Charlottesville, VA 22902

DRAWING TITLE:

SITE PLAN

DRAWING NUMBER:

FIGURE M-6

DATE:

12.22.05

SCALE:

1/16"=1'-0"

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PRESIDENT'S HOUSE
ON CARR'S HILL

RECOMMENDATIONS FOR REPAIR AND RESTORATION

PLUMBING

1. The current plumbing systems have the capability to provide adequate service to the plumbing facilities throughout the house. However, the age and condition of some components—branch piping, faucets—hinders provision of such modern conveniences as reliable delivery of properly tempered water at adequate pressure. Therefore, replacement of some components is recommended, including replacement or abandonment of old galvanized steel water-supply piping embedded in walls above the basement, installation of new-hot and cold-water pipe risers to existing fixtures in each bathroom, and replacement of water closets with new low-consumption-type fixtures.



Water heaters in basement (Item 1) AH#1, floor-mounted dehumidifiers also shown.



Domestic water service and meter (Item 1).

2. It has been the university's policy for some time to protect buildings and their occupants from fire hazard, whether or not required by building codes. Therefore, it is recommended that a fire-protection sprinkler system be installed throughout the house during a major repair project, as the opportunity likely will not arise again for quite some time. Concealed sprinkler heads should be used in historically sensitive spaces. A dry-pipe system should be considered, since protection of the unconditioned attic is advised.

ELECTRICAL

Although the current electrical system seems to be providing adequate operation throughout the house, it has incurred many modifications and additions over the years. This has resulted in the loss of efficient wiring methods, particularly in the basement, erratic load organization within panels, and inefficient use of floor/wall space in the

PRESIDENT'S HOUSE ON CARR'S HILL

basement. Some equipment, devices and wiring are dated and warrant replacement during a major repair project.

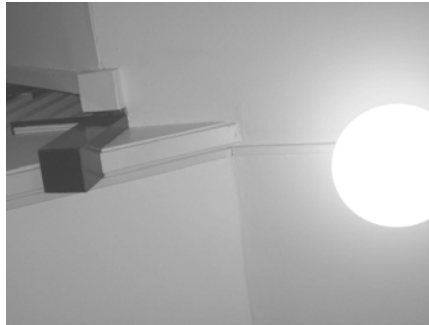


Main electrical panels in Laundry B01 (Item 3).

1. Install permanent electrical load-monitoring equipment in the existing switchboard at Bayly Art Museum to determine loading of the existing service conductors to the President's House.
2. Upgrade electrical service from Bayly Art Museum to 400 amps.
3. Replace the existing main panels (Figures E-1 and E-5) in Laundry B01 with new (Figures E-6 and E-7): 1) Install new main distribution panel with main breaker and breakers for sub-panels; 2) install grounding system for main distribution panel; 3) install new sub-panels to serve existing branch circuits; 4) extend existing branch circuits to new panels; 5) replace sub-panel at second-floor stair hall with new; 6) verify all connected loads and provide up-to-date panel directories.
4. Replace economy light fixtures with ones of appropriate style according to architectural detailing. Where possible, use fluorescent lamp sources (compact fluorescent can replace incandescent in many cases without sacrificing aesthetic qualities).

RECOMMENDATIONS FOR REPAIR AND RESTORATION

5. Replace all “BX” and “greenfield” branch circuits with wiring in EMT conduit or type MC cable. Note that most receptacles are installed in base molding of walls.
6. Replace old, worn, and painted-over receptacles, switches and device plates with new of color and type suitable to the room finishes.
7. Replace surface raceways in first, second and third floors with concealed branch circuit wiring.



