VIRGINIA COMMONWEALTH UNIVERSITY

Scott House

Feasibility Study

Prepared by Glavé & Holmes Architecture
2101 East Main St., Richmond, VA 23223

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# TABLE OF CONTENTS

## SECTION 1
1-4

**EXECUTIVE SUMMARY**
- Team
- Project Overview
- Project Goals
- Process

## SECTION 2
5-44

**CONDITIONS ASSESSMENT**
- Overview
- Original Plans
- Original Elevations and Section
- Historic Preservation
- General Assessment
- 2003 Plans
- Recommendations

## SECTION 3
45-48

**PROGRAMMING**
- Tabular Program

## SECTION 4
49-90

**CONCEPT DESIGN**
- Design Drawings
- Code Research
- Design Narrative

## SECTION 5
91-359

**APPENDICES**
- Appendix A- Historic Integrity Diagrams
- Appendix B- Building Photos
- Appendix C- Meeting Minutes
- Appendix D- Structural Assessment and Design Criteria
- Appendix E- PME/FP Assessment
- Appendix F- Limited Building Enclosure Evaluation
- Appendix G- Stained Glass Report
- Appendix H- Food Service Equipment General List
EXECUTIVE SUMMARY

Team
Project Overview
Project Goals
Process
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**PROJECT OVERVIEW**

The Scott House is located at 909 West Franklin Street within the Monroe Park Campus of Virginia Commonwealth University (VCU) in Richmond, VA. The Scott House is one of Richmond’s most significant examples of American Renaissance architecture and has been listed on the National Registry of Historic Places. This structure is currently used for event space on the first floor, office space on the upper floors and storage in the basement. The occupants of the Scott House will be relocated in the near future and since this building is used occasionally as an event and meeting space it was decided this would become the main function of this building. VCU engaged the Richmond architectural firm Glavé and Holmes Architecture (G&HA) to prepare this feasibility study that includes a conditions assessment, programming and conceptual design.
PROJECT GOALS

The overall goals for the Scott House is to stabilize the building envelope through needed repairs and to adapt this structure into an event and meeting center. Throughout this project we refined and expanded the goal of adapting the building into event and meeting space to the following objectives:

- Provide event and meeting spaces to host University groups and visiting groups.
- Reorder the service entry to not cross the public entrance.
- Provide office space within the back (service) wing of the second floor.
- Maintain the historic fabric by focusing the renovations on program spaces that have been modified or dramatically altered in the past.

PROCESS

G&HA led an assessment of the existing conditions and worked with VCU in addressing building envelope deficiencies and adapting the structure to serve as event and meeting space. Specific steps were as follows:

1. Site Survey and Conditions Assessment – This study began with a site survey of the existing conditions which included G&HA (architectural), DMWP&V (structural), Engineers Plus (PME/FP), WJE Associates (building envelope engineers) and FoodStrategy (food service consultant). From this survey, a conditions assessment was generated.
2. Conditions Assessment and Preliminary Programming Owner Meeting – During this meeting the existing conditions were highlighted and some preliminary recommendations presented to the committee. For the programming portion, various layouts for each principal room were presented to the committee for review and comment. Specifically, round banquet, oval banquet, lecture and board room test fits were produced for the first floor; office and conference layouts were generated for the upper floors. Refer to Appendix C for the meeting minutes.
3. Programming Development – Since an addition to this structure was not relevant and most of the spaces would remain unaltered due to their historic significant the programming was guided by the existing plans. Limited spaces had prescribed square footages and those spaces were placed in areas that had been dramatically altered in the past. From these test fits a tabular program was generated.
4. Follow-up Programming Owner Meeting – At this meeting the programming test fits and tabular program were presented to the committee for review and comment. Refer to Appendix C for the meeting minutes.
5. Preliminary Code Review and Concept Design Development – Following the owner meeting the preliminary code review was conducted and concept design was generated.
6. BCOM Meeting – Once the preliminary code review was completed and the concept design had been explored concerns and questions were brought to BCOM. Refer to Appendix C for the meeting minutes.
7. Concept Design Owner Meeting – Subsequently, the concept design drawings were presented to the committee along with a brief synopsis of the BCOM meeting. Refer to Appendix C for meeting minutes.
8. Design Narrative Preparation – After the owner meeting the conditions assessment recommendations were refined for the design narrative. During this time the concept design drawings were revised to reflect the comments made in the owner meeting.
9. Cost Estimate - Hanscomb Consulting took the concept design narrative and drawings to prepare the cost analysis. VCU has requested that the cost estimate not be included in this document.
CONDITIONS ASSESSMENT

7  Overview
15  Original Plans
19  Original Elevations and Section
24  Historic Preservation
27  General Assessment
34  2003 Plans
38  Recommendations
OVERVIEW

The Scott House was completed in 1911 to the designs of Richmond architects Noland and Baskervill. The house, one of the grandest residences of its day, was built for Frederic William Scott (1862-1939) and his wife Elizabeth Strother Scott (1868-1930). Scott was a wealthy stockbroker and selected a French Neo-classical form and decorative theme for the house, which was intended to make an architectural statement on Richmond’s most fashionable residential street. The massive house contains over 18,746 square feet on three floors and in the basement.

The House’s design makes references to Newport’s Marble House, completed in 1892 to the designs of Richard Morris Hunt, one of the earliest architects working in the idiom known today as the American Renaissance. Ultimately based on the design of the Petit Trianon at Versailles, the Scott House draws from eclectic sources for its interior architecture, largely composed of moldings, decorative plaster casts, and other details, some of which can be found in architectural catalogs. The plaster work is attributed to Ferrucio Legnaioili, a prominent sculptor and plaster contractor, who may have used a combination of custom and catalog ornament to create the interiors.

According to the National Register form for the house, its interior “can be understood as an architectural museum, with rooms in many different styles, each style normally selected for its association with the function of the room. In that spirit, the Main Hall and Drawing Room pay tribute to eighteenth-century France, famed for the refinement of its social life; the Library cites the Gothic era, a great age of learning; the Dining Room follows the Adam style of the late eighteenth-century, when Britons developed the modern dining room; and the Renaissance Den evokes the studies or studioli of fifteenth- and sixteenth-century Italy. This gallery of styles was not cut-and-dried -- there is the Breakfast Room, decorated with a Pompeian bacchanale, and a Renaissance-Chinese Den influenced by the Scotts’ acquisition of Chinese furniture.”
SITE

The house was set impressively on its lot with broad granite entry steps flanked by low front walls. It observes the same setback as its older neighbor, the Lewis Ginter House of 1892. A drive extends by way of the Porte-cochère to the rear, where a decorative carriage house is located along the alley at the back of the lot. The original drive has been supplemented by concrete pavers around the elevated Porte-cochère and leads to a rear parking lot for use by the offices located in the building. A brick terrace (c 1951) and lawn are placed to the east side of the service wing. A painted steel decorative exit stair was added at the rear of the house in 2003.

The house is surrounded by a raised terrace on the east side and the north front. The terrace is supported on a granite retaining wall topped by a balustrade. Broad granite steps edged by granite cheek walls provide access at the east and in the center of the north front. The site was originally quite different in layout. An alley ran behind the service wing, providing easy access for service vehicles and servants. The carriage house stood on the opposite side of the alley.

EXTERIOR

The house, for which both the original plans and specifications survive, is clad in Indiana limestone with corners emphasized by smooth quoins. The house presents a seven-bay, two-story façade to the street. The windows and doors, as well as the cornice and upper balustrades are executed in ornate terra cotta trim that matches the limestone. The Corinthian cornice with a frieze ornamented with swags, surrounds the main body of the rectangular house. The terra cotta trim links the openings on the first and second floors with decorative aprons supported on consoles. Panels between the first and second-floor windows incorporate pairs of garlands. The central portico features four colossal fluted Corinthian columns supported against the main wall by two pilasters in the outer bays. A curve-fronted balcony is located at the second floor over the central main entry, reached by a small double-leaf French door. A full third floor is nearly concealed behind the tall parapet topped by a balustrade.

The double-leaf front door features glass panels protected by ornamental ironwork, topped by a transom, and flanked by elaborate lamps. The house includes a variety of ornamental window types, from the broad one-over-one sash windows on the main house, the elaborate traceried glass in the French doors of the Dining Room and the leaded stained glass in the Breakfast Room to the six-over-six sashes added on the first floor of the service wing by Elizabeth Scott Bocock in 1951. The main house has four massive paneled terra cotta chimneys on the side and rear walls, while the Service Wing has a lower brick chimney on the east side. An original elevator shaft projects above the roof of the service wing just where it joins the main house.

A one-story loggia (the “East Porch”) is centered on the east front. Three French doors give access from the Dining Room and Library to the terrace along the east side. Another double-leaf French door opens onto the terrace from the Breakfast Room (also referred to as the Conservatory in historic plans). The service wing is offset to the rear, connected on the south by an adjoining wing originally containing the Butler’s Pantry (also referred to as the Kitchen in current plans) on the first floor and a Sun Room above. From the east side of the Butler’s Pantry wing projects a highly ornamental copper-clad conservatory, adapted during the design to serve as a Breakfast Room. Domed apses occur on the south and east. The copper walls are paneled and decorated with garlands. The molded cornice containing an inset gutter includes continuous ornament called out on the drawings as “ornamental copper frieze N. 5091 Friedley and Voshardt’s Catalogue.” Friedley and Voshardt was a popular manufacturer of decorative sheet metal at that time.
The service wing is treated to appear more impressive from the garden than its functional rooms would have suggested, including an arched loggia off the Kitchen and Servant’s Hall on the first floor and an elegant iron balcony projecting on the floor above, provided for the use of the servants. The cream-colored brick Service Wing has brick quoins and a wood dentil cornice slightly lower than the main house just above a tall terra cotta frieze. A Porte-cochère projects from the west side of the service wing just behind the main house. This elegant structure is detailed to match the porch on the east. Both the Porte-cochère and the East Porch have Ionic columns and adjacent piers and terra cotta balustrades smaller than, but similar to, the ones on the main roof.

INTERIOR

The interior was designed in the regionally popular layout of entertaining rooms on the ground floor and bedrooms above. In spite of the grand domed staircase within, the stair leads only to a bedroom floor which would not have been accessible to most guests. In keeping with period grand houses up and down the eastern seaboard, the house was equipped with extensive service areas, including a Laundry Room, Kitchen, Servants’ Hall, and servants’ bedrooms. The service areas were segregated from the family sections and entertaining sections by carefully placed doors and distinguished by contrasts in the types of finishes. There was a contrast also in the elaboration of the trim in the first-floor reception rooms and the second and third-floor bedroom and between rooms used by the family and secondary rooms like bathrooms and closets.

FIRST FLOOR

The first floor consists of a wide Main Hall with the stair at its back, flanked by a Drawing Room on the west and a smaller Library on the east. A small Den fills out the area behind the Drawing Room, while a large Dining Room is located behind the Library. All of the rooms are interconnected by wide pocket doors, so that the entire first floor can be opened up for entertaining. A large Butler’s Pantry is placed behind the stair in order to connect the Dining Room with the Kitchen in the Service Wing. According to the national Register nomination, the Rear Hall/Pantry/Breakfast Room axis creates “a mixed-use buffer between the family and service areas of the house.”

The principal reception rooms have elaborate decorative cornices and trim in a variety of styles, some of which appear to have been ordered from the Decorator’s Supply Company in New York. The cornice and details in the Main Hall were built as detailed by Noland and Baskervill and were probably not ordered from a catalog. The entire suite of rooms has herringbone parquet flooring with elaborate inlaid borders. Doors throughout are provided with bronze hardware and rods for portières (curtains hung in doorways). The doors were designed in a traditional six-panel form, but with unusually deep carved panel moldings with scalloped corners.

Main Hall

The Main Hall has an elaborate decorative scheme. According to the National Register form, its composition employs “a classical vocabulary, but is grouped in a highly decorative and unorthodox way typical of the Beaux-Arts style of architecture.” The room features an Ionic cornice with modillions, a dentil course, and a tall guilloche frieze. The cornice projects out over the crossetted doorways, supported on paired and single paneled pilasters carrying consoles and each doorway is separated from the entablature by a pulvinated, cross-banded frieze. The cornice extends across the south end of the Hall in the form of a beam framing and supporting the stair. The Hall features paneled wainscot and upper walls divided into panels by applied cross-banded reeded cushion frieze with bead-and-leaf inset panels. Four torchiere-style sconces are placed in the corners of the Hall. The ceiling has an applied plaster molding and a central gilded lantern.
The stair rises at the south end. Turned balusters and round newels topped by twin bowls upheld by sculptured figures were shown on the original design. These were replaced on a drawing dated 1909 by an elaborate cast bronze rail more appropriate for a French-style dwelling. The double-return stair divides at the landing and continues in two runs to the second floor. A small cloakroom is placed below the stair, accessed on either side by “secret” doors concealed in the paneling. A tiled powder room is located below the landing, flanked by an original coat closet, adapted as a toilet room in 2003.

**Drawing Room and Den**

The Drawing Room, an amalgam of various French styles, has a shallow egg-and-dart cornice and a delicate French-style Rococo plaster ceiling ornament, a Neo-classical marble mantel with a gilded mirror above, a low paneled wainscot, and attenuated egg-and-dart window and door moldings. It is lit by a central crystal chandelier and wall sconces. The adjoining Den has an elaborate carved stone French Renaissance mantel with a mosaic firebox surround containing the letter “S,” a mirrored overmantel, tall unpainted wood wainscot and wood coffered ceiling, low built-in bookcases, and central art glass gasolier/electrolier. The carving on the front of the mantel includes putti, scrollwork, and a central shield. The unpainted door and window trim is thought to have been given a Chinese blind fretwork design in later years.

**Dining Room and Library**

The Dining Room, with Adamesque or Colonial Revival detailing, has the most elaborate and celebratory ceiling with applied Neo-classical ornament including a central oval panel and an Ionic cornice with plaster swags in the frieze. The door and window trim has inlaid ornament matching the inlay in the sideboard, dining table, and china cabinet. The room is surrounded with a low wainscot with imitation marquetry simulating paneling. The doors to the Pantry and the Breakfast Room have swan’s neck pediments. The central electrolier and matching sconces on three of the walls are silver plated. The Neo-classical yellow and white marble mantel and hearth include a central tablet and end blocks ornamented with white urns on a yellow ground. The Library that adjoins the Dining Room has Gothic detailing, including a tracery-style ceiling plaster ornament ordered from the Decorator’s Supply Company supplemented by a foliated cornice and a pendant frieze. Unpainted oak trim includes a plain corner fireplace, bookcases and paneled wainscot with tracery insets and foliated moldings, ogival arched window and door trim, and wrought iron sconces. The chandelier is modern.

**Breakfast Room**

The Breakfast Room to the south of the Dining Room is treated as a Pompeian loggia, with plaster walls, irregular mosaic floor, and vaulted plaster ceiling with a decorative central oval skylight surrounded by plaster arabesques and infilled with leaded art glass resembling alabaster scales or feathers. The room is barrel vaulted and provided with slender “Pompeian” colonettes derived from murals in ancient villas. Apsidal curved bays on the east and south contain leaded glass casements incorporating stained glass garlands of ivy, and with a “Pan-Athenaic”-type frieze of dancing and military figures. The room was painted in polychrome in 2003, although the family indicates that the walls were originally mostly white in tone. A heavy central electrolier features a central figure identified as Silenus, the god of wine. A small bronze clock is placed in the west end. A carved marble radiator cover supported by caryatids and a group of curving marble planters are original. These were possibly carved by Richmond sculptor Ferruccio Legnaioli, who did the ornamental plasterwork.
Rear Hall
The Rear Hall acted on the first and second floors as a separator between the service section of the house and the rooms used by the Scott family. The back stair that rose in the Rear Hall was used by both family and servants as a principal connector between floors. It is treated with paneled wainscot and an elegant railing incorporating three turned balusters per tread and decorative stair brackets.

Service Wing
The Service Wing is entered by the door to the right of the main staircase, which gives access to the Back Stair and the elevator which served all three upper floors. The Back Stair, located just inside the Porte-cochère, was meant to be used by both the owners and the servants and was given a more decorative treatment than would have been the case otherwise. The basement was accessed by means of the Back Stair and by means of two area stairs on the rear. The Service Wing was divided into two main rooms: the Kitchen on the east side and the Servants’ Hall on the west, both opening onto a large Kitchen Loggia incorporated in the body of the wing. A Storeroom, where dry foodstuffs were stored, was placed to the north of the Servants’ Hall and all three rooms were accessed by a small entry hall opening out of the back stairs. A dumb waiter connected the Kitchen with the Laundry Room below and the second-floor corridor above. The Butler’s Pantry retains the white tile wainscot, some original shelving and cabinets, silver vault, and steam-heated cast-iron plate warmer. An original gas jet survives on the east wall. The cabinets and appliances along the south wall, the lighting fixtures, and the linoleum flooring were added as part of a decorator house for the Richmond Symphony in the early 2000s. The rest of the first floor of the service wing was radically altered in conversion to an apartment for the Bococks after 1951 and by the addition of new toilet rooms in 2003.

THE SECOND FLOOR

Stair Hall
The second floor features a series of interconnected main bedrooms and bathrooms that extend around the central hall in the main section. The Stair Hall in partly encircled by an octagonal galley supported by fluted Ionic columns. Three panels occupy the wall at the rear of the landing, divided by the Ionic columns on the south side of the octagon.