*Surface raceway at ceiling
of Stair 119 (Item 7).*

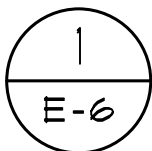
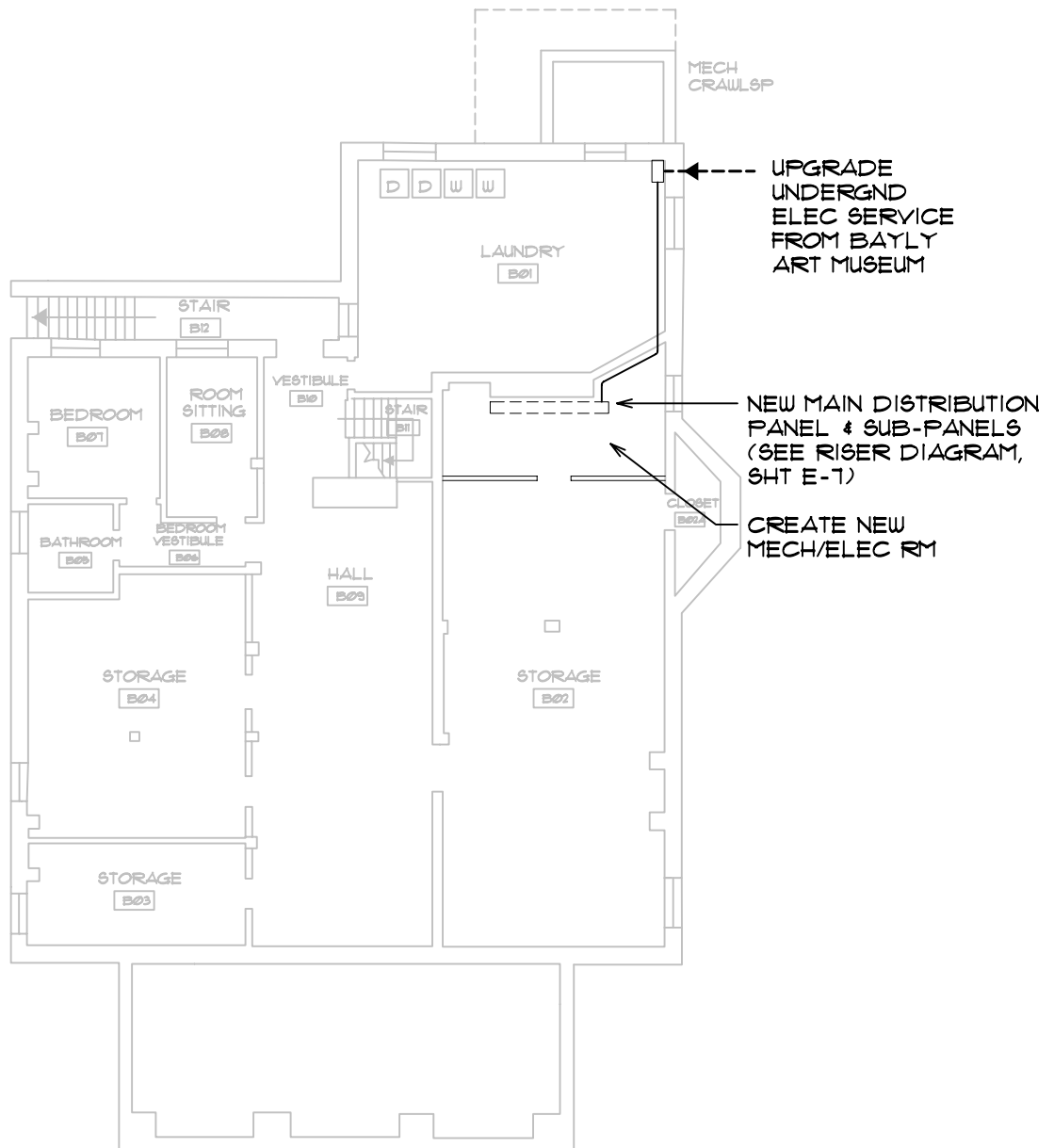
8. Install grounding conductors and driven rods at the panels in the Leake Cottage and Buckingham Palace, which are both fed from the President’s House.

SPECIAL ELECTRICAL

9. Install a UL-certified lightning protection system to include air terminals, down conductors and grounding rods. All down conductors to be run in conduit and concealed within the building fabric.
10. Conceal low-voltage wiring where currently surface mounted.