The central panel is treated as a window with crossette trim and a cornice. It was probably intended to hold an elaborate stained glass window. The window is shown in the original plan as lit from behind by an electric light with a “reflector.” Conversion of the Sun Room behind the stair to a Bedroom, apparently during construction, may have eliminated the use of an actual window, as a revised stair plan shows a brick wall in the same location. A photograph from the 1960s does appear to show a frame in the window location and what may be draperies. Panels to either side, framed by cross-banded, reeded moldings contain original full-length portraits of Frederic and Elizabeth Scott.
Bedrooms and Baths

The bedrooms accommodated the Scott’s five children. The plan bears evidence of an original design that incorporated a European-style three-room suite in which Frederic and Elizabeth Scott would have had separate bedrooms linked by a sitting room at the center of the main front. Tradition, however, indicates that the northeast corner bedroom (Bedroom 1) was preferred for occupancy by the owners. With their five children, it seems that the Scotts added two bathrooms not on the original plan so that each room had its own bath, except the small sitting room on the front. The bathroom on the front between the room labeled “Bedroom 1” and the central room in the north front, is the only bathroom with marble flooring and wainscot.

The remaining second-floor baths have tiled interiors, possibly indicating that Bedroom 1 was the original master bedroom. The remaining bathrooms are all tiled in similar ways, with pink inset tiles forming bands and decorative panels in three baths and blue or green in two. Perhaps, with two boys and three girls, Isabel (b. 1899), Elizabeth (b. 1901), and Mary (b. 1906), the tile color schemes indicates an early intention for the girls to use Bedrooms 3, 4, and the Bedroom made in the place of the Sun Room, which has pink trim. The oldest son, Buford (b. 1895) would have used Bedroom 5, with its blue tile bathroom a high wainscot and inset painted tile landscapes and the youngest son, Fred Jr. (b. 1903), was housed in the Boy’s Bedroom with access to the bathroom trimmed in green.

The nursery, labeled “Boy’s Bedroom” was in the Service Wing across the passage from the Nurse’s Room. The entry to the Boy’s Room was separated from that of the servants’ bedrooms beyond by a door. The room in the projection behind corresponding to the Butler’s Pantry on the first floor was labeled Sun Room on the plans, but was clearly adapted as a bedroom while the building was under construction. A small copper-clad bathroom served it and projected over the Breakfast Room below. Apparently at the same, the plans were altered to add a closet along the west wall, next to the door opening into the Back Stair.

The second-floor rooms all have elaborate plaster cornices, ordered from the Decorator’s Supply catalog. Each door is unpainted and provided with four horizontal panels and pressed glass knobs. Closet doors are provided with full-length inset mirrors facing into the bedroom. The doors and windows are provided with molded two-part architrave trim with base blocks or plinths and small molded cornices. The rooms have molded wood base. The modern diagonal oak flooring replaced the original in the 2003 rehabilitation, except in the service wing, which retains its original plain oak flooring.

The northeast bedroom, labeled “Bedroom 1” on the plans, has a deep cornice including putti and foliage, ordered from the Decorator’s Supply catalog, and a mantel with fluted columns and figural insets resembling porcelain Jasper-ware. The central room on the north front has a Gothic ogival cornice, and the northwest bedroom employs a eighteenth-century Neo-classical style with a dentil cornice punctuated with large scrolls and a Rococo-style ceiling ornament. The southwest bedroom incorporates an Adamesque mantel and swagged plaster cornice. The southwest bedroom has a plaster molding with paired console brackets and features a large mantel with an inset antique tile panel depicting a Dutch canal.
Service Wing
The service wing contained six servants’ rooms, including the children’s nurse. They were arranged along a central corridor that opened onto the balcony at the south end. A small bathroom was located to the west side of the balcony door. A second bathroom was added in the 1950s in the second bedroom from the north on the east side. The spiral staircase came up into an enlarged section of the corridor. Three partitions were removed to open up the four small bedrooms at the south end of the wing into two larger bedrooms and a French door was added to give access from both bedrooms to the balcony. The original closets, window trim, and floor remain, as well as the plain plaster walls. The four panel doors are equipped with glass knobs and operable transoms for ventilation.

THIRD FLOOR
The third floor is located behind the parapet and the rooms are lit by full-size one-over-one sash windows set in a copper-clad wall. The floor is organized around the octagonal dome lighting the stair in the floor below. The corridor that lines the dome borrows light from the space above the dome, which is covered by an outer skylight, replaced in 2003. The corridor has a molded plaster cornice and decorative casement windows looking into the area above the second-floor dome. The floor contains two guest or children’s bedrooms on the east side, a Children’s Playroom in the northwest corner, a Trunk Room in the center of the west side, and a Butler’s Room in the southwest corner. The floor is reached by the Back Stair and the elevator that rise at the back of the main house and by means of an added egress stair cut out of the southeast bedroom in 2003. There was only one bathroom on the third floor originally, opening out of the two main bedrooms.

The northeast and southeast bedrooms on the third floor were equipped with plaster cornices. The principal doors and windows are provided with molded two-part architrave trim with base blocks or plinths and small molded cornices, although the bathrooms have simpler one-part trim. The doorways have unpainted four panel doors and pressed glass knobs. The rooms have a molded wood base. The modern diagonal oak flooring was replaced in 2003.

The Butler’s Bedroom has plain plaster walls and ceiling and a decorative brass sconce. The Children’s Playroom has a paneled wainscot and a plaster paneled ceiling, as well as a small crystal light fixture and decorative brass sconces. The room was divided by a central partition in the mid-twentieth century. The original bathroom at the east side of the third floor was reduced in size in 2003, but retains its fixtures and portions of its marble floor and marble wainscot like the bathroom on the north front on the floor below. A second bathroom with its own small window and a raised floor to accommodate the added drain line was added on the west side in the mid-twentieth century to serve the student tenants. Each bedroom has a small closet and a deep cedar-lined closet is apparently equipped to hold the house’s off-season draperies. The landing at the top of the back stair was enclosed in 2003 to comply with fire-safety codes. The landing is equipped with an early ornamental sconce and the stairway is lit by an original wreath-shaped electrolier with pendent bulbs.
BASEMENT

The basement is strictly a service and support area. The portion under the main house contains the Boiler Room under the Den and an adjacent Coal Room and Storage Room under the Drawing Room. A central hall runs under the Main Hall above and the areas under the Dining Room and Library are accessible although not fully excavated. There is a crawl space beneath the eastern part of the Breakfast Room. The elevator descended to the basement. A small servant’s lavatory and machine room were adjacent to the shaft. The basement was entered by means of an area stair and door on the south wall next to the Breakfast Room. The back stair descends into a Hall below the Rear hall on the upper floors. Two rooms are reserved for wine storage— one behind the rear stair and one below a part of the Breakfast Room. The basement of the service wing contains the Laundry Room and a room for the storage of the coal for the kitchen range, as well as the lower hatch and shaft for the dumb waiter. The Laundry Room opened off an area under the Kitchen Loggia. The area was originally shown with an entry at the east end but an exterior stair was substituted on the west side during construction.

SERVICES

The house was originally equipped with both gas and electric light fixtures, with electric lights predominating. The electric wiring is placed in conduit, with a principal fuse box in the second-floor hall behind a blind door. Most rooms were provided with central ceiling fixtures and one or more sconces on the wall. Heat was provided by radiators on the upper floors and in the service wing, but by concealed heating gravity indirect units in the floor in the first floor entertaining rooms. Most family rooms were provided with working fireplaces. There were a total of eight bathrooms on the upper floors, powder room on the first floor, and a servants’ bath in the basement.
Original Basement Plan
Original First Floor Plan
Original Second Floor Plan
Original Third Floor Plan
Original Rear Elevation
Original East Side Elevation
The house was completed in 1911 for the Frederic Scott family. It took its place among the city’s most opulent dwellings and was maintained for decades as a base for entertaining and social relationships for one of the city’s most well-known families. As was typical for the first decade of the twentieth century, the Scott House was built and equipped like a commercial establishment with the most up-to-date planning and technological equipment. It was maintained in the same style by the Scotts until Mrs. Scott's death in 1930 and the onset of the Great Depression. The house continued to be the home of the Scott’s son Fred Scott and his wife Elizabeth Pinkerton Scott until 1945 with very few changes.

Among those few changes, for which the exact dates are not clear, a double-leaf door was added, probably to separate the third floor area used by the family from the Butler’s Bedroom near the head of the staircase. On the first floor, the closet called the Tool Room on the original plans, opening off the Den, was converted into a vestibule leading into the Den from the Porte-cochère. The Tool Room alteration appears not to have been completed, because the walls on the interior are of exposed brick. The new double doors serving that purpose were equipped with a mail slot and screen doors for ventilation. This may have undertaken at the same time the Scotts altered the door and window trim in the adjoining Den to add Chinese fretwork to correspond to Chinese furniture they had acquired.

The Scott family summered at the top of Afton Mountain at Royal Orchard, where it was cooler and less humid than in Richmond. The Scott House was not designed with the heat and humidity of Richmond taken into account. Cross ventilation was not ideal with the depth of the building and the lack of transoms over the bedroom doors. There were no ventilation grilles to permit the dome to be used for convection air flow for the lower floors. At some point around the middle of the century, large fans were inserted in the exterior walls on the second floor to assist in removing heated air during the night. A fan was placed in the southeast bedroom to serve the second floor and over the added door under the Porte-cochère to serve the first floor. A similar fan in the rear wall of the space above the dome served the same purpose and was probably added at the same time. The second-floor fan has been concealed on the interior and the third-floor fan has been removed.

After the end of World War II, Frederic and Elizabeth Strother Scott’s daughter Elisabeth (1901-1985), and her husband John Holmes Bocock (d. 1958), acquired the house from her brother and their family moved in. She would live at 909 West Franklin Street until her death in 1985. By this time, the full-scale operation of the house having ended, the staff quarters, kitchens, and other service rooms were no longer in use. In 1951, the Bococks hired C. W. Huff, Jr., Richmond architect, to redesign the rear wing of the house as a residential apartment for their use. It is thought that Mrs. Bocock made the initial design and directed the changes. The plans still exist in the VCU collection. Although confined for the most part to the service wing, this represents the most significant change that the house has undergone.

The existing room layout on the first floor of the Service Wing was almost entirely obliterated. The Kitchen Loggia, the southern half of the Kitchen, and the Servants’ Hall were removed to make way for a new main room that occupied the southern end of the wing, divided into living and dining areas by a partial-height bookcase wall. A remaining northern half of the Kitchen was adapted to continue in the same function with a new staff entry inserted on the east wall. The Storeroom continued in use as a Pantry and a Powder Room was inserted to its south. The dumb waiter was sealed at the basement level and the space it occupied on the first and second floors used for other purposes.
The Living and Dining areas, lined with a new full-height raised paneling and a modillion cornice, were separated by a bookcase wall linked to a new steel spiral stair to the second floor lined with vertical cypress boards. Fireplaces were added at both ends incorporating reused antique mantels. The Dining Room mantel was placed at an angle. The western mantel was inoperable. The five arched openings in the original Kitchen Loggia were infilled with French doors with arched transoms. The window in the east end of the Living Room was shifted to make room for the new fireplace. Arched windows replaced the first-floor sash windows lighting the revised kitchen on the east side. All of the windows in the first floor of the service wing were provided with new six-over-six sash windows to replace the original one-over-one sashes, no longer fashionable, and exterior shutters were installed for the first time on all the openings. After an intruder gained entrance to the apartment by means of the second-floor balcony, Mrs. Bocock added bars to some windows and iron spikes around the downspouts. A brick terrace and an exterior light were added to the east side of the wing. On the second floor, some of the partitions separating the servants’ rooms were removed to create two new bedrooms and a bath, supplemented by the original Servants’ Bath. The original Boy’s Bedroom and Nurse’s Bedroom were apparently retained as part of the apartment as well as the bathroom of the Boy’s Bedroom.

Mrs. Bocock opened the third floor of the house as student apartments in 1963. As part of these changes, a circular stair was added between the second and third floor in the area of the southeast bedroom, the Children’s Playroom was divided into two bedrooms, and a bathroom was added on the west side of the third floor. VCU purchased the house from the heirs of John Holmes and Elizabeth Scott Bocock: Frederic Scott Bocock, Bessie B. Carter, Mary Buford Hitz, in 2001.

HISTORIC SIGNIFICANCE
The Scott House is one of Richmond’s most significant American Renaissance residences, embodying the work of one of the city’s most prominent architects. The Scott family, by their historic association with the city and with the house, contributed to the development of New South Richmond in the late nineteenth and early twentieth centuries. The house occupies an important site on Franklin Street, then the city’s most fashionable residential avenue. Its massive form, limestone walls, and substantial classical details contrast with the older eclectic buildings that form its context along Franklin Street. It is a regionally significant descendant of a series of important models, including Marble House in Newport RI and the Petit Trianon in Versailles. Its remarkable state of preservation is due to the long care (90 years) by the family for whom it was built and by the custodianship of Virginia Commonwealth University, which is committed to the long-term conservation and adaptive reuse of a large number of historic buildings in the surrounding neighborhood.

The forty year period from 1911 to 1951 represents the period over which the historic development of the house occurred. The period from 1951 to 2001 represents a secondary period of ownership by descendants of the Scott family during which significant alterations occurred. Materials from the first period should be preserved and conserved. Building fabric from both periods should be retained where possible, but the alterations made after 1951 have already been seriously compromised by changes required to make the building a useful part of the university’s program. The removal or restoration of some elements of the building to their 1911 appearance may be justified, but only where a consistent appearance is achieved. For instance, the window arrangement and form in the Service Wing dates from 1951, and should retain its general appearance, including six-over-six sashes and shutters, from the period of John and Elizabeth Bocock unless a case can be made to fully restore the entire exterior.
PRESERVATION APPROACH
Virginia Commonwealth University policy toward historic buildings in its ownership is spelled out in a policy statement:

“Several state laws and regulations direct state agencies to consider the potential impact to historic properties owned by the Commonwealth resulting from proposed state-sponsored undertakings and to consult with the Department of Historic Resources as a part of their planning and decision-making processes. . . . Although the below laws and regulations do not prescribe an expected outcome, there is an expectation of a due diligent consideration of the comments received from the Department of Historic Resources.”

The University’s Master Site Plan, VCU 2020, outlines the preservation philosophy and approach for historic buildings: “Exterior alterations to the historic buildings are strictly limited and approval processes are extensive. Interior renovations, though less tightly regulated, are often limited by the disposition of the original structural elements. Typically, these buildings can only be adapted to modern programmatic function by leaving space inefficiencies in the plan.” The Scott House fits that pattern very closely, as its architectural significance and condition merit careful planning and intervention. Discussion of the approach is keyed to concepts and terminology embodied in the Secretary of the Interior’s Standards for Historic Preservation Projects, a nationally recognized standard.

In general, the exterior of the Scott House should receive a preservation treatment. Preservation is defined as the process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work should focus on the ongoing maintenance, and repair of historic materials and features. Removals, extensive replacement, alterations, and new additions are generally not appropriate, though limited discrete modifications may be necessary. In general, the exterior should not be changed and should be preserved and maintained as it currently exists.

The recommended treatment for the interior of the Scott House is rehabilitation. Rehabilitation is defined as the process of creating a compatible use in an historic property through carefully planned minimal alterations and additions. 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 impacts to historic elements and building fabric. They should also be constructed of compatible materials. Retention of original historic fabric should be the primary consideration in undertaking a program of rehabilitation.

The exterior of the Scott House should be preserved. The interiors should be preserved to the maximum extent possible consistent with necessary programmatic changes. Any programmatic change should be surgical and strategic, inserting needed changes carefully into the existing historic fabric and minimizing the scope, extent, and impact of the changes. Changes should only be made if they represent the long-term interest of the building and its users, such as life safety, accessibility, mechanical systems, and technology. Short-term programmatic changes should be resisted, or, if made, should be fully reversible.

Many of the most pressing life safety changes required to bring the Scott House up to code were made in 2003, corresponding to the Secretary’s Standards. New doors and partitions as well as a new interior stair and a new exterior fire stair were added to bring the building into compliance with building codes. Other issues, such as full compliance with the Americans with Disabilities Act have been partially met, in that the first floor will be fully accessible and equipped with accessible toilet rooms with minor adjustments. The second and third floors are not accessible at all. Mechanical systems are complex amalgams of the 1911 steam heating system, ducted air conditioning originating in 1951 (in the service wing) and 2003 (in the first floor of the main house), and window AC units (in the second and third floors). Electrical systems are in need of renewal, as wiring is outdated and often inappropriately surface-mounted. Smoke and fire alarm systems are adequate, but should be evaluated.
GENERAL ASSESSMENT

CONDITION OF EXTERIOR ARCHITECTURE

Introduction
The architectural assessment of the Scott House at Virginia Commonwealth University is designed to address the building’s architectural, structural, and building systems deficiencies. The goal of the exterior survey portion of the assessment is to locate, identify, and document all materials and their deterioration and/or failure. The analysis portion of the assessment is intended to provide a basis for future preservation decisions.

Site
The site of the Scott House includes large grass areas, two asphalt-paved parking areas, a raised brick terrace, and a driveway from Franklin Street to the rear parking area. The ramped section of the drive that runs through the Porte-cochère (a bypass made of concrete pavers was added some years ago) is paved with asphalt paving blocks that appear to be of an early date. There are several modern lamp-posts. The site is in good condition, although it probably bears closer resemblance to its appearance during the occupancy of Elizabeth Scott Bocock than to its form during the lifetimes of Fred and Elizabeth Scott. The grounds could benefit from a more developed landscape design, including parking areas, lighting, paving, and plantings, to provide a more appropriate setting for the house and for events held in relation to its planned function.

Masonry
The exterior walls of the house are built of limestone (main house), brick (service wing), and terra cotta (architectural trim). The exterior limestone wall cladding on the main section of the Scott House are intact and in good condition, with some loss of integrity at the mortar joints. The brick walls of the service wing are in similarly good condition, with the first-floor window alterations made by Mrs. Bocock in the 1950s. Additional observations are as follows:

- Exterior limestone wall cladding and brick walls of the Scott House are intact and in good condition, with some loss of integrity at the mortar joints.
- Granite base mortar joints deteriorated.
- Sources of moisture must be eliminated in order to preserve the masonry materials. Sources of moisture include:
  » Ineffective drainage associated with the concealed gutter below the main roof
  » The cast-iron downspouts concealed in the walls
  » Gutters and downspouts on the lower sections of roof.