*Surface-mounted cabling at of
Stair 119 (Item 2).*



ELECTRICAL PLAN

SCALE: 1/16" = 1'-0"



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DRAWING TITLE:

BASEMENT PLAN

DRAWING NUMBER:

FIGURE E-6

DATE:

12.22.05

SCALE:

1/16"=1'-0"

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL

SUB-PANEL
AT LANDING 210

2ND FLOOR

1ST FLOOR

SUB-PANEL
AT COTTAGE

SUB-PANEL
AT PATIO

TO BUCKINGHAM PALACE

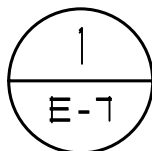
TO MDP

TO MDP

UPGRADE UNDERGND
ELEC SERVICE FROM
BAYLY ART MUSEUM -
4#500MCM IN 3"CD

GND
ROD

BSMT



ELECTRICAL RISER, PROPOSED

SCALE: NONE



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DRAWING TITLE:

ELECTRICAL RISER

DRAWING NUMBER:

FIGURE E-7

DATE:

12.22.05

SCALE:

NONE

UNIVERSITY OF VIRGINIA



PRESIDENT'S HOUSE
ON CARR'S HILL

PRESIDENT'S HOUSE ON CARR'S HILL

BUILDING SYSTEM INTEGRATION

In the ideal preservation world, it would not be necessary to upgrade building systems in historic buildings as any upgrades are disruptive to the building's fabric. However, in order to improve life safety and to enable these buildings to continue to serve vital roles, it is necessary to periodically update building systems. Doing so is not inherently against the *Standards*, but an allowable and necessary event. It is critical that upgrades occur sensitively by avoiding impact on contributing elements and minimizing loss of historic building materials.

Each building system, HVAC, plumbing, fire protection, and electrical, presents its own challenges. For all systems, integration into the basement and third-floor levels of the house is the most straight forward given the currently planned intervention for structural upgrades. The removal of ceiling plaster for this work will facilitate system integration.

On the first and second floors, the sprinkler system would likely be the most difficult system to integrate. A significant portion of ceiling would need to be removed and some walls channeled for risers, if the building were to be fully protected by sprinklers. If the level of disturbance to historic finishes proves to be too great, not providing sprinklers on these two floor levels could be considered if a reduced level of safety is acceptable to the university. An improved fire detection system could offset some of this increased risk.

The plaster in front of existing radiator risers will need to be removed if piping is to be replaced. We will limit this removal to areas of flat plaster as it is easier to replace and is a less significant historic element of the building. Decorative crown molding and base will largely be left undisturbed as it is anticipated that new piping can be slid into place behind these elements. The HVAC drawings included in the mechanical recommendations section of the report show expected locations of vertical pipe risers. Should the university decide to replace all piping leading to the radiators, it will be necessary to undertake more disruptive work by carefully removing additional materials, most likely plaster ceilings, to gain access to horizontal pipe runs.

Similarly, plaster will need to be removed, along with some tile finishes, in bathrooms to gain access to plumbing risers. The anticipated locations of these risers are shown on the plumbing drawings.

To minimize the disturbance to historic finishes due to electrical upgrades, the proposed approach is to feed first floor devices from the basement level. Existing

RECOMMENDATIONS FOR REPAIR AND RESTORATION

locations will be used and minimal new locations selected. Convenience outlets tend to be in the baseboards and their location will facilitate this effort on the first floor. The second floor will be fed from drops originating in the third floor level. Although this approach will not eliminate the need to create openings in the plaster, it will minimize the loss of historic material and provide an upgraded system.

PROJECT PHASING

As the university considers implementation of the proposed scope of work, it is important to examine possible construction-phasing strategies so that the project, as it is ultimately defined, can minimize disruption to occupants and visitors of the house. Before developing the proposed phasing plan, the university established the following parameters:

- 1) Construction should occur during a single campaign.
- 2) It would be acceptable for the president to be relocated from the house.
- 3) Construction should be completed by the end of the president's term.
- 4) No construction can occur during the last two years of the president's term (after June 1, 2009).

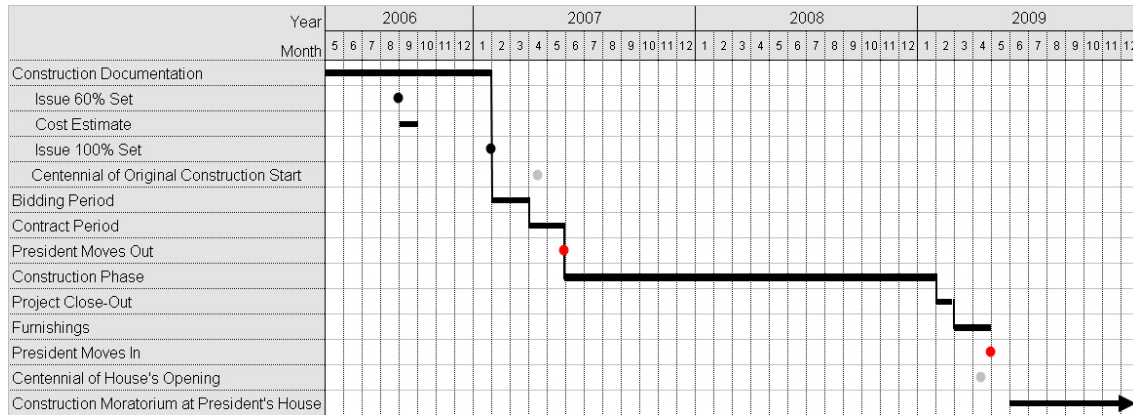
It is recommended that the construction period begin in early June, corresponding with the completion of the academic year and the period of fewest social functions in the home. Functions are most numerous during the May commencement period as well as early in the academic year from September through November.

Another consideration is the approaching centennial of the building's construction. The proposed renovation should be considered as a component of the university's recognition of the building's significance and the preparation of the house for its second century of service. Although precise dates have not been identified, we do know that construction likely began in spring 1907 and that President Alderman moved into the residence in early April 1909.

Given these parameters, the most logical construction start date is early June of 2007. Should the proposed full scope of work be adopted by the university, it is estimated that construction could occur over twenty-one months. The schedule is predicated on relocating the president from the home for the entire construction period. This approach allows for the most expedited and efficient construction project. All contents should be removed from the home prior to construction, not only to protect furnishings from damage but to facilitate the construction process.

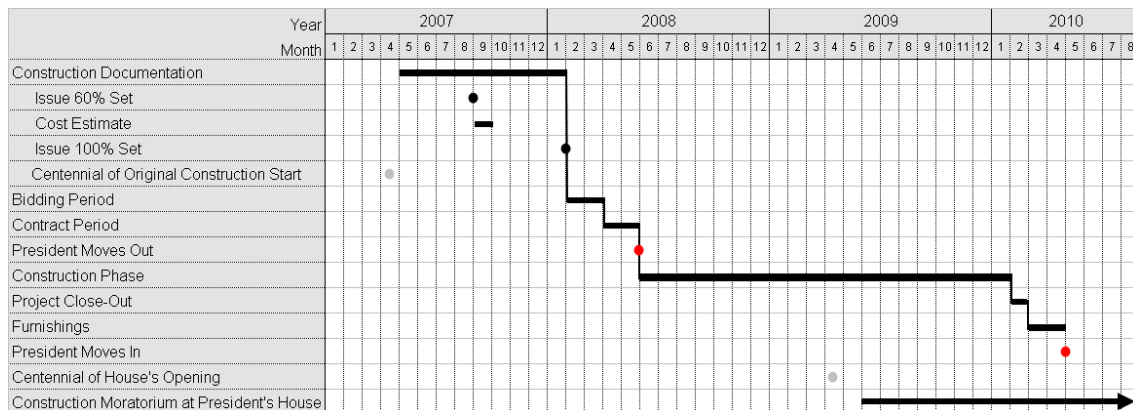
PRESIDENT'S HOUSE ON CARR'S HILL

The construction period would be followed by approximately two months for final cleaning and furnishing of the home. This places the completion of the project at the end of April 2009.



Schedule, Option 1.

It would be possible to start construction in June 2008 and meet nearly all of the project-phasing parameters. However, if all other factors are equal, the project would likely extend eleven months into the construction moratorium period since a move-in date at the end of April 2010 is projected. If the university prefers the second start date, and encroaching into the no-construction period is unacceptable, it is conceivable that the contractor could possibly develop a schedule for the project that improves on the completion date.



Schedule, Option 2.

RECOMMENDATIONS FOR REPAIR AND RESTORATION

If the scope of work were to be significantly reduced, it would also be possible to shorten the time frame for construction. The exact reduction cannot be estimated until a scope of work is defined. Items that will cause the greatest disruption and take the most significant amounts of time are structural repairs, the conversion to a two-pipe heating system, installing the automatic sprinkler system and upgrading the branch wiring. To assist UVA in the process of determining the scope of work of the project, we have prepared the following table that shows possible prioritization of work. Although the table groups possible work elements into the three categories of “essential”, “prudent”, and “non-essential” it does not attempt to place items in each of the groups within any further hierarchical structure.