Architectural Trim
The exterior trim, including the cornice and rooftop balustrades on the main room, the east porch, and the Porte-cochère are made of buff-colored ornamental terra cotta with a combed matte glaze. The terra cotta is dependent on the integrity of the mortar and caulk joints between the units. The joints on the top of the main cornice are infiltrated by moisture that is causing internal damage, to the degree that several of the modillions have fallen to the terrace below. Continuance of the current level of infiltration could lead to a dangerous condition. Additional observations are as follows:

- Water infiltration visible on interior and exterior.
- The terra cotta units are fair condition but with areas of damage.
- Damaged units are visible in cornice with corroded steel supports visible.
- Severe water staining and anchor spalls are apparent.
- Top members of the cornice are damaged and displaced at corners.
- Balusters and rails are misaligned and over-caulked and internal iron rods are rusted.
Metals
One of the most distinctive features of the exterior is the copper cladding used to sheath the exterior walls of the third floor and the walls and domed roofs of the Breakfast Room and the Bathroom above the Breakfast Room. The third-floor copper sheathing includes ornamental copper crossette or “eared” architrave window trim and a small molded external copper gutter and downspouts. The copper cladding on the Breakfast Room and the Bathroom above includes built-in molded gutters.

The sections of copper sheet metal on the third-floor walls and the Breakfast Room remains largely intact, although a section of sheets along the east side of the third floor has become detached. On the Breakfast Room and corresponding second-floor bathroom to the rear, the gutters are leaking and water is infiltrating the interior to a limited degree. Much asphalt patching material has been added to joints. The condition of the wood framing of these architectural elements is unknown, but likely is in need of repair. The condition of the framing of the Breakfast Room will need to be further investigated as part of the project to restore the metal exterior surface.

The steel exterior stair providing emergency egress for the third floor is located to the rear of the main house. The ornate stair, built in 2003, is uncovered and shows a need for paint. Otherwise it is in good condition. Additional observations are as follows:

- The third-floor copper sheathing includes ornamental copper window trim and small molded external copper gutters and downspouts.
- Further study is needed to determine extent of damage behind metal sheathing.
- Sealants and caulking are deteriorated.

Front Terrace Trim and Paving
The terrace that lines the north and east walls of the house is raised above the street level to a point about three inches below the first floor level. The terrace is surrounded by a low granite baluster with plinths at the ends and corners of the balustrade. The balustrade is in good condition. The terrace is paved with the original green Grueby tiles, manufactured by the Grueby Faience Company, as listed in the specifications. The tile is in fair condition, although somewhat eroded and crazed by exposure to the weather for over a century. The terrace has shown some differential settlement over the years. The section leading to the main entry door has taken the most wear. The attempted repair in that area in 2003 was largely unsuccessful, as it is very difficult to precisely match the color and shape of the aged tiles that remain in place. The noticeable cracks to each side and on the east side remain visible. Although the cracks are not overwhelmingly distracting, it is possible that the exposed inner tile may result in accelerated deterioration in that area. Additional observations are as follows:

- Terrace balustrade is in good condition.
- Original green Grueby tiles are in fair condition.
- The terrace has shown some differential settlement over the years.
- Attempted repair in that area in 2003 was largely unsuccessful.

Wood Doors
The exterior doors are in a variety of conditions. Some have been damaged by the changes in security hardware over the years. The door from the Porte-cochère to the Rear Hall is chipped and damaged by heavy use. The three French doors opening onto the east terrace are in good condition. The weather-damaged exterior shutters at the French door opening out of the Library were added in the 1950s. The narrow doors onto the second-floor balcony over the main entry are in good repair. The five French doors in the former arches of the Kitchen Loggia were added in the 1950s and are in good condition. The corresponding shutters are in needed of paint and minor repair. Additional observations are as follows:

- Some doors have been damaged by the changes in security hardware.
- The door from the Porte-cochere to the Rear Hall is chipped and damaged by heavy use.
- Remaining doors will benefit from careful repair and repainting.
- The louvered shutters at the rear are in need of paint and minor repair.
Wood Windows
The windows throughout the building are in fair condition. Many are in need of re-caulking, re-glazing, and painting. There are no energy conservation features. The windows in the third floor are in rough condition, with quite a few rotted stiles and rails. The windows in the basement of the service wing are in the worst condition. The casements in the rear area and the adjacent Laundry Room need the most work. The windows on the west side of the Laundry Room are set in deep areas that are semi-circular in plan. The openings at the tops of the areas have been covered over with plywood and mulch, so that the areas and window frames are liable to moisture build-up and damage. The three windows in the south end opening into the area are covered by plexiglass, preventing ventilation. One of these windows is missing significant parts.

The louvered vent added on the second-floor east wall and, to a lesser degree, the vent on the west side under the Porte-cochère are anachronistic and may eventually need to be removed, but this remediation is not a high priority. There is no evidence of any ongoing damage and patching of the limestone walls would be required. Additional observations are as follows:

- Most windows are in need of re-caulking, re-glazing, and painting.
- The sealant between wood and terra cotta is deteriorated.
- The windows in the third floor are in the worst condition, with a few damaged stiles and rails.
- The casements in the rear area and the adjacent Laundry Room need the most work.
- The west Laundry Room windows are set in semi-circular areas that are buried below mulch beds.

Wood Trim
The wood cornice on the service wing is in good condition. Additional observations are as follows:

- Wood cornice on the service wing is in fair condition with some displacement of wood dentils.
- Second-floor porch at the south end of the service wing is in poor condition due to deterioration of the wooden elements.

Rear Porch
The second-floor porch at the south end of the service wing is in very poor condition due to deterioration of the wooden elements. It is currently temporarily reinforced to prevent its collapse.

Roofing
The roof of the main house has a 12% slope, while that on the service wing is very shallow at 5%. The copper roofing material specified for the main roof over a slag substrate and the lower service wing roof has been replaced with membrane roofing. The skylight over the dome was replaced in 2003. The copper lining of the internal gutter behind the third-floor parapet has also been supplemented with a membrane material and flashing, although some early flashing survives high on the interior of the parapet. There is anecdotal and physical evidence of rain infiltration at the northeast and northwest corners of the second-floor building interior, possibly due to terra cotta rather than roofing. Additional observations are as follows:

- The built-up membrane roof (over copper?) over the main section is in good condition.
- The lower service wing and lower porch roofs have single-ply membrane, the roofs and roof structure of the Porte-cochere and east porch were replaced in 2003, but still experience moisture-related problems.
- The internal gutter at third-floor parapet is also lined with a membrane. Flashing and slope may be inadequate.
CONDITION OF INTERIOR ARCHITECTURE

Introduction
The interior of the Scott is generally in good condition. One of the problems with the most ramifications is that the second and third floors are not ADA accessible. As will be seen, plumbing, electrical, and mechanical systems are complex amalgams of the 1911, 1951, 2003 renovations. There are building code issues that depend on the use to which the building is put, including use of pocket doors for means of egress on the first floor. Finishes remain in reasonable condition from 2003 renovation. The paint build-up is substantial on moldings. Walls are showing crazing. Flooring is in relatively good condition. The principal visual problem is the surface-mounted electrical outlets in most rooms. The finishes are not based in historical research or scientific paint analysis.

Partitions
Load-bearing partitions date from 1911 and are built of brick with plaster applied directly as a finish. Most non-load-bearing partitions date from the 1911 completion of the house, but limited enclosures were built in more recent years on each floor to comply with fire safety regulations. All are built of wood studs with a plaster finish (1911) or gypsum wallboard finish (1951 and 2003). All interior partitions are generally in good repair. Some of the plaster has limited damage from moisture infiltration.

Interior Doors
Wood stile-and-rail doors with varying panel configurations (including four and six-panel) are the most common type. They are provided with molded wood architrave trim, and in some cases with wood cornices and other decorative woodwork in various forms. Doors added as part of exit routes in 2003 are of wood designed to match the adjacent historic doors, including trim.

Stairs
The original stairs date from 1911 and were built of wood, with wood treads and metal railings on the front stair and wood treads and railings on the back stair. All are in good condition, although the treads are creaky and show signs of wear, in particular those on the back stair, which gets the most use. The railings heights do not meet current code requirements of 42 inches. The added stair and railings to the third floor meets current code requirements.

Wall Finishes
Wall finishes take a variety of forms through the building. Walls in the five first-floor reception rooms are the most elaborate, with a variety of painted and unpainted wainscots and plastered upper wall treatments, either plain plaster or with painted plaster moldings. The Playroom on the third floor has paneled wainscot that matches that in the Rear Hall and back stair. Other areas have plain plaster walls, with or without plaster cornice moldings. The basement has exposed masonry walls.

Ceiling Finishes
Plaster ceilings make up the majority of the ceilings in the building, except in the rooms added in 2003, such as the new first-floor toilet rooms in the service wing. First-floor entertaining rooms and most bedrooms on the second and third floors have combinations of plaster crown molds and plaster ceiling ornament in a variety of styles from room to room and according to the position of the room within the hierarchy of the building’s architectural order. Most ceiling trim is applied over a lath and plaster substrate and appears to be secure, except for one or two places in the second floor. Plaster cornices were removed or interrupted as part of the insertion of the access stair from the third floor to the second floor in 2003. The Living/Dining Room added by the Bococks in 1951 was provided with a dropped ceiling of gypsum wallboard as part of a structural reinforcement in 2003. Most plaster and wallboard ceilings are in good condition. There are no ceiling finishes in the basement, except where gypsum wallboard has been added, such as in the storeroom in the northwest corner.
Floor Finishes
The first-floor reception rooms of the Scott House were equipped with expensive herringbone parquet flooring when the house opened in 1911. These floors are intact and in good condition. The original wood flooring on the second and third floors was replaced in 2003 as part of the addition of a new sprinkler system. It isn't immediately apparent whether the flooring replaced was herringbone parquet or plain tongue-and-groove flooring, but today it is herringbone parquet on both floors. The flooring in the closets on the third floor suggests that the floor there was conventional. The narrow tongue-and-groove flooring in the second floor of the service wing is mostly original and in good condition. The flooring in the first floor of the service wing is of wood, much patched by the many changes in partition location. The Butler’s Pantry has a floor of linoleum, installed in 2002. Basement flooring is of poured concrete and is in good condition.

Bathrooms and Lavatories
There are three types of bathrooms at the Scott House- those included in the original building in 1911, those added in the 1950s, and those added in 2003 to meet handicapped access requirements. The original family and guest bathrooms, of which there are eight, feature either marble floor and wainscot, or ornamental patterned tile walls and floors, with plastered upper walls and ceilings. Most of the bathrooms feature original fixtures with pull chain toilets, porcelain pedestal sinks and tubs, and marble shower stalls. The two servant baths, one in the basement, presumably for the male servants, and one in the second floor of the service wing for the female servants, were very basic. The second floor servants’ bath was altered in 2002 by the addition of tile wainscot. Of these ten bathrooms, five are currently inoperable, for unknown reasons. In addition there is an original lavatory behind the main stair. It is still operable and is equipped with marble wainscot and floor and plastered upper walls and ceiling and retains its original fixtures.

The tilework and marble are in generally good condition, although the original third-floor bath was reduced in size as part of the installation of the new exit stair from the third floor in 2003. The 1911 toilet and bathrooms are an important and well-preserved feature of the Scott House. The second generation of bathrooms includes a bathroom on the west side of the third floor and a similar room on the east side of the second floor of the service wing. Both were added in the mid-twentieth century as the use of the house shifted to a multi-unit dwelling. Both bathrooms required raised sections of flooring to accommodate the plumbing traps. These toilet rooms are plainly finished with plaster walls and ceilings and vinyl tile floors. These bathrooms are not important contributors to the building's significance and can be removed or altered as required.

The third generation of toilet rooms was added in 2003 on the first floor in the service wing. They were intended to retrofit the first floor for use as event space meeting ADA access requirements. These consisted of large men's and women's rooms carved from the kitchen and storeroom area of the service wing and a small women's room opening off the Main Hall in the place of the original Coat Closet. Their construction required removing some of the Bocock additions of 1951 as well as some of the original finishes from 1911. These rooms are attractive and in good condition and continue to meet accessibility requirements. Their finishes include gypsum wallboard walls and ceilings.

Food Preparation
The original kitchen was located in the eastern half of the service wing. The food was served from the Butler’s Pantry, located immediately behind the main staircase and the Dining Room. It contains a large silver vault and some of the original glass-fronted cabinets for the family’s china and glassware, in addition to a steam heated plate warmer. The Butler’s Pantry was finished with white tile wainscot. It contains a modern linoleum floor. While the counters and cabinets on the north wall have been retained, the counters on the south wall and the fixtures and appliances were replaced in 2002. Today the Butler’s Pantry is used as the catering kitchen for the building. It is adequate for the purpose for which the building is used now, but new facilities may be needed if the building’s use changes.
Structural Elements
The structure of the house is in relatively good condition, with some caveats.

- Limited termite and moisture damage at some basement and upper-floor joist ends.
- Concrete floor visible from below in boiler room shows honeycombing and reinforcement rust.
- Most plaster cracks are not significant.
- The ceiling structure of East Porch and Porte-cochere were exposed and repaired in 2003.
- The attic above the third floor was reinforced in 2003.
- The second-floor porch at the south end of the service wing is in very poor condition due to deterioration of the wooden elements. It is currently temporarily reinforced to prevent its collapse.

For a more detailed assessment, see Appendix A.

Services- Conveying
The only elevator was installed in 1911 and has not functioned for many years. The cab and the shaft are too small to meet state requirements in full.

Mechanical System
The heating, ventilating, and air conditioning systems are a mix of types and areas served. Additional observations are as follows:

- Gas-fired boiler has issues- no combustion air openings in boiler room. Opens into Den.
- Gravity indirect heating units. Of the six originals, only four are working and lack filters and tight enclosures.
- Two more gravity units in Board Room do not have outside air.
- Steam distribution to radiators throughout the house is by original system over 100 years old.
- First floor of house is served by two 5-ton units in basement and the service wing is supplied by a 5-ton unit in former laundry room, both at the end of their useful lives.
- Basement units do not have outside air required by code.
- Ductwork and insulation do not meet modern standards.
- Ten window units serve the offices on the second and third floors.

Refer to Appendix B for a more detailed assessment.

Electrical System
The electrical system is a mix of old and new. Some elements are outmoded, others are visually or functionally unacceptable. Lighting, in many rooms, is restricted to the fixtures and illumination values, installed in 1912. Egress and emergency lighting is adequate, with a few caveats. Additional observations are as follows:

- Consists of a mix of different periods with surface mounting of wiring and fixtures.
- Most receptacles are not handicapped accessible.
- Much incandescent and fluorescent lighting remains.
- Flip-style egress lighting and inverters were installed in 2003.
- Historic sconces do not meet ADA requirements.
- Appropriate air sampling system for smoke detection and indicating lights installed in 2003.
- Some pull stations and ADA strobes are missing.
- Electrical service equipment is outmoded; panel boards are in good working order.

Refer to Appendix C for a more detailed assessment.
Plumbing System

- A wide mix of plumbing types and fixtures.
- Most toilet rooms are non-ADA accessible and have antique fixtures.
- Unknown how much original water piping remains.
- Gate valves for water shut off are in questionable condition.
- Backflow preventer missing from boiler
- Hot water heater has minor deficiencies
- Roof drainage and sanitary drains are combined. Adequate at this time, but likely to experience leaks, ongoing problems, or failure in the future.

Refer to Appendix D for a more detailed assessment.

Fire Safety
This structure is currently equipped with an automatic fire suppression and fire alarm system.

Life Safety
Based on the current codes, this structure closely resembles Type IIIB construction, which is characterized by noncombustible exterior wall with interior elements consisting of any code-approved building materials. Interior building materials consist of wood and plaster. The building appears to be within the height and area limits for Type IIIB construction. According to the SMBW 2003 Construction Documents, the current use group classification is a separated use of Group B, Group A-3, Group S-2 and unusable space.

The egress system in this building consists of two interior stairs from the Third Floor to the Second Floor, one interior and one exterior stair from the Second Floor to the First Floor and from the Basement to the First Floor. Openings into the stairs are protected by fire doors. Stair widths are approximately 34 – 42 inches and provide sufficient egress capacity from each floor. The existing guardrail/handrails do not meet code at west historic stair. The west stair, which is the continuous interior stairwell, discharges to the exterior at the First Floor. The east stair, which is a combination of an interior stair and exterior stair, discharge to an exterior stair at the Second Floor and at the Basement. Four exterior doors swing against the direction of egress including the front double door. Of the five assembly spaces on the First Floor two of the assembly spaces only have a historic pocket door as a means of egress. Two of the spaces also have historic pocket doors, however they also have swinging doors that empty directly to the exterior. None of the assembly spaces exceed a 50 person occupant load so more than one exit is not required.

Exit signage has been provided in the building and emergency lighting has been provided in some of the building.

Americans with Disabilities Act
The Scott House is not in compliance with the Americans with Disabilities Act. As a historic property, variations and compromises will need to be considered that will place the building in substantial compliance while adapting the requirements in some cases to preserve significant historic fabric.

- Accessible Route
  There is an accessible path from the parking area to the east side of the building, however, no handicapped parking is designated. The front door has a temporary ramp for handicapped, however, there is no handicapped door operator. There is currently no operating elevator in this building to allow accessibility to the basement, second floor, and third floor.

- Bathrooms
  The existing restrooms on the first floor are accessible with minor upgrades, however, there are no accessible restrooms on the second or third floors.
2003 PLANS

Basement Plan
First Floor Plan
Second Floor Plan
Third Floor Plan
RECOMMENDATIONS

The Design Narrative has further refined the following recommendations and shall govern if any discrepancies exist.

EXTERIOR RECOMMENDATIONS

Site
The larger site is not included in the architectural assessment.

Masonry
Sources of moisture must be eliminated in order to preserve the masonry materials. Sources of moisture include ineffective drainage associated with the concealed gutter below the main roof, the cast-iron downspouts concealed in the walls, and the gutters and downspouts on the lower sections of roof. Clear drains and keep flashing in good repair. Repair cracks in mortar. For micro-cracks where there is a risk of water infiltration, use a thin set, cementitious, mineral-based mortar. Although leaks in the internal downspouts are not now evident, they may develop at any time in the century-old downspouts. For leaks in downspouts, line the downspout with an epoxy lining or replace the downspouts. Please refer to the National Park Service’s Preservation Brief on Repointing Mortar Joints in Historic Masonry Buildings.

- Repair minor spalls in stone and brick.
- Repoint only where there is evidence of water infiltration.
- Repoint chimneys.

Architectural Terra Cotta
The cornice should be studied more closely with a hands-on inspection to determine its condition in detail. A plan for repair and replacement by a skilled contractor can then be developed.

- Use a skilled contractor to replace failing mortar and sealants around windows.
- Perform a hands-on assessment of the cornice for damage.
- Develop a plan for the systematic repair and replacement of terra cotta units.
- Remove or repair in place failed terra cotta cornice units.
- Remove and restore the balustrades.

Metals
The metal panels, gutters, and ornamental elements should be repaired under the direction of a metals conservator. Loose panels should be reattached, opened joints repaired, and caulking renewed.

- Remove caulking and sealants and reapply.
- Reattach loose sections of copper and repair damaged joints.
- Perform further investigation of the substrates, particularly at the wall panel/window panning interfaces to determine the condition of the underlying materials.
- Evaluate the potential for installing a supplemental weather barrier or making additional surface repairs to the cladding panels to improve watertightness.
**Front Terrace Trim and Paving**

Repair of the slab below the tile to undo areas of differential settlement would involve replacement of large areas of the tile. The tile probably cannot be removed without unacceptable levels of damage. It may be best to keep most of the paving in place as it is, with patching of cracks and sealing of tiles and small cracks. Eventually a decision will have to be made about replacing areas of tile, but it may be successfully put off for many years by a careful maintenance strategy. Where cracking is minor, another option includes removing certain undamaged tile to form a border around the main entry porch, installing the new tile border and then re-installing undamaged tiles to replace cracked tile.

- Where cracking is minor, options include doing nothing, replacing cracked tile only but bridging over the crack, or routing the tiles to create a sealant filled joint that reflects the path of the crack.
- Where the underlying concrete surface is vertically displaced and/or associated crack is wide, separating the tiles with a sealed joint and replacing any damage tile on either side is the most prudent action.
- If an unacceptable tripping risk remains, more invasive tile removal, concrete repair, and tile reinstallation can be performed subject to availability of an acceptable /replica/replacement tile.

**Doors**

Some exterior door repair is called for. Functional and security hardware dates from a variety of periods and should be given a careful inspection and review. The front door could benefit from cosmetic repair and renewal of the weather stripping. The door from the Porte-cochere to the Rear Hall would benefit from a repair and refinishing. The three French doors opening onto the terrace need repainting, re-glazing, and new weather stripping. The Library door shutters could be removed rather than repaired, since they do not contribute to the significance of exterior of this section of the house. The added door dating from 2003 at the top of the exterior stair is damaged by weathering. The former kitchen door behind the exterior stair is damaged by moisture as well. A metal plate has been added over the solid panel at the bottom half. The doors and shutters at the arched openings in the former Kitchen Loggia should be repaired and painted.

- Repair and repaint doors.
- Redesign security equipment to improve safety and minimize damage to doors.
- Replace weather stripping.
Wood Windows
Wood windows will need to be carefully stripped of paint, repaired and repainted. Sash weights will need to be replaced and windows made operable. In some cases, these will need to be rebuilt. It is recommended that the first- and second-floor windows in the main part of the house be repaired and maintained in their current form. Interior storms should be added on the first and second floors of the main section. On the third floor, the windows might receive exterior storms, which would assist in preserving the historic windows in this concealed, but vulnerable location. Windows in the service wing could be protected and given added energy-conservation features by the installation of exterior storms. Most basement windows can be repaired in place.

- Replace perimeter sealant.
- Replace any failed paint. This may include removing paint from over-painted surfaces and repainting.
- Offsite repair or replacement needed for third-floor windows.
- Clean and epoxy repair cracks in wood elements.
- Repair glazing.
- Repair or replacement of trim elements that have deteriorated using appropriate replacement materials.
- Upgrade building systems to permit removal of all window air conditioning units.

Wood Trim
The exterior wood trim needs minimal repair.

- Repair and repaint exterior wood elements.

Rear Porch
- Restore the rear second-floor service porch.

Refer to the DMWPV study titled “Rear Porch Condition Survey,” dated May 14, 2013.

Roofing
The main and secondary roofs are in general good repair. The wide third-floor built-in gutter is secure at this time, although there has been interior plaster damage in the north corner bedrooms on the second floor when the downspouts were not cleaned of obstructions and there was a heavy rainfall. The plaster crown in the north end of the east wall of the northeast bedroom (Room 202) has detached slightly. Ensuring a weather-tight roof is the most important element in a building maintenance program. Although the roofing is in good condition, keeping it that way will depend on cyclical maintenance. All roofing elements, such as flashings, gutters, copings, and leaders should be kept in constant repair.

- Investigate improvements to flashing and slope in gutter.
- Perform water leakage testing to determine the source(s) of interior finish damage.
- Perform test cuts and moisture surveys to determine if the underlying roof substrates are wet.

Additional Recommendations
Develop a comprehensive planned building maintenance program to deal with all cyclical maintenance issues. Focus on checklists and calendars to plan activities and prepare for the limited life-cycles of building components. Ensure that all treatments are monitored and recorded. This should include training for all housekeeping and facility staff to be receptive to historic building issues, treatments, and recording of planned maintenance.
INTERIOR RECOMMENDATIONS

Introduction
The approach to the interior of the Scott House is intended to be strategic. Areas that are working well will be maintained in order to avoid adding additional material stress and buildup of surfaces, unless it is economically in the best interest of the university to make a substantial charge.

Partitions
Historic partitions should be maintained, with the possible exception of the careful insertion of an opening between two smaller rooms to make it possible to use the room in keeping with the building’s purpose. Partitions added in previous renovations may be retained, except in a few situations. Most partitions that were added in 2003 to meet fire and egress requirements were detailed to match the original walls. The partition that divided the Children’s Playroom into two offices should be removed.

Interior Doors
- All existing doors should be maintained in place.
- Any new doors should be designed to match.
- New security hardware should be added with great care to avoid damage.

Stairs
- Repair the stair treads to lessen creaking. Clean and restore finishes on stair elements.

Wall and Ceiling Finishes
If the desire is to restore the interior of the entertaining rooms, then begin with a paint analysis and hire skilled advisors. Otherwise, the interior of the Scott House should be repainted only as needed to avoid excessive build-up of paint. For purposes of the new uses for the building the existing finishes could be retouched as needed, except in the Breakfast Room, where plaster work is needed and there is an opportunity to return to the original color scheme. Wherever new painting is planned in major rooms like the Breakfast Room, every effort should be made to do the paint analysis required to restore original paint colors and treatments.
- Correct sources of moisture.
- Repair damaged finishes.
- Develop a maintenance design for historic finishes.

Plaster
- Repair the plaster where it has spalled or where ornamental elements have become loose or fallen.

Floor Finishes
- Repair flooring where damaged and after removing added partitions. Protect and retain existing finishes during work.
**Existing Bathrooms and Lavatories**

Maintenance and preservation of some of the historic bathrooms should be part of the overall project design to the extent that is feasible, although some may need to be altered to meet the accessibility and functional requirements of a modern academic building.

- Consider preserving the historic bathroom fixtures and fittings in rooms 107, 201A, 202A, 204A, 205A and 206A, as well as the unusable bathroom at 213.
- Remove the second generation of bathrooms to return the adjacent rooms to their original size including the bathrooms on the west side of the third floor and on the east side of the second floor of the service wing.

**Food Preparation**

- Consider continued use of the Butler’s Pantry as a staging area even if a new kitchen is added in the southern end of the Service Wing. Refit the Butler’s Pantry equipment as required for the proposed use.

**Structural Elements**

Repair those elements of the structural system identified in the report of the Structural Engineer, to include:

- Repair spalled concrete and exposed rusted reinforcing at underside of Rooms 105 and 109.
- Add new steel angles at joist ends in rooms 005 and 006. Check concealed joist ends elsewhere and repair as needed.
- Remove drywall ceiling in Rooms 003 and 004 so an adequate observation can be conducted.
- Remove plaster ceiling in Room 202 to observe the third floor framing and determine why a plaster section separated and fell.
- Repair rear balcony as recommended by DMWPV in the “Rear Porch Condition Survey, dated May 14, 2013.

Refer to Appendix A for more detailed assessment.

**Elevator**

- Add a Limited Use/Limited Access elevator in the original shaft.

**Mechanical**

The mechanical systems at the Scott House are outdated, not to current code, and a combination of different types of systems. The below items should be addressed:

- Removed steam boiler, indirect heating units, and associated piping. Radiators should be disconnected and left in place selected by the architect.
- Remove turbine vents from chimneys and cap chimneys.
- Remove whole floor exhaust fans.
- Remove split system cooler units in basement and assess duct work.
- Remove window cooling units.
- Provide a heating, ventilating, and air conditioning system with a variable refrigerant flow indoor heating recovery system unit (VRF-HR) for the entire building.
- The first floor units would be located in the basement and the second and third floors serviced by units located high on the walls in each room.
- A separate ducted system for ventilation would be required as detailed in Appendix B.
- Provide code-required exhaust for each of the new and existing restrooms.

Refer to Appendix B for a more detailed assessment.
Electrical
The electrical systems are outdated, not to current code, and represent a variety of different periods. The below items should be addressed:

- Retain all historic fixtures and relamp and rewire as needed.
- Remove modern fixtures in Kitchen and modern sconces in Drawing Room.
- Add additional basement lighting to reach required lighting levels.
- Install egress lighting at the egress path exterior doors.
- Install fire alarm pull stations at the stairs on the second and third floors and at the exterior egress doors on the first floor.
- Install ADA strobes in conference rooms and new and existing restrooms.
- Relocate telephone/data conduits out of elevator shaft.
- Install A/V capabilities to include video conferencing and use of flat screens and receptacles in the second and third floor boardrooms.
- Add GFI receptacles at new mechanical equipment, exterior of the building, and to new and existing restrooms.
- Upgrade electrical service to a three-phase system. This includes replacing the transformers on the utility pole, electrical service conductors from service pole to basement, utility meter, utility meter cabinet, and the electrical service disconnects.
- Upgrade systems as needed for upgraded HVAC and elevator.

Refer to Appendix C for a more detailed assessment.

Plumbing
The building and parts of the infrastructure are 100+ years old and are in generally good condition. Repairs and renovations have been made throughout the years that have extended the life of the building. The below items should be addressed:

- Re-pipe existing water entrance to remove two water connections tapped before the water entrance RPZ. Relocate pipe connections after the RPZ.
- Replace PVC piping feeding the irrigation RPZ with copper or CPVC.
- Repair sanitary pipe leak issues in existing to remain restrooms.
- Cap or plug all fixture connections in restroom 213.
- Add new handicapped restrooms on the second and third floors in the southeast corner, where the original bedrooms have been most extensively altered.
- Add code-mandated water fountains and a janitor’s sinks.
- Consider lining existing cast iron pipe or replacing pipes strategically.
- Remove restroom 208A in its entirety to make way for a kitchenette/workroom.
- Remove restroom 301A in its entirety to make way for the adjacent kitchenette to expand.

Refer to Appendix D for a more detailed assessment.

Fire Safety
The automatic fire suppression and fire alarm system shall be assessed to make sure it complies with current NFPA code. This will help in future negotiations with the code official that involve exceptions provided in the 2012 Virginia Rehabilitation Code (VREHAB) that hinge on an automatic fire suppression system and/or fire alarm system.
Life Safety
We recommend not altering or adding to the historic guardrail/handrail. The VREHAB contains exceptions for this occurrence, verify if the code official will accept this exception. We recommend that the front door swing remain, according to the VREHAB when approved by the code official, existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided. Verify with code official if they will allow the front door to not swing in the direction of exit travel and if they will require the other three exit doors to swing in the direction of travel. Verify with code official how they would like to address the pocket doors.

Provide egress lighting in larger spaces (meeting rooms and event rooms) and corridors.

Americans with Disabilities Act

- Accessible Route
  Designate one handicapped parking space in the existing parking area. Verify with code official whether we can leave the temporary ramp for the front door in place. We would recommend that no handicapped door operator be installed due to the historic significance of the exterior doors. According to the VREHAB this is allowed by the historic building portion of the code where compliance requirements would threaten or destroy the historic significance of the building. Verify that the code official will allow the omission of the handicapped door operator. A call bell should be available for accessible entry during times when the front door is locked. Add a Lula elevator in the existing shaft to serve the first floor, second floor and third floor.

- Bathrooms
  Add accessible restrooms to the third and second floor of the main building. Refer to diagrams on the following pages for possible elevator and restroom locations for the third and second floor.
PROGRAMMING

Tabular Program
# TABULAR PROGRAM

1. The occupant numbers are based on furniture layouts and not maximum floor area allowances per occupant as stipulated in Table 1004.1.2 of the 2012 Virginia Construction Code.

2. The space numbers, space names and quantities are based on the programming plans that are located in Appendix C following the Follow-up Programming Meeting Minutes.

<table>
<thead>
<tr>
<th></th>
<th>Quantity</th>
<th>No. of Occupants Based on Standard Layout</th>
<th>No. of Occupants Based on Banquet Layout</th>
<th>No. of Occupants Based on Seminar Layout</th>
<th>No. of Occupants Based on Meeting Layout</th>
<th>Area (NSF)</th>
<th>Total Area</th>
<th>Office or Workstation</th>
<th>Notes</th>
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<tr>
<td><strong>A. Assembly Spaces</strong></td>
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<td></td>
<td></td>
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<td></td>
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<td>A1 Prefunction</td>
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<td>32</td>
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<td>625</td>
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<td><strong>B. Office Spaces</strong></td>
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<td>B1 Staff Office</td>
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<td></td>
<td>104</td>
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<td></td>
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<td></td>
<td></td>
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<td>439</td>
<td>First Floor</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>253</td>
<td>253</td>
<td>First Floor</td>
<td></td>
</tr>
<tr>
<td>C3 Bar/Buffet</td>
<td>1</td>
<td>varies</td>
<td></td>
<td></td>
<td></td>
<td>278</td>
<td>278</td>
<td>First Floor</td>
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<td>One per upper floor</td>
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<tr>
<td>D1 Service Entry Area</td>
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<td>Adjacent to kitchen</td>
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<td></td>
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<td>83</td>
<td>Adjacent to entry</td>
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<td>Adjacent to offices</td>
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**Existing Gross Square Footage**

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<th>Floor</th>
<th>Gross Square Footage</th>
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<td>Basement</td>
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<td>First Floor</td>
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<td>Second Floor</td>
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<td>Third Floor</td>
<td>2645</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>18746</td>
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</table>
CONCEPT DESIGN

51  Design Drawings
57  Code Research
60  Design Narrative

A. Chapter 10: Change of Occupancy

B. Chapter 12: Historic Building

2. Change of Occupancy

A. Change of B to A-2 (event rooms) and A-3 (meeting rooms). Change of S-2 and B to S-1.

B. Structural load to follow business loads for A-3 meeting rooms. Assembly loads for A-2 event rooms.

C. Change of Occupancy – Means of Egress
   i. Per Table 1012.4 of the VREHAB we are changing to a higher hazard category.
   ii. Per Paragraph 1012.4.1 of the VREHAB Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 1012.4 of the VREHAB, the means of egress shall comply with the requirements of Chapter 10 of the International Building Code.
   a. Exception 2 of the VREHAB: Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of a code official. Per Chapter 9 Means-of-egress lighting and exit signs. (Refer to #6)

D. Change of Occupancy – Height and Area
   i. Per Table 1012.5 of the VREHAB we are changing to a higher hazard category.
   ii. Per Paragraph 1012.5.1 of the VREHAB Height and area for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.5 of the VREHAB, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the International Building Code for the new occupancy classification.
   a. Non-Separated:
      • According to the VCC Paragraph 508.3.1 the most restrictive provisions of Chapter 9 which apply to the non-separated occupancies shall apply to the total non-separated occupancy area.*
      • According to the VCC Paragraph 508.3.2 the allowable building area and height of the building or portion there of shall be based on the most restrictive allowances for the occupancy groups under consideration for the type of construction of the building in accordance with Section 503.1.*

* Our most restrictive occupancy is A-2/A-3 (VCC Table 503):
   A-2/A-3 Use: Allowable Height: 2 stories AGP (55'-0")
   Per VCC section 504.2 +1 story; 20'-0": 3 stories AGP (75'-0")
   Actual height: 3 stories (42'-0")
   A-2/A-3 Use: Allowable Building Area Per Story: 9,500 sf
   Per VCC section 506.3 x 2 = 19,000 sf
**Code Research**

   A. Chapter 10: Change of Occupancy  
   B. Chapter 12: Historic Building

2. Change of Occupancy  
   A. Change of B to A-2 (event rooms) and A-3 (meeting rooms). Change of S-2 and B to S-1.  
   B. Structural load to follow business loads for A-3 meeting rooms. Assembly loads for A-2 event rooms.  
   C. Change of Occupancy – Means of Egress  
      i. Per Table 1012.4 of the VREHAB we are changing to a higher hazard category.  
      ii. Per Paragraph 1012.4.1 of the VREHAB Means of egress for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category (lower number) as shown in Table 1012.4 of the VREHAB, the means of egress shall comply with the requirements of Chapter 10 of the *International Building Code*.  
         a. Exception 2 of the VREHAB: Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of a code official. Per Chapter 9 Means-of-egress lighting and exit signs. (Refer to #6)  
   D. Change of Occupancy – Height and Area  
      i. Per Table 1012.5 of the VREHAB we are changing to a higher hazard category.  
      ii. Per Paragraph 1012.5.1 of the VREHAB Height and area for change to higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.5 of the VREHAB, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the *International Building Code* for the new occupancy classification.  
         a. Non-Separated:  
            • According to the VCC Paragraph 508.3.1 the most restrictive provisions of Chapter 9 which apply to the non-separated occupancies shall apply to the total non-separated occupancy area.*  
            • According to the VCC Paragraph 508.3.2 the allowable building area and height of the building or portion thereof shall be based on the most restrictive allowances for the occupancy groups under consideration for the type of construction of the building in accordance with Section 503.1.*

* Our most restrictive occupancy is A-2/A-3 (VCC Table 503):  
   A-2/A-3 Use: Allowable Height: 2 stories AGP (55’-0")  
   Per VCC section 504.2 +1 story; 20’-0": 3 stories AGP (75’-0")  
   Actual height: 3 stories (42’-0")

   A-2/A-3 Use: Allowable Building Area Per Story: 9,500 sf  
   Per VCC section 506.3 x 2 = 19,000 sf
E. Change of Occupancy – Exposure of Exterior Walls
   i. Per Table 1012.5 of the VREHAB we are changing to a higher hazard category.
   ii. Per Paragraph 1012.6.1 of the VREHAB Exterior wall rating for change of occupancy classification to a higher hazard category. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.6 of the VREHAB, exterior walls shall have fire resistance and exterior opening protective as required by the International Building Code.
      a. According to the VCC we are a Type IIIB and it requires a 2 hour exterior wall rating.