<u>Essential</u>	<u>Prudent</u>	<u>Non-Essential</u>
Arresting damage that is currently occurring Example: Elimination of storm water overflow on west end of porte cochere and replace damaged masonry	Work to improve safety in the building but no problems currently reported Example: Replacement of old, worn, and painted-over receptacles, switches and device plates	Improvements in building performance, comfort, and aesthetics Example: Repainting of first floor to match historic color palette
Structural repairs	Install an automatic-sprinkler system	Updated heating and air-conditioning system
Drainage	Provide lightning-protection system	Replace hot water risers to upper- floor radiators
Exterior masonry wall repairs	Replace main-service feeder and install proper system ground	Install building automation system
Miscellaneous exterior repairs	Replace branch circuitry and devices (receptacles, switches, lighting)	Replace galvanized plumbing piping and provide new faucets
	Replace outdated electric panels and feeders as well as upgrade main electrical service	Preservation recommendations: doors, historic finishes, cabinets, lighting, balustrade, porte cochere, and roof
		Architectural repairs: concrete, flooring, grilles, masonry, plaster, woodwork, etc.

PRESIDENT'S HOUSE ON CARR'S HILL

OPINION OF PROBABLE COSTS

An opinion of probable construction costs has been prepared by International Consultants, Inc. under the guidance of adopted university metrics. Its purpose is to establish an order-of-magnitude budget for the work. Costs in the estimate have been escalated to the mid-point of the more conservative schedule option two, April 2009, at the rate of eight-percent per year. If the university proceeds with schedule option 1, an approximate cost reduction of eight-percent is projected. Following the completion of the code analysis report recommended earlier, the opinion of probable costs may need to be updated to reflect its conclusions. The estimate should also be revised and updated during the course of further design work.

Architectural work associated with structural or building system upgrades are included within those line-items. Please note that although painting of the second-floor walls and ceilings is carried under HVAC, replacement of riser option, it would also likely be required if only sprinkler or electrical upgrades were to occur. First-floor wall and ceiling painting has been carried as a preservation option, but repainting would also be required if HVAC, electrical, or sprinkler work was completed on that floor. Included architectural items are as follows.

Location	Architectural Item
Structural	Remove plaster ceiling and replace with gypsum wall-board in impacted basement areas
	Remove and replace plaster ceiling for first-floor reinforcement (Option 1 only)
	Remove plaster ceiling on third floor and replace with gypsum wall-board
	Open and close walls for modifications to knee-walls.
	Remove and replace flooring for tie-rods (Option 2 only)
	Modifying walls of third floor for truss
	Remove and replace dormer windows and walls for access
	Third-floor carpeting (1,800 sf)
	Third-floor wall and ceiling painting
	Basement wall and ceiling painting
HVAC	Creation of a mechanical room in the basement
	Opening and closing of walls and ceilings at risers
	Second-floor wall and ceiling painting
Plumbing	Opening and closing of walls at risers
Sprinklers	Remove and replace ceilings on first, second, and third floors not already included under structural or HVAC
	First-floor kitchen and pantry wall and ceiling painting
Electrical	Trenching and cutting of walls to complete the work

RECOMMENDATIONS FOR REPAIR AND RESTORATION

The total estimated construction cost for the recommendations contained in this report is \$3,868,000 to \$3,983,000 if implemented under schedule option two. It has been assumed that all work occurs during a single construction campaign and that the building is not occupied during the work. To assist the university in budgeting, these costs can be divided into the categories, previously described in the *Project Phasing* section of the report, as follows: “essential”, “prudent”, and “non-essential”

<u>Essential</u>	<u>Prudent</u>	<u>Non-Essential</u>
Arresting damage that is currently occurring	Work to improve safety in the building but no problems currently reported	Improvements in building performance, comfort, and aesthetics
\$592,000 to \$707,000 (range accommodates both structural repair options)	\$999,000	\$2,277,000

The estimate does not include a construction contingency or associated project costs. University standards suggest that twenty-percent be added to the estimated construction costs for a construction contingency and thirty-percent for project costs.