3. Historic Buildings
   A. LULA Elevator
      i. Door Dimensions: 36” Clear
      ii. Inside Clear Dimensions: 42”x60” Clear
      iii. Per 2010 ADA Standards for Accessible Design Section 408 we comply for LULA elevators.
      iv. Width of Vestibule for elevator on third floor is 4’-8 ½”. Standpipe for existing sprinkler system impedes 1’/- into 4’-8 ½” space width and 17” +/- into 9’-11” space length.
   B. Historic stairwells
      i. Per Paragraph 1012.7.2 Stairways of the VREHAB. When a change of occupancy classification is made to a higher hazard category as shown in Table 1012.4 of the VREHAB, interior stairways shall be enclosed as required by the International Building Code.
         a. According to Paragraph 1022.2 Construction of the VCC. Interior exit stairway shall have a fire-resistance rating of not less than 1 hour where connecting less than four stories. Per Paragraph 1203.7 of the VREHAB One-hour fire-resistance-rated systems. Where 1-hour fire-resistance-rated construction is required by these provisions, it need not be provided, regardless of construction or occupancy, where the existing wall and ceiling finish is wood or metal lath and plaster.
         b. Per 1012.4.1 Exception 2 of the VREHAB: Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of a code official. Per Chapter 9 Means-of-egress lighting and exit signs.
            a. Width of stair is typically 3’-6”
            b. Stair Narrows in Direction of Travel (3’-6” to 2’-10” = narrows a total of 8”+/-)
            c. Height of Handrail/Guardrail: 30”
            d. No Extensions are Provided
            e. Adequate Push/Pull not provided for door from Stair Hall to Vestibule on third floor
         iii. BCOM stated that since the historic stair was deemed an acceptable means of egress for the 2003 renovation by SMBW, then it passes for this project as well. G&HA to state this logic on the drawings.
   C. Historic Doors
      i. Historic Exterior Swinging Doors
         a. In Swinging Door Locations: Porte-cochère door, front door and service entry door.
         b. Per Paragraph 1205.7 of the VREHAB - Door Swing: When approved by the code official, existing front doors need not swing in the direction of exit travel, provided that other approved exists having sufficient capacity to serve the total occupant load are provided.
c. Handicapped Accessible Entry into Building (around back to side ramp then to front door)
  i. Historic Pocket Doors
    a. Door Locations: First floor event spaces
    b. VREHAB does not address and neither does VCC
A. Historic Interior Doors
  i. Per BCOM all Meeting Rooms and Offices need to have the VCC required 32” clear space and push/pull clearances.

4. Loads Per Floor:

Baseline (5,280 SF)
S-1: 4,049 Gross SF/300 = 14 Occupants
Unoccupiable: 1231 Gross SF = 0 Occupants
Total Basement Occupant Load: 14 Occupants

First Floor (5,601 SF)
B Use: 2445 Gross SF/100 = 25 Occupants
A-2 Use: 2503 Net SF/15 (Tables & Chairs) = 167 Occupants
A-2 Use: 653 Net SF/5 (Standing Space) = 131 Occupants
Total First Floor Occupant Load: 323 Occupants

Second Floor (5,220 SF)
A-3 Use: 1,358 Net SF/15 (Tables & Chairs) = 91 Occupants
B Use: 3,862 Gross SF/100 = 39 Occupants
Total Second Floor Occupant Load: 130 Occupants

Third Floor (2,645 SF)
A-3 Use: 921 Net SF/15 (Tables & Chairs) = 62 Occupants
B Use: 1,724 Gross SF/100 = 18 Occupants
Total Third Floor Occupant Load: 80 Occupants

Total Design Occupant Load: 547 Occupants
Total Square Footage: 18,746 SF

5. Plumbing Count (VCC table 2902.1, Paragraph 2902.1.1 & based on 298 occupancy for A-2 use, 153 occupancy for A-3 use, 83 occupancy for B use, and 14 occupancy for S-1):

<table>
<thead>
<tr>
<th></th>
<th>WC</th>
<th>LAV</th>
<th>BT/SH</th>
<th>DF</th>
<th>SS</th>
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<tr>
<td>A-2 USE:</td>
<td>(1.99W/1.99M)</td>
<td>(.75W/.75M)</td>
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<tr>
<td>A-3 USE:</td>
<td>(1.18W/.62M)</td>
<td>(.38W/.38M)</td>
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<td>.31</td>
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<tr>
<td>B USE:</td>
<td>(1.66W/1.66M)</td>
<td>(1.04W/1.04M)</td>
<td>0</td>
<td>.83</td>
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<tr>
<td>S-1 USE:</td>
<td>(.07W/.07M)</td>
<td>(.07W/.07M)</td>
<td>0</td>
<td>.02</td>
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<tr>
<td>TOTAL:</td>
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<td>(2.24W/2.24M)</td>
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<td>FINAL TOTAL:</td>
<td>(5W/5M)</td>
<td>(3W/3M)</td>
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6. Parking
A. Existing Conditions:
  i. 3 Visitor Spaces
  ii. 13 Staff Spaces
B. Per VCC Table 1106.1 (1) 1-25 Parking Spaces Provided Require 1 Accessible Space. Our Current Parking Situation Is To Code.
DESIGN NARRATIVE

A SUBSTRUCTURE

A40 SLABS-ON-GRADE

A4010 STANDARD SLABS-ON-GRADE

Replace 10% of damaged tile to match existing historic tile at the front and side terrace. If a match cannot be obtained, procure an acceptable replacement tile that most closely matches the geometry and dimensions of the original tile. Replacement tile may not match in color but should be complimentary to the existing tile. Route tiles to create sealant joint that reflects the paths of the crack. Approximate linear feet of crack is 25’.

*Front Terrace*
Alternate: Investigate the substrate conditions and cause of the crack/displacement. Remove a sufficient area of tiles to allow for replacement of the original concrete and leveling of the substrate. Accommodate the potential for future movement in the substrate repairs.

A4040 PITS AND BASES

Extend the existing pit, within the basement, to make a deeper pit. This will include temporarily shoring and underpinning of the existing brick walls that form the existing pit. Install reinforced concrete pit walls extending down to a concrete pit mat slab bearing on the grade. Remove the existing concrete slab-on-grade around the perimeter of the existing elevator walls as required in order to remove the soil bearing against these walls and aid in the installation of the underpinning. After the pit is lowered, the removed slab-on-grade around the pit shall be replaced. This process will include a partial exploratory removal of the ceiling to expose possible framing members bearing on the existing elevator walls at each floor to determine the load that these walls are supporting for the design.
B SHELL

B10 SUPERSTRUCTURE

B1010 FLOOR CONSTRUCTION

B1010.10 Floor Structure Frame

The existing first floor framing located below Prefunction 101, Small Event Room 102, Large Event Room 103, Large Event Room 104 and Small Event Room 105 consists of diagonally oriented wood floor decking supported by 3x14 wood joists spaced approximately 16” oc These floor joists are supported by multi-wythe brick walls.

The east end of several of the existing joists below Small Event Room 102 and Large Event Room 103 has termite damage and had been reinforced with steel angles that are only 2 feet long. The existing steel angle reinforcement is total inadequate and will need to be replaced.

The existing first floor framing below the Small Event Room 105, which is above the basement Mechanical 006, consists of a concrete slab spanning east to west supported by two interior beams that are either reinforced concrete or steel beams encased in concrete for fire-protection. This slab is supported at the east and west ends by multi-wythe brick walls and has extensive honey-combing and many locations where the bottom reinforcing is exposed and rusted. The concrete beams or steel encased beams also has extensive honey-combing. We recommend that the spalled and exposed rusted reinforcing and honey-combing be repaired by a General Contractor specializing in concrete repairs. We also recommend that steel beams and framing be installed to support this floor to withstand a 100 PSF live load.

The first floor framing below Bar/Buffet 108 consists of a concrete slab spanning north to south supported by multi-wythe brick walls and a concrete beam located below the curved window projection. This slab has several locations where the bottom reinforcing is exposed and rusted. We recommend that the spalled and exposed rusted reinforcing be repaired by a General Contractor specializing in concrete repairs.

B1010.30 Balcony Floor Construction

Refer to ”Appendix D Rear Porch Condition Survey” for moisture damage observed and recommendations for repair.

B1080 STAIRS

B1080.50 Stair Railings

Provide four brushed bronze handrails at the main exterior steps, basis of design Julius Blum #4530 with a bronze bar channel Provide 1” square brushed bronze posts set into the granite steps with epoxy grout. Provide three posts for each handrail, total of twelve posts.
B20 EXTERIOR VERTICAL ENCLOSURES

B2010 EXTERIOR WALLS

Repair existing damaged masonry units by replacing corroded elements where present. If damaged limestone exists install a limestone Dutchman selected to match the original limestone. If damaged brick exists either flip the brick or replace with matching units. Make other necessary repairs to cracks and other distress. Re-attach limestone fragments that can be salvaged. Selectively repoint mortar in the joints between limestone and granite units and between brick units where the mortar is unstable or fragmented. Only consider comprehensive repointing if the joints are found to be a source of uncontrolled water penetration at the interior. Repoint chimneys and other rooftop elements due to the joint mortar instability and increased environmental exposure. Remove all nails in the brick masonry and repoint holes with mortar.
Repair an approximate area of 10 square feet of damaged terra cotta by coating exposed bisque with an acrylic coating that matches the glaze color. Repair isolated cracks totaling approximately 200 linear feet by routing the surface and filling the widened channel with patching mortar formulated for terra cotta and that matches the glaze color. Repoint between terra cotta units at the window surrounds. Refer to “Appendix F Limited Building Enclosure Evaluation.”

Repoint approximately 30% of façade to include repointing terra cotta elements, rooftop elements, selective brick masonry and selective limestone. Replace 100% of the sealant and mortar at cornice.

Replace sealant at joints between the copper cladding panels and window panning. Redesign panning anchors, seams and interface details to optimize watertightness.

Remove existing window at third floor restroom. Infill with construction and copper cladding to match existing.

Remove roof flashing from exterior of fan into Dome Room 312 and replace with copper cladding.

Alternate: Replace 25 pieces of terra cotta that cannot be repaired in place. Incorporate a weather barrier behind copper cladding panels at third floor.

Terra cotta window surround
Copper clad outside of Bar/Buffet 108

Copper clad outside of third floor
Recondition and restore the existing windows to include ten transoms by removing existing paint coatings, re-glazing the window glass, repairing damaged wood components and resealing window perimeters. Verify mechanical performance and operability of each unit and repair as necessary. Work shall be limited to replacing cords, hardware and/or stops. Install routed in plastic silicone weather stripping to the bottom rail, side rails and meeting rail of the bottom sash and to the top rail and side rails of the top sash. Offsite repair or replacement needed for third floor windows. Perform hazardous materials abatement for asbestos caulking and lead-based paint.

Detail at Copper clad outside of third floor
Leaded glass restoration includes the windows in Bar/Buffet 109. Total restoration of the south and east face windows requires disassembly and replacing the existing matrix. The colonial zinc profile is matched to correspond with the original for the reglazing procedure. Original glass shall be preserved and reinstalled. Broken and cracked glass shall be consolidated with conservation grade optical epoxies, neutral cure silicones or copper foil method repair depending on the specific conditions. Any missing glass shall be replaced with the closest match possible utilizing period glass from 1910 – 1911 or reproduction glass replicating the appearance. Restoration requires the unconventional method of having forms fabricated on to which the panels would be re-glazed. Custom crating shall be required in order to safely transport the panels to the studio facility. Additionally, a zinc matrix is far more rigid than lead and requires additional time for the glazing process.

Interior wood storms shall be added to the first and second floor windows of the main building and to the four shut and sealed French doors of the back wing. Exterior wood storms shall be added to the first and second floor windows of the back wing and the third floor windows. Replace weather stripping at existing interior storms in Bar/Buffet 108.
B2010 EXTERIOR DOORS AND GRILLES

Side door from the Porte-cochere and front door shall be repaired and refinished. Nine French doors need to be refinished and reglazed. Weather stripping shall be replaced on all operable doors. Replace exterior door into Stair Hall 214.

Remove exterior door shutters at Small Event Room 102. Repair and repaint shutters at the arched openings of the back wing, total of five pairs.

Exterior door shutters at Small Event Room 102.
Provide a temporary black rubber ramp at front door similar to the existing ramp only larger. Refer to concept design drawings for additional information.

Existing ramp at front door

B2090 EXTERIOR WALL SPECIALTIES

Repair approximately 10 square feet of terra cotta cornice elements. Replace missing terra cotta elements to include 5 brackets and 2 florets. Replace joint materials in skyward-facing joints with sealant to limit water penetration. Repoint all joints with mortar to match existing.

Disassemble top rails of terra cotta balustrades and balusters. Replace approximately 75% of the existing balusters to include damaged balusters in fair to poor condition, as well as previously replaced balusters. Incorporate stainless steel reinforcement and dowels in replacement balusters. Reinstall top rails with mortar but raked back to accommodate sealant at the skyward facing surfaces. Provide expansion joints in the top rail to accommodate thermal movement. Remove sealant from all joints in the balustrade including top rail, base rail, balusters and newel posts and repoint them with mortar. Repair or replace damaged terra cotta units in kind throughout balustrade. Refer to the “Executive Summary” for elevations.

Replace two 1'-2"x2'-0"x 10 ½” rectangular and six ‘L’ shaped 1'-2"x 2'-0"x 10 ½” decorative concrete planters at the front and side terraces.
B30 EXTERIOR HORIZONTAL ENCLOSURES

B3010 ROOFING

Alternate: Replace the 2nd floor roof down to the sheathing. Allow for 15% of roof sheathing replacement. Replace the 3rd floor roof down to the sheathing. Allow for 15% of roof sheathing replacement.

C INTERIORS

C10 INTERIOR CONSTRUCTION

C1010 PARTITIONS

Provide 3 5/8” metal stud partitions, 16 inches on center with 5/8” gypsum board and a plaster veneer. Gypsum board shall have recycled content. Sound insulation shall be included at the restrooms, meeting rooms, offices and Warming Kitchen 118. Insulation shall be included in existing walls as well. Refer to concept design drawings for additional information.
C1030 INTERIOR DOORS

Provide 3'-0" x 7'-0" x 1 3/4" typical interior doors and 3'-6" x 7'-0" x 1 3/4" door at Furniture Storage 117. Interior doors shall be stile and rail, four panel solid wood doors with a stained finish to match the existing doors. Fabrication of doors shall be without urea-formaldehyde and incorporate recycled content where possible. Metal frame of door shall have a 5" wide applied wood trim to match existing.

Provide typical hardware shall include ADA lever handles, 5 knuckle hinges with a minimum of 3 per door, mortise locks, University master and overhead door stops. Provide typical hardware at doors unless noted otherwise and existing doors into meeting rooms and offices. Provide push plate, pull plate, 5 knuckle hinges with a minimum of 3 per door, closer and overhead stops for multiple occupant restrooms, Elevator Vestibule 107, Staging Area 109, Kitchenette 205 and Kitchenette 306. Existing door hardware shall be refurbished in place. Existing first floor interior Stair Hall 110 doors shall include hold opens. Existing pocket doors into event rooms shall include two brackets for each pocket door leaf. The hardware finish shall be oil-rubbed bronze 10B finish.

Refer to concept design drawings for additional information.

C1090 INTERIOR SPECIALTIES

Provide floor mounted overhead braced toilet partitions. The material of the partitions shall be phenolic core with plastic laminate finish. Provide heavy duty hardware. Refer to concept design drawings for additional information. Refer to concept design drawings for additional information.

Toilet accessories shall be stainless steel similar to Bobrick.

C20 INTERIOR FINISHES

C2010 WALL FINISHES

Provide 3x6 subway ceramic tile in a running bond with 10% accent colors. System shall be thin set over moisture resistant gypsum board. Include this treatment in restrooms and tile to approximately 5 feet above floor terminating in bullnose on walls.

Provide interior trim fabricated to match existing profiles that are complex in design. Finish for trim shall be opaque.

Provide institutional low-odor/VOC latex system to include primer, intermediate and topcoat for gypsum board substrates, existing plaster substrates and dressed lumber substrates. Sheen shall be flat for gypsum board substrates and existing plaster substrates. Durable wall finish such as Scuff master by Wolf Gordon shall be used for the Warming Kitchen 118 and Staging Area 109. Sheen shall be semi-gloss for dressed lumber substrates. Repair major gouges in existing trim and lightly sand before applying paint.

Alternate: Replace plaster walls with acoustical wall plaster above existing wainscoting and below cornice in Small Event Room 102, Large Event Room 103, Large Event Room 104 and Small Event Room 105. Wainscoting in Small Event Room 102 is approximately 6'-0" in height. Wainscoting in Large Event Rooms 103 and 104 are approximately 3'-0". Wainscoting in Small Event Room 105 is approximately 5'-0" in height. Pyrok StarSilent system to include acoustical board and two coats of plaster shall be used over existing wood lath.

Refer to concept design drawings for additional information.
C2030 FLOORING

Refinish existing wood floors with a water-based urethane finish to include a minimum of three coats and a satin sheen. Scope shall include existing wood floors on the first, second and third floors not to include Bar/Buffet 108, Warming Kitchen 118, Service Entry 119, historic restrooms, restrooms and janitor’s closets. Refinish existing wood stairs not to include wood stair from first floor to basement. Where wood flooring is missing under existing walls to be removed, salvaged wood flooring shall be installed.

Provide a thin-set quarry tile over moisture resistant gypsum board on existing wood subfloor. Scope shall include the Staging Area 109, Warming Kitchen 118 and Service Entry 119.

Provide a thin-set porcelain tile over moisture resistant gypsum board on existing wood subfloor for restrooms and janitor’s closets. Scope shall include restrooms with the exception of historic restrooms, janitor’s closets and elevator.

Provide linoleum over ¼” underlayment on existing wood flooring. Scope shall include Kitchenette 205, Kitchenette/Workroom 218 and Kitchenette 306.

Provide carpet runner for grand stair, which leads from Prefunction 101 on the first floor to the Grand Stair Hall 201 on the second floor.

Refer to concept design drawings for additional information.

C2050 CEILING FINISHES

Retain existing plaster ceilings in majority of renovated spaces. Wiring to ceiling lights shall be routed in existing plaster and patched with ready-mixed gypsum and finishing plaster. Existing plaster ceilings are over wood lath. Scope to include first, second and third floors unless noted otherwise. Repair ceiling plaster in room 202.

Provide 5/8” gypsum board ceilings attached to steel grid suspension system with a plaster veneer. Scope to include areas of major rework to include first floor back wing, south end of second floor back wing, south/east portion of main building on second and third floors unless noted otherwise.

Provide acoustical panel ceilings with 24” x 24” panels within a 9/16” prefinished metal suspension system. Scope to include Storage 202A, Storage 204B, Kitchenette 205, Kitchenette/Workroom 218, and Unisex Restroom 220.

Alternate: Replace limited plaster ceiling with acoustical plaster ceiling in Large Meeting Room 301. For Large Meeting Room 301 replacement of the plaster ceiling shall be limited to the coffered flat sections. Pyrok StarSilent system to include acoustical board and two coats of plaster shall be used over existing wood lath.

Refer to concept design drawings for additional information.
D SERVICES

D10 CONVEYING

D1010 VERTICAL CONVEYING SYSTEMS

D1010.10 Elevators

Provide a hydraulic limited-use/limited application elevator with a clear car dimensions of 42”x60” to comply with the 2010 ADA Standards for Accessible Design. Provide stainless steel hoistway doors and frames. Hydraulic motor and pump will be located in the basement Elevator Machine Room 012. Provide steel framed car enclosure; allow for semi-custom interior finishes.
D20 PLUMBING

SYSTEM DESCRIPTION

The plumbing system for the facility shall consist of fixtures, potable cold and hot water piping and equipment, piping insulation, water heating equipment, sanitary waste and vent piping systems, natural gas piping and other specialty piping and equipment within and extending 5 feet from the building.

GENERAL SYSTEM REQUIREMENTS

Provide working space around equipment. Provide required fittings, connections and accessories required for a complete and usable system. Equipment shall be installed per the manufacturer’s recommendations.

D2010 DOMESTIC WATER DISTRIBUTION

D2010.20 Domestic Water Equipment

An existing reduced pressure principle type backflow preventer is installed in the basement. Minor piping modifications are required to achieve code compliance.

Provide natural gas fired water heater for heating of water for Warming Kitchen 118 and Staging Area 109 and the additional plumbing fixtures immediately adjacent to Warming Kitchen. Water heater shall be capable of supplying 140°F water to Warming Kitchen. Locate heater in basement area below Warming Kitchen and provide through wall PVC flue and vent piping. Provide a thermostatic mixing valve to supply 120°F water to all plumbing fixtures outside the Warming Kitchen. State Water Heaters Force 90 SEE50 76N, 50 gallon, 76,000 btu/h 92 gph recovery. Provide 5 gallon thermal expansion tank.

Provide in-line circulator for domestic water distribution system the Warming Kitchen and first floor restrooms as required in accordance with the IPC. Bell & Gossett Ecocirc E3-4.

Provide additional hot water recirculation pump and piping. Connect to the existing hot water system to create a circulating domestic hot water system to serve the second and third floor restrooms and any easily reachable hot water piping serving other existing spaces. Bell & Gossett Ecocirc E3-4.

Provide dual check backflow preventers with atmospheric vents (ASSE 1012, Watts 9D) for all ice maker connection water feeds. Route vent lines to nearest floor drain or floor sink style floor drain.

Provide dual check coffee maker type backflow preventers with atmospheric vents (ASSE 1022, Watts SD-3) for coffee maker water feeds. Route vent lines to nearest floor drain or floor sink style floor drain.

Provide ASSE 1070 water tempering valve for each sink and lavatory and set valve to provide a maximum hot water temperature of 110°F.

Trap primers shall be provided on floor drains and floor sink style floor drains.

Water hammer arrestors shall be provided on quick closing valves to include ice makers, coffee makers and urinal flush valves.
D2010.60 Plumbing Fixtures

Provide quantity and type of plumbing fixtures required for the occupancy, use, and functions described for this facility. Provide plumbing fixtures where indicated on concept design drawings. Refer to Section “E10 Equipment” for additional fixtures.

Provide an under mount ADA accessible stainless steel sink with ADA gooseneck faucet with wrist blade handle for Kitchenette 205, Kitchenette/Workroom 218 and Kitchenette 306. Elkay LRAD 2216 5-1/2” under mount stainless ADA sink with Chicago polished chrome cast brass 8” gooseneck Faucet with wrist blade handles.

Provide elongated, 1.6 gpf flush, tank water closets. American Standard Cadet water closet, comfort height.

Provide ultra-low-flow (0.125 gpf) urinals with manual flush valves. American Standard Washbrook Urinal with Sloan Flush Valve.

Provide low-flow (0.5 gpm) lavatories with single lever, chrome plated, cast brass faucets. Lavatories shall be under mount vitreous china or wall mounted vitreous china (plan dependant). Faucets shall be Chicago 2200-ABCP with ASSE 1070 hot water mixing valve.

Provide 24”x24”x10” molded mop sink. Mop sinks shall be Florestone MSR-2424 with American Standard Model 8345.110 faucets, stainless steel rim guards and side shields, mop hanger and hose.

Provide dual height electric water cooler with bottle filling stations per code requirements. Elkay Model LVRCGRNTL8WSK.

Plumbing fixtures are not to be provided for historic restrooms.

D2020.90 Domestic Water Distribution Supplementary Components

Connect fixtures and equipment to existing infrastructure. Provide vertical risers as required. Refer to Section “E10 Equipment” for additional fixtures and equipment requiring domestic water connections.

Provide type L copper tubing and fittings. Fittings shall be wrought copper with solder or press style joints.

Provide valves at water supplies to fixtures and for ease of maintenance as required. Provide isolation valves at supply to each floor, each set of restrooms, Warming Kitchen 118, Staging Area 109, Kitchenette 205, Kitchenette/Workroom 218 and Kitchenette 306.

Provide piping supports in accordance with the IPC. Provide inspections, disinfection, and testing in accordance with the IPC.

Provide mineral fiber insulation with service jacket (ASJ) on domestic hot and cold water supply and recirculation piping. Insulate existing hot water piping and provide insulation on hot water recirculation piping connecting to existing hot water system. Provide identification for piping and equipment.
D2020 SANITARY DRAINAGE

GENERAL SYSTEM REQUIREMENTS

Connect fixtures and equipment to existing infrastructure. Refer to Section “E10 Equipment” for additional fixtures and equipment requiring sanitary drainage.

Repair existing vertical sanitary and vent stacks and risers as required.

Existing vertical stacks and risers are mainly located in exterior walls. Depending on access and project related wall and ceiling modifications, the lining of the existing stacks and risers may be a possible repair solution. The lining of the stacks and riser will require access to the top of the stacks and access to each branch connection. Gaining access to the piping may be problematic and should be reviewed again during design. It is advised that plumbing fixtures not utilize existing sanitary and vent piping.

For items requiring demolition remove all related sanitary and vent connections back to the nearest stack or main and cap remaining piping at disconnection points.

D2020.30 Sanitary Sewerage Piping

Provide solid wall PVC pipe and fittings for above and below ground installation. Hubless cast iron pipe and fittings with heavy duty bands may also be used.

Provide floor drains in mechanical rooms, Warming Kitchen 118.

Provide medium depth floor sink style floor drains in Warming Kitchen as required.

Provide an above floor grease interceptor for the Warming Kitchen three compartment sink. Schier Products PATG-1412 with internal trap and built-in control.

D2030 BUILDING SUPPORT PLUMBING SYSTEMS

D2030.10 Stormwater Drainage Equipment

The Mechanical Room 006 shows evidence of flooding in the 1-2” range. Provide a small sump pump with filter and pit in the Mechanical Room 005 to contain the flooding and to drain the adjacent Mechanical Room as required.

Provide an elevator pit sump and route discharge piping to the outdoors. Provide oil sensing controls and alarms. Stancor SE-50 elevator pit system.
D2060 PROCESS SUPPORT PLUMBING SYSTEMS

D2060.30 Gas Systems

Provide natural gas piping to serve mechanical units and domestic water heater. Piping shall be SCH-40 black steel with threaded fittings and joints.

D30 HEATING, VENTILATIONS, AND AIR CONDITIONING (HVAC)

GENERAL SYSTEM REQUIREMENTS

Provide a variable refrigerant flow heat recovery (VRF-HR) system with a dedicated outside air unit to serve all occupied areas of the building.

A variable refrigerant flow indoor unit shall be provided for each zone in the building. These indoor units shall be connected through refrigerant piping to a bank of outdoor units located on grade behind the building in the location of the removed existing condensing units.

The VRF-HR system allows for individual temperature control at each of the indoor units and allows for simultaneous heating and cooling of different indoor units on the system.

The first floor of the building shall be served by VRF indoor units located in the basement and ducted through floor grilles to each space. The second floor of the building shall be served by concealed VRF indoor units located above Vestibule 201B, Storage 204B, Storage 202A, Kitchenette 205, Kitchenette/Workroom 218, Unisex Restroom 220. The third floor of the building shall be served by VRF indoor units located in the attic and ducted through ceiling grilles to each space.

Outside air is required by code and shall be provided through a separate ducted system. A dedicated outside air system (DOAS) with direct expansion air cooled cooling and gas heating shall be used to provide neutral temperature outside air to each space. This unit shall be located outside on grade behind the building, adjacent to the VRF outdoor units.

Access shall be provided to all mechanical equipment and components for system balancing, maintenance, and servicing purposes. Service clearances around mechanical equipment shall meet or exceed manufacturer’s recommendations and the requirements of the Virginia Uniform Statewide Building Code (VUSBC).

 Appropriately sized access panels shall be provided for equipment and devices that are located above ceilings or in other areas that are not accessible.

Equipment shall be installed per the manufacturer’s recommendations.
D3020 HEATING SYSTEMS

Provide supplemental electric heaters in the basement as required to maintain acceptable temperatures for storage spaces.

The remainder of heating will be accomplished through the building VRF-HR system. Refer to “D30 General System Requirements.”

D3030 COOLING SYSTEMS

Provide dedicated split system cooling unit to serve Elevator Machine Room 012 located in the basement.

The remainder of cooling will be accomplished through the building VRF-HR system. Refer to “D30 General System Requirements.”

D3050 FACILITY HVAC DISTRIBUTION SYSTEMS

Provide galvanized steel ductwork constructed, reinforced, installed, supported, and sealed per VUSBC and SMACNA. Supply and outside air ductwork shall be insulated. Exposed and exterior ductwork shall be insulated with 2” thick rigid board insulation. Exterior ductwork shall also include a waterproof aluminum jacket. Concealed ductwork shall be insulated with 2” thick fiberglass batt insulation with FSK jacket.

The DOAS system shall be fully ducted. A limited amount of outside air ductwork shall be routed into the basement and distributed to multiple vertical duct risers. These risers shall be located to minimize disruption and horizontal duct routing on the floors above.

VRF units serving the first floor shall be located in the basement and ducted to floor grilles above. Floor grilles shall be walkable and heel-proof.

Provide aluminum grilles, registers and diffusers.

Provide standalone HVAC control system utilizing manufacturer’s 7-day programmable thermostat with automatic changeover. DOAS shall be controlled with a 7-day programmable controller for occupied/unoccupied schedule.

Provide complete Testing and Balancing (TAB) of all air distribution systems and HVAC equipment. All new HVAC systems shall be tested, adjusted and balanced by an approved NEBB or AABC certified testing and balancing (TAB) agency.

D3060 VENTILATION

Provide ducted exhaust systems and in-line centrifugal exhaust fans to provide code required ventilation to restrooms including historic restrooms. Exhaust fans shall be accessible for maintenance shall run up through the existing roof.
D40 FIRE PROTECTION

D4010 FIRE SUPPRESSION

The building is served by both an existing wet pipe and dry piping sprinkler system. The building is fully sprinkled in accordance with NFPA 13. The first, second and third floors mainly use concealed style pendant heads, with limited exposed style pendant and dry piping heads in utilitarian rooms.

Provide revised sprinkler head layout to accommodate the floor plan modifications indicated on the architectural concept plans. Modify sprinkler piping as required to match revised head layout. Provide concealed sprinkler heads for revised layouts.

D50 ELECTRICAL

SYSTEM DESCRIPTION

Provide an electrical system consisting of upgraded underground electrical service, utility company's metering equipment, replacement/reconnection of existing lighting panelboards, conduits, feeders, and branch circuits, motor control equipment, lighting, emergency lighting, and grounding, including accessories and devices as necessary and required for a complete and usable system.

This section covers installations inside the facility and out to the 5-foot line. Refer to Section “G40 Electrical Site Improvements” for continuation of systems beyond the 5-foot line.

GENERAL SYSTEM REQUIREMENTS

Replace the existing single phase main electrical service and metering equipment located in the basement to a three phase distribution system. Provide three phase distribution panelboards to support the air conditioning loads for being added to the facility. Electrical equipment shall be UL Labeled for the intended application. The existing single phase panelboards shall remain in use for general lighting, desktop computers, and convenience receptacles.

The electrical distribution system shall include the underground electrical service, grounding, feeders, service entrance rated distribution panelboard with service entrance rated type 1 SPD (surge protective device) for lightning protection and other high energy impulses from the exterior of the facility. Distribution panelboards shall be provided as well. The electrical service shall include empty conduit to 5'-0" outside the building and the service entrance conductors will be provided by the utility company. See Section “G40 Electrical Site Improvements” for continuation of systems beyond the 5-foot line.
D5020 ELECTRICAL SERVICE AND DISTRIBUTION

D5020.10 Electrical Service

Provide a type 2 SPD (surge protective device) with disconnect on the load side of the main circuit breaker for the main electrical service panelboard. The SPD equipment shall comply with UL 1449 and UL 1283, and designed, manufactured, tested and installed in compliance with IEEE C62.41, IEEE C62.45, and NFPA 70.

D5020.30 Power Distribution

Provide circuit breaker type panelboards with bolt-on circuit breakers. Panelboards shall comply with UL 67 and UL 50 and circuit breakers with UL 489. UL 869A shall apply if used as service entrance equipment. Circuit breakers shall be molded case with thermal magnetic trip for feeder breaker 100 and smaller and electronic trip for circuit breakers greater than 100A. Circuit breakers shall be full rated for the available fault current at each panelboard. Series rated circuit breakers are not acceptable for this project. Panelboards shall be supplied with copper phase, ground and neutral buses of sufficient size for the number of conductors required for the branch circuit conductors, including conductors for spares and spaces.

Motor controllers shall be furnished with the equipment that they serve and shall be installed by this contractor. Motor controllers shall be NEMA rated with 120V control transformer, reset button, and hand-off-auto selector switch, phase failure/phase reversal protection, and adjustable electronic overload. The contractor shall coordinate motor control requirements with applicable section of this project to ensure proper connections and control of equipment. Thermal switches may be used as local disconnect switches for 120V motor loads 1/2 horsepower and smaller. Other motors shall be three phase with NEMA 1 size motor controller as the minimum size.

The underground electrical service shall be 800A, 208Y/120V, 3 phase, 4 wire. The underground electrical service conductors shall be installed in two 4” conduits with one 4” spare conduit. The conduits shall be installed between the overhead electrical service pole in the adjacent alley to the basement of the facility.

Conduit shall be metallic except Schedule 40 PVC may be used below the slab on grade or underground in accordance with Section “Raceways”. Conductors shall be copper in conduit as indicated in accordance with Section “Conductors”.

D5020.70 Facility Grounding

Grounding systems shall be in accordance with the final specifications and in compliance with NFPA 70 including Articles 230 and 250.
D5030 GENERAL PURPOSE ELECTRICAL POWER

General purpose branch circuiting wiring serving HVAC equipment, luminaires, wiring devices, and facility equipment shall be run in metal raceway unless indicated otherwise.

Provide wiring and connections for special outlets where required.

Conduits within the facility shall be GRS, IMC or EMT unless otherwise noted. Run conduits concealed within finished walls, ceilings, attics, and floors unless otherwise noted. Conduits may be run exposed in basement and spaces with exposed construction. Conduit shall be supported at intervals of not more than 8’ and supported within 12” of boxes and enclosures. Run exposed conduit parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceiling. No conduits will be run underground or within floor slabs. Changes in direction of runs shall be made with symmetrical bends or cast metal fittings. Do not install EMT outdoors, underground, encased in concrete, or in areas subject to severe physical damage. Do not install PVC inside the existing facility.

Wire and cable shall be soft drawn, annealed copper with 600 volt insulation. Minimum wire size shall be #12 AWG. Insulation for conductor sizes #12 and #10 shall be type THHN-THWN for installation in ordinary dry locations and type THWN or XHHW-2 for installation in wet locations. Wet locations shall include service conduits, conduit underground, raceways installed in direct contact with the earth, raceways in the attic, and raceways regularly subject to moisture or condensation. Conductor sizes larger than #10 shall have type THHN-THWN or XHHW-2 insulation.

Type “MC” cable for #10 and smaller wire will be permitted for use when concealed in casework, existing plaster walls, and wood framed structures. Conductors No. 8 AWG and larger diameter shall be stranded. Conductors for power and lighting circuits No. 10 AWG and smaller diameter shall be solid. Conductors for controls including remote-control and signal circuits, classes 1, 2, and 3, may be stranded.

Provide countertop receptacles to the Staging Area 109. Existing surface mounted receptacles shall be removed and replaced with recessed receptacles.

D5040 LIGHTING

The existing facility is an historical structure and existing luminaires shall be reused as much as possible. There are existing recess, flip-style egress lights and self-powered exit signs throughout the facility that shall remain. The historical sconces do not meet current ADA standards and will need to be relocated on the wall.

The existing egress lighting and exit signs will be relocated as required by the floor plan reconfiguration. Provide self-powered LED exit signs when necessary. Additional recessed, flip-style egress lighting will consist of halogen MR16 lamps powered from the existing inverter system.

The existing inverter system includes a main inverter cabinet in the basement with four (4) 110 Amp-Hour batteries providing 48VDC for the egress luminaires.
Lighting systems shall be in accordance with the final specifications. Installation shall meet requirements of NFPA 70. Fixture support wires shall conform to ASTM A641/A 641M, galvanized regular coating, soft tempered. Final lighting fixture selection has not been made for all of the lighting fixtures. The contractor shall include an allowance of $50,000 for the materials only in the lighting package including lighting fixtures, lamps and ballasts for the lighting fixtures.

In the basement existing luminaires shall remain in Storage 001, Storage 004, Mechanical 006, Hall 008, Stair Hall 009, Entry 011, Storage 013 and Storage 014. For the first floor existing luminaires shall remain in Prefunction 101, Small Event Room 102, Large Event Room 103, Large Event Room 104 except sconces, Small Event Room 105, Historic Restroom 106, Elevator Vestibule 107, Bar/Buffet 108 and Stair Hall 110. For the second floor existing luminaires shall remain in Grand Stair Hall 201, Medium Meeting Room 202, Small Meeting Room 203, Historic Restroom 203B, Medium Meeting Room 204, Stair Hall 210, Historic Restroom 215, Staff Office 219, and Historic Restroom 222A. The existing luminaires shall remain in third floor rooms Large Meeting Room 301, Small Meeting Room 303, Elevator Vestibule 309, Stair Hall 310 and Dome Room 312. Existing luminaires that will remain in place shall be relamped. All non-corridor luminaires to remain shall be retrofitted with motion sensor control in addition to the existing wall switches.

In the basement, provide 2 lamp LED fluorescent strip luminaires with motion detection light switches in Mechanical 005, Unoccupiable 002, Unoccupiable 003, Storage 007 and Storage 010. Provide two 2 lamp LED wraparound luminaires with three-way switching and motion sensors in Elevator Machine Room 012. Provide three 2 lamp LED wraparound luminaires with three-way switching and motion sensors in Electrical Service Room 015.

On the first floor, replace existing wall sconces with decorative LED wall sconces more consistent in appearance with the historical period of the facility in Large Event Room 104. Provide one 2 lamp LED wraparound luminaire with motion sensor switch in AV Room 105A and Service Entry 119. Provide six 2 lamp LED fully enclosed and gasketed 0.25” acrylic lens luminaire with three-way motion sensor switches in Warming Kitchen 118. Provide one decorative surface mounted ceiling fixture and three decorative wall sconces in Women's Restroom 115. Provide one decorative surface mounted ceiling luminaire and two decorative wall sconces in Men's Restroom 116. Provide a wall switch and overhead motion sensor in the Men's and Women's Restrooms. Provide one decorative surface mounted ceiling luminaire, two decorative sconces with a motion sensor wall switch in Family Restroom 114. Provide 24”x6” LED lensed surface mounted luminaire over the door with a motion sensor in Janitor’s Closet 113. Provide three 2 lamp LED wraparounds with three-way wall switches and a ceiling mounted motion sensor in Furniture Storage 117. Provide three decorative surface mounted ceiling luminaires in Corridor 111 with three-way wall switch. Provide two small, decorative chandeliers with four-way wall switches and ceiling motion sensors in Staging Area 109.

On the second floor, provide 8 foot, three lamp LED direct/indirect pendants over the meeting table in both Small Meeting Rooms 203 and 206 with a wall switch and motion sensor. Provide ceiling motion sensor for existing chandelier and provide four decorative sconces with wall switch and ceiling sensor in Meeting Rooms 202 and 204. Provide two 2x4 direct/indirect recessed luminaires and strip luminaires below the upper cabinets with motion sensor wall switch in Kitchenette 205. Provide one 2x4 direct/indirect recessed luminaire and strip luminaires below the upper cabinets with motion sensor wall switch in Kitchenette/Workroom 218. Provide 4 foot, three lamp LED direct/indirect pendant with motion sensor in Staff Office 217. Provide 8 foot, three lamp LED direct/indirect pendant with dimming and motion sensor in Staff Office 221 and Staff Office 222. Relamp existing chandelier and provide motion sensor wall switch for Staff Office 219. Provide two lensed LED downlights, one decorative scone with a motion sensor wall switch in Unisex Restroom 220. Provide three decorative surface mounted luminaires in Corridor 216 with wall switch. Provide one decorative surface mounted ceiling luminaire and one decorative wall scone with a motion sensor wall switch in Men's Restroom 208. Provide one decorative surface mounted luminaire and two decorative wall sconces with a wall switch and overhead motion sensor in Women's Restroom 209. Provide one decorative surface mounted luminaire in Vestibule 201B with wall switch. Provide 24”x6” LED lensed surface mounted luminaire over the door with a motion sensor in Janitor’s Closet 207. Provide one decorative LED downlight with motion sensor wall switch in both Storage Rooms 202A and 204B.
On the third floor, provide a 4 foot, three lamp LED direct/indirect pendant with motion sensor wall switch in Business Center 307. Relocate existing chandelier to center of room and provide four decorative wall sconces with wall switch and ceiling motion sensors in Small Meeting Room 303. Provide eight decorative wall sconces with wall switch and ceiling motion sensor in Large Meeting Room 301. Provide a 4 foot, three lamp LED direct/indirect pendant and strip luminaires below the upper cabinets with motion sensor wall switch in Kitchenette 306. Provide 24”x6” LED lensed surface mounted luminaire over the door with a motion sensor in Janitor’s Closet 302. Provide two decorative surface mounted ceiling luminaires and one decorative wall sconce with wall switch and overhead motion sensor in Men’s Restroom 304 and Women’s Restroom 305.

Provide dimming lighting controls for meeting rooms and event rooms. Provide motion sensors for event rooms, meeting rooms, offices, restrooms and storage rooms. Provide dual technology motion detectors at the wall switch and on the ceiling when required for coverage.

D60 COMMUNICATIONS

The existing telephone/data and security systems have main distribution points in the basement. The existing telephone/data backboards and cable distribution cabinets are located on the second and third floors.

An EMT conduit raceway pathway system for the telephone, data, CATV, card access, and security systems shall be provided to accommodate the revisions to the existing systems. The following systems provided by VCU: telephone, data, CATV, card access, and security systems. These existing systems include backbone and horizontal wiring, jacks, cover plates, racks and associated equipment which shall be modified and relocated as necessary based upon the floor plan reconfiguration. Provide additional backboards, grounding, and raceway pathways, including outlet boxes and conduit stub-outs above accessible ceilings. The existing front equipment for the special systems is in the basement.

Provide required conduits, receptacles, and A/V outlets in the rooms described below. Provide ¾” conduit from each A/V outlet to the A/V Room. Large Event Room 103 shall have two wall outlets with video hook-ups. Provide one floor box with video hook-ups and two wall outlets with video hook-ups in Large Event Room 104. Provide one floor box with video hook-ups and one wall outlet with video hook-ups in each Small Meeting Room. Medium Meeting Rooms shall have one floor box with video hook-ups and two wall outlets with video hook-ups. The Large Meeting Room 301 shall have two floor boxes with video hook-ups and two wall outlets with video hook-ups.

This section covers installations of communications inside the facility and out to the 5-foot line. Refer to Section “G50 Site Communications” for continuation of systems beyond the 5-foot line.
D70 ELECTRONIC SAFETY AND SECURITY

D7050 DETECTION AND ALARM

D7050.10 Fire Detection and Alarm

The existing fire alarm and detection system includes standard smoke detectors, sprinkler water flow and tamper switches, horns, strobes, and manual pull stations. The system also has less common devices including beam detectors in the Prefunction 101 grand stairway to the second floor and in Bar/Buffet 108, recessed flip style mounting for strobes in public spaces, and air sampling detection in public spaces. The existing fire alarm system control panel is located in the basement.

Expand and modify the existing fire alarm and detection system to provide a complete, electrically supervised, addressable, intelligent, manual and automatic, annunciated fire alarm and detection system throughout the facility. Extend existing initiating and indicating circuits as required for by the floor plan reconfigurations. Provide manual stations at the top of each stair. Provide ADA strobes in meeting rooms and restrooms.

Provide manual pull stations at the exterior doors of Small Event Room 102, Large Event Room 103, Service Entry 119 and at the entry point to each stairway on the second and third floors. Where walls are being reconfigured, provide additional air sampling detection in historical rooms and smoke detection in non-historical rooms with relocation and/or addition of horns as necessary with a minimum one per room. Provide minimum of one strobe in each restroom and meeting room. Coordinate with elevator supplier and provide additional smoke detection and fire alarm system equipment consistent with an elevator vertical travel distance of 34 feet, 3 inches.

Provide working space around equipment. Provide required fittings, connections, and accessories required for a complete and usable system. Equipment shall be installed per manufacturer’s recommendations. Wiring shall be installed in conduit.

E EQUIPMENT AND FURNISHINGS

E10 EQUIPMENT

E1030 COMMERCIAL EQUIPMENT

Food events will be an essential part of the future mission of Scott House. Events will vary by size, type, service style, and complexity with no menu limitations or prescribed style of events. All events will be outsourced using a variety of outside caterers. There will be no “in-house” foodservice staff or “house” china, place settings, food products, utensils, or supplies. There will be no facilities for cooking or food preparation, only food holding and staging facilities will be provided. Equipment for beverages (ice, coffee, tea) will be provided.
Foodservice rooms will consist of Warming Kitchen 118, Staging Area 109 and Bar/Buffet 108. Food when served will be on the first floor. Events may range from full plated fine dining meals to buffet service. Stand-up receptions with finger food may also occur. A variety of seating layouts in the event rooms on the first floor will allow a maximum 88 seated individuals. The Warming Kitchen will be a space for caterers to assemble and hold food for events. There will be no cooking or process that will require an exhaust hood. The Staging Area will be more of a service area for caterer’s wait staff to pick-up food, drop off dishes and collect beverages. A food buffet and/or bar may be set up in Bar/Buffet depending on the type of event.

The foodservice equipment shall be commercial heavy-duty meeting all sanitation regulations. Provide energy star compliant refrigerators and mobile hot food cabinets. Refer to “Appendix B Foodservice Equipment General List” and “Appendix C for Foodservice Opinion of Probable Cost” for additional information.

E1060 RESIDENTIAL EQUIPMENT

Residential appliances shall be stainless steel and energy star compliant and include a side-by-side refrigerator/freezer, plumbed ice maker, plumbed coffee maker and microwave. These appliances will be located in Kitchenette 205, Kitchenette 306 and Kitchenette/Workroom 218 with the exception of the plumbed ice maker.

E20 FURNISHINGS

E2010 FIXED FURNISHINGS

E2010.30 Casework

Casework shall be fabricated from Agrifiber and/or MDF panels with a PLAM veneer. The construction of the casework shall be flush overlay with a custom AWI quality grade. Provide base and upper cabinets in Kitchenette 205, Kitchenette Workroom 218 and Kitchenette 306. Countertops for the base cabinets shall be made of stone.

F SPECIAL CONSTRUCTION AND DEMOLITION

F30 DEMOLITION

F3030 SELECTIVE DEMOLITION

F3030.70 Selective Interior Demolition (HVAC)

Due to age, potential for failure and lack of control, the steam boiler and accessible piping shall be removed. Indirect heating units in the basement shall be removed. Radiators on the second and third floor can be left in place to maintain the historical aspect, but piping should be disconnected. Outside air intake vents and boiler stack shall be capped.

The turbine vents shall be removed from the chimneys and the chimneys capped to reduce unconditioned air infiltration.
The three (3) whole floor exhaust fans shall be removed and the exterior wall repaired to match original conditions.

The three (3) split system cooling units in the basement and the corresponding condensing units outside shall be removed. Associated ductwork shall also be removed.

The window cooling units on the second and third floors shall be removed.

F3030.70 Selective Interior Demolition (Plumbing)

The existing upstream water piping that is located before the existing irrigation RPZ is Sch. 40 PVC. Sch. 40 PVC installed in a domestic water system is prohibited by code and shall be replaced with copper between the existing RPZ and the connection to the existing domestic water system.

For items requiring demolition remove associated domestic water connections back to the nearest mains and cap remaining piping at disconnection points.

F3030.70 Selective Historic Demolition

Demolition within this structure, particularly on the first, second and third floors will require a high degree of care. Wood floors, wood stair treads and risers, stair handrails and balusters, are to be protected from harm throughout demolition and construction. The construction on the first floor of the main house, meeting rooms and historic restrooms on the second and third floors shall be limited and due to their high level of historic finishes these areas should be restricted. Where walls are removed, intersecting floors, walls, and ceilings to remain are to be patched.

Where systems such as electrical outlets, conduit, and supply and return grills are to be incorporated into existing plaster walls and ceilings, existing wood floors, etc., damage to the existing fabric must be minimized and subsequently patched as seamlessly as possible.

Remove existing railings at the main exterior steps, which are attached to historic pedestals with metal clamps.

Remove existing metal clamps at Porte-cochère column plinth blocks, total of two.
Main exterior stair

Porte-cochère column plinth blocks
G BUILDING SITEWORK

G10 SITE PREPARATION

G1010 SITE CLEARING

Some clearing shall be needed to prepare the site for construction. The majority of work shall consist of the removal of two trees, a row of bushes and shrubs and grass to make way for paved areas. Refer to concept design drawings for additional information.

G20 SITE IMPROVEMENTS

G2010 ROADWAYS

Replace 960 square feet of existing 5” x 1’-0” asphalt paving blocks with paving blocks to match.

G2020 PARKING LOTS

The parking footprint shall be enlarged. The current row of parking shall be enlarged to accommodate an asphalt service turnaround space. Additional parking shall be provided across the travel lane from the current parking. This parking shall be asphalt and include one service space for unloading, one handicapped space with clear access aisle and four typical parking spaces.

Alternate: Additional parking including the one handicapped space with clear access aisle and four typical parking spaces shall be stabilized sod instead of asphalt. Refer to concept design drawings for additional information.

G2030 PEDESTRIAN PAVEMENT

The existing basket weave patterned brick raised patio with stack brick edging will be enlarged with materials and patterns to match. The stairs on the southwest side of the existing patio will be relocated. Provide two poured concrete ramps wrapped in a running bond brick veneer on the vertical face and basket weave pattern pavers with stacked pattern edging pavers on the sloped face. The existing diagonal basket weave patterned brick patio with a running pattern edging and a stack pattern edging will be enlarged to allow a 5-foot turnaround at the base of the ramp with materials and patterns to match. A running patterned brick path with running brick edging will be added to connect two existing paths and the clear access aisle for the handicapped space. Refer to concept design drawings for additional information.
G40 ELECTRICAL SITE IMPROVEMENTS

This section covers installations of exterior electrical to 5-foot line outside of this building. Refer to Section “D50 Electrical” for continuation of electrical systems within the 5-foot line.

G4010 SITE ELECTRIC DISTRIBUTION SYSTEMS

G4010.10 Electrical Utility Services

Coordinate the upgrade to a three phase electrical service and associated metering requirements for the facility with Dominion Power.

G4010.20 Electric Transmission and Distribution

Provide a complete secondary site electrical system consisting of an underground electrical service, limited site lighting, and grounding equipment including accessories and devices as necessary and required for complete and usable systems. The electrical service from the Dominion Power transformer to the meter shall be provided by Dominion Power except the 1-1/4” conduit from the meter to current transformer (CT) metering cabinet.

Underground raceway shall be direct burial Schedule 40 PVC, installed a minimum of 24” below finish grade and a minimum of 30” below paved parking areas.

Provide electrical feeder for elevator. Coordinate elevator requirements with elevator equipment supplier.

G4010.70 Site Grounding

Electrical distribution system and telephone service protectors shall be grounded in accordance with the NEC. The electrical service shall be grounded per NEC Table 250.66. The telephone service shall be grounded with a #6 copper grounding conductor.

Underground exterior conductors shall be soft drawn, annealed copper with 600 volt insulation. Minimum wire size shall be #12 AWG. Conductor sizes larger than #10 shall have type XHHW-2 insulation. Conductors No. 8 AWG and larger diameter shall be stranded. Conductors No. 10 AWG and smaller diameter shall be solid. Service lateral conductors shall be supplied by Dominion Power in 4” conduits supplied by the Contractor between the Dominion Power overhead transformer bank and the current transformer (CT) metering cabinet in the basement adjacent to the main electrical service disconnect. The electric meter shall be installed in a location in compliance with Dominion Power regulations and access requirements.

G4050 SITE LIGHTING

Replace four existing gas light fixtures with LED luminaires to match existing design and reset the poles plumb. Exterior site lighting shall be modified and light fixtures added as required to comply with the current egress requirements, IECC Energy Code and Life Safety Codes where appropriate to retain the historical nature of the facility. LED luminaires shall be used where appropriate.

Exterior lighting luminaires shall be LED cut off type luminaires, controlled through photocell and lighting contactors as required for compliance with the IECC Energy Code and ASHRAE 90.1.
G50 SITE COMMUNICATIONS

Communication cabling for telephone, data, and CATV services are already in place. Any revisions to the existing telephone, data, and CATV cabling will be provided by VCU.

This section covers installation of communications to 5-foot line outside of this building. Refer to Section “D60 Communications” for information concerning telephone, data, CATV, card access and security systems within the 5-foot line.
### APPENDICES

<table>
<thead>
<tr>
<th>Page</th>
<th>Appendix</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
<td>Appendix A- Historic Integrity Diagrams</td>
</tr>
<tr>
<td>101</td>
<td>Appendix B- Building Photos</td>
</tr>
<tr>
<td>157</td>
<td>Appendix C- Meeting Minutes</td>
</tr>
<tr>
<td>181</td>
<td>Appendix D- Structural Assessment and Design Criteria</td>
</tr>
<tr>
<td>261</td>
<td>Appendix E- PME/FP Assessment</td>
</tr>
<tr>
<td>295</td>
<td>Appendix F- Limited Building Enclosure Evaluation</td>
</tr>
<tr>
<td>346</td>
<td>Appendix G- Stained Glass Report</td>
</tr>
<tr>
<td>357</td>
<td>Appendix H- Food Service Equipment General List</td>
</tr>
</tbody>
</table>
APPENDIX A

HISTORIC INTEGRITY DIAGRAMS
Historic Integrity
Historic building fabric that survives makes the historic significance of a building visible. Historic building fabric includes features, such as walls, windows, and trim, and materials, such as wood, stone, and plaster. Both the interior and exterior of the Scott House retain a substantial degree of integrity for the full period of its significance, from 1911 until the death of Elizabeth Scott Bocock in 1984. Retaining the integrity of a resource is considered of paramount importance in preservation.

Generally speaking, the Scott House interiors can be divided into four categories or zones.

1. **Public spaces with high integrity:**
The reception rooms of the main section of the house, including the octagonal second floor stair hall and the back stairs, are largely unchanged from their completion in 1911. These areas should be considered of the highest priority and should probably not be altered except as may be necessary for life-safety considerations. Any alterations should preserve historic building fabric and finishes. Restoration of original finishes and appearance should be encouraged.

2. **Program spaces with high integrity:**
In the upper floors of the main house, the bedrooms and other spaces remain largely in original condition, adapted for use by Mrs. Bocock for use as student apartments in the 1960s and as VCU offices in 2003 and earlier. The principal change was the addition of a sprinkler system in 2003, which caused the replacement of the flooring on the second and third floors. The eight original bathrooms serving these upper floors remain unaltered for the most part from the original construction and at least four of these are currently out of repair and inoperable. Most changes in these spaces, with the exception of the bedrooms in the southeast corner, are reversible and have not resulted in the loss of historic finishes or detailing. These spaces should be preserved and used to serve the programmatic requirements of the university. New mechanical and electrical systems should be introduced discretely to support programming needs and should be reversible. Of the original bathrooms, five have high integrity and should be preserved to the greatest extent possible. Additional restrooms will be needed to respond to accessibility and capacity demands on the upper floors. Wherever possible, these should occupy areas that have already been subject to alteration.

3. **Program spaces that have been modified:**
In some areas, notably the basement of the entire house and the second floor of the service wing, as well as the southeast bedroom and the Sunroom on the second and the southeast bedroom on the third floor of the main house, the interiors have been substantially altered by the removal of some partitions to create larger spaces. The windows were substantially altered on the first floor as well. On the second floor, when the rooms were altered, historic detailing and finishes were preserved. Though new changes may be contemplated in these rooms, the historic detailing and finishes that remain should be preserved.

4. **Program spaces that have been dramatically altered:**
In one particular area, the first floor of the service wing, the historic spaces have been dramatically altered. This area, completely redesigned in the 1950s by Mrs. Bocock, was further redesigned in 2003, when space was carved from the Bocock Living/Dining Room and Kitchen to add handicapped accessible toilet rooms. Due to the fragmentary survival of these altered areas, they are open to continued change. In undertaking new purposes for these areas, any remaining historic detailing should be preserved if possible. The Bocock-era Living/Dining Room included newer paneling, cornice, and mantels. These should be preserved if possible as well. Some areas of the basement have been altered more than others as required to accommodate the services needed to operate the rooms on the upper floors. The basement should be cleaned and simplified by removing any disused systems, wiring, and equipment. Otherwise new systems and equipment can readily be added.
LEGEND

- PUBLIC SPACES WITH HIGH INTEGRITY
- PROGRAM SPACES WITH HIGH INTEGRITY
- PROGRAM SPACES THAT HAVE BEEN MODIFIED
- PROGRAM SPACES THAT HAVE BEEN DRAMATICALLY ALTERED

Basement Historic Integrity Diagram
Legend

- Red: Public spaces with high integrity
- Orange: Program spaces with high integrity
- Blue: Program spaces that have been modified
- Grey: Program spaces that have been dramatically altered

First Floor Historic Integrity Diagram
LEGEND

- PUBLIC SPACES WITH HIGH INTEGRITY
- PROGRAM SPACES WITH HIGH INTEGRITY
- PROGRAM SPACES THAT HAVE BEEN MODIFIED
- PROGRAM SPACES THAT HAVE BEEN DRAMATICALLY ALTERED

Second Floor Historic Integrity Diagram
Third Floor Historic Integrity Diagram
APPENDIX B

BUILDING PHOTOS*

*Room numbers correspond with recent plan numbers.
Front Elevation
Front Porch Lantern

Rear Balcony
Rear Elevation

Rear Corner
Quoining Detail
Copper Panel Detail

Porte-Cochere
Side French Door
Back Lawn
Back Lawn from Side

Raised Brick Patio
Main Hall 101 - Overall

Main Hall 101 - Floor Pattern
Main Hall 101 - Wall Grill
Library 102 - Mantel

Library 102 - Built-in Bookshelf
Library 102 - Door Trim Detail

Library 102 - Crown Molding
Dining Room 103 - Chandelier

Drawing Room 104 - Overall
Den 105 - Overall

Den 105 - Ceiling
Den 105 - Flooring

Den 105 - Door Trim
Toilet 107 - Sconce

Kitchen 108 - Overall
Kitchen 108 - Butler's Pantry

Breakfast Room 109 - Overall
Stair 110 - Iron Railing

Stair 110 - Pendant
Stair 110 - Stringer Detail

Office 202 - Mantel
Office 202 - Ceiling
Office 203 - Overall

Office 203 - Ceiling
Office 204 - Ceiling

Office 204 - Mantel
Office 204 - Chandelier

Office 204 - Sconce
Office 206 - Overall
Stair Hall 214 - Wall Details

Stair Hall 214 - Ceiling
Stair Hall 214 - Ceiling

Stair Hall 214 - Sconce
Office 302 - Surface Mounted

Office 302 - Sconce
Corridor 309 - Doors
Mechanical 002 - Overall

Mechanical 011 - Elevator Machinery
APPENDIX C

MEETING MINUTES
MINUTES OF MEETING

MEETING DATE: June 2, 2015 2:00PM
PROJECT: VCU Scott House Study
PROJECT NO: 21495PW02
LOCATION: VCU: 700 West Grace Street, Suite 1500 Conference Room
SUBJECT: Conditions Assessment Meeting

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANIZATION</th>
<th>ACTION</th>
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<tr>
<td>Keith Van Inwegen (KVI)</td>
<td>VCU Facilities Management, Planning and Design</td>
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<tr>
<td>Mary P. Cox (MC)</td>
<td>VCU Facilities Management, Planning and Design</td>
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<td>Margaret S. Kelland (MK)</td>
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<td>Lori Garrett (LG)</td>
<td>Glave and Holmes Architecture</td>
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<td>Nickolas Coile (NC)</td>
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<td>Gibson Worsham (GW)</td>
<td>Glave and Holmes Architecture</td>
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ITEM DESCRIPTION
1. LG began by stating that G&HA and our consultants surveyed the building for several days to assess the existing conditions. GW is preparing a draft of the conditions assessment, and is incorporating the narratives and recommendations of the consultants. A draft of the report will be provided in the next 1-2 weeks. The purpose of this meeting is to update VCU on the preliminary findings of the report and to confirm the report is headed in the right direction.

2. MC shared with the group that an easement was placed on the site of the Scott House before the Scotts sold to VCU to keep any development from encroaching on the structure. Both the Department of Historic Resources (DHR) and Calder Loth were instrumental in this easement.

3. In reviewing the condition of the tile, MK confirmed that VCU maintenance has been told not to salt the porch; instead they are advised to utilize calcium. MC mentioned that they had considered installing a band of new tile in between the column plinths to delineate between the old tile and new. The new tile would be placed under the front portico and any salvaged old tile from this space would be used to fill in at cracked portions elsewhere. GW cautioned that the tile is firmly attached and may be difficult to remove.

4. GW and LG confirmed that repairing the existing windows is preferred instead of replacement. If replaced, MC stated that DHR will require the profiles to match the existing. MC asked if the windows were originally painted black. GW mentioned that they would need a paint analysis to determine the color.

5. KVI and MK confirmed that DMWP&V only stabilized the service porch and supplied an estimate for the full repair. At the time of the stabilization there was no money for the needed repairs. GW warned that it could become a hazard and...
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<tr>
<td>asked if people were restricted from going out on the service porch. MK stated that people are advised not to go out on the porch.</td>
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<tr>
<td>6.</td>
<td>GW suggested that water leaking into the building might be due to several factors: 1) flashing incorrectly attached to the structure; 2) terra cotta joints of the balustrade; or 3) joints between the terra cotta window surrounds and the limestone veneer. GW mentioned that if areas are not showing water infiltration than it is best not to repoint them due to possible damage to the terra cotta or limestone. MK confirmed that non-destructive testing has been done in the past to identify water infiltration locations. Also, MK and KVI confirmed that the north offices on the second floor frequently have water damage.</td>
</tr>
<tr>
<td>7.</td>
<td>GW stated that some balusters have been replaced over the years with ill-fitting precast concrete balusters instead of terra cotta balusters to match the existing. This has caused the balustrade rail to slant and this has exhausted the baluster joints. KVI asked what the best approach would be and GW suggested taking apart all of the balustrades, replacing the balusters with components to match the existing and repointing the joints as needed.</td>
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<tr>
<td>8.</td>
<td>GW mentioned that the area ways are covered with mulch, which block the make-up air to the mechanical systems located in the basement.</td>
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<td>9.</td>
<td>GW mentioned that the first floor unit is at the end of its useful life and the duct work needs to be replaced.</td>
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<td>10.</td>
<td>GW mentioned that the electrical systems are a mix of different periods but no major problems are apparent.</td>
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<tr>
<td>11.</td>
<td>MK confirmed that the bathroom fixtures have mostly failed due to the cast iron piping. GW recommended lining the cast iron piping with an epoxy liner. Camera analysis could be done prior to locate the areas of most concern.</td>
</tr>
<tr>
<td>12.</td>
<td>MK stated that they are having issues with the wood parquet floor denting easily due to high heels and the floor cannot be sanded anymore. GW suggested replacing the floor with a stronger wood that would not damage as easily. MC asked whether the decorative inlay borders could be salvaged and field replaced. G&amp;HA will research this and make a recommendation in the final study.</td>
</tr>
<tr>
<td>13.</td>
<td>MK mentioned that in Drawing Room 104 they have had some issues with wall paper bubbling and not sticking properly. Understanding the cause of the problem has proved difficult. They have tested this area with moisture meters and have not detected moisture in this area. G&amp;HA will review the issue.</td>
</tr>
<tr>
<td>14.</td>
<td>GW mentioned that an elevator would be needed for ADA. GW stated that he has found a LULA elevator that is within inches of fitting within the existing elevator shaft. LG explained that a LULA elevator is a limited use, limited application and are typically only used for ADA purposes. MC stated that installing an elevator within the existing elevator shaft would be ideal. G&amp;HA will verify that a LULA elevator will fit within the existing shaft.</td>
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<tr>
<td>15.</td>
<td>KVI questioned the accuracy of the total square footage of the Scott House suggested in the presentation. He asked G&amp;HA to verify the total square footage before including this information in the final report. Post Meeting Note: The square</td>
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</table>
footage of the Scott House as noted in the 2001 Conditions Assessment and is listed as:
Basement: 5,280
First Floor: 5,601
Second Floor: 5,220
Third Floor: 2,645
Total: 18,746

Please review these Minutes as an accurate record of this meeting and notify Glavé & Holmes Architecture of any changes. If comments are not received by 7/8/2015, these Minutes will become a part of the permanent record as submitted.

Submitted by:

**Nickolas Coile**
Nickolas Coile, LEED AP
Glavé and Holmes Architecture

Cc: Keith Van Inwegan, Virginia Commonwealth University
For distribution to others
## MINUTES OF MEETING

<table>
<thead>
<tr>
<th>MEETING DATE:</th>
<th>June 2, 2015 3:00PM</th>
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<tbody>
<tr>
<td>PROJECT:</td>
<td>VCU Scott House Study</td>
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<tr>
<td>PROJECT NO:</td>
<td>21495PW02</td>
</tr>
<tr>
<td>LOCATION:</td>
<td>VCU: 700 West Grace Street, Suite 1500 Conference Room</td>
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<tr>
<td>SUBJECT:</td>
<td>Preliminary Programming Meeting</td>
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### NAME | ORGANIZATION
--- | ---
Keith Van Inwegen (KVI) | VCU Facilities Management, Planning and Design - VCU
Mary P. Cox (MC) | VCU Facilities Management, Planning and Design - VCU
Margaret S. Kelland (MK) | VCU Facilities Management, Physical Plant - VCU
Caren R. Girard (CG) | VCU Facilities Management, Planning and Design - VCU
Lori Garrett (LG) | Glave and Holmes Architecture - G&HA
Nickolas Coile (NC) | Glave and Holmes Architecture - G&HA
Gibson Worsham (GW) | Glave and Homes Architecture - G&HA

### ITEM | DESCRIPTION | ACTION
--- | --- | ---
1. | VCU agreed that the plan is to use the entire building for meeting and conference space (offices on second floor and first floor events don’t mix well). |

2. | VCU stated that the main building on the first floor should be as flexible as possible, with potential for regular use as several meeting rooms, but possibility for use as a one reception space about four times a year. Conference Room 115 will always function as a board room. Banquet style and boardroom style seating will be needed for the Library 102, Dining Room 103, Drawing Room 104 and Den 105. No lecture style seating will be needed. Post meeting note from the 6/4/2015 VCU internal meeting: Ground/first floor should be used for the entertainment of boards like the Board of Visitors and dinners etc. No weddings shall be held in this building. The rear conference room 115 is not sacred, it could be used as storage or as a kitchen. | Post meeting note from the 6/4/2015 VCU internal meeting: Due to constructability and cost issues the A/E team does not believe adding a large cased opening between Bedrooms 203 and 204 would be possible. |

3. | VCU decided that the building should consist of meeting rooms ranging in capacity from 8 occupants up, including the bedrooms across the north front on the second floor and Bedroom 303 and the original Playroom on the 3rd floor. Bedrooms 203 and 204 could be opened up into one meeting room by using a large cased opening. Post meeting note from the 6/4/2015 VCU internal meeting: These meeting rooms should accommodate small seminars and speakers to meet with students. Post meeting note from A/E team: Due to constructability and cost issues the A/E team does not believe adding a large cased opening between Bedrooms 203 and 204 would be possible. | |

4. | CG stated that each floor should have a catering/warming/coffee staging area, | |
including ice machine, refrigerator, and an area for food preparation. The offices would utilize the same catering area for coffee, etc. The Butler’s Pantry 108 and adjacent Breakfast Room 109 would serve as staging areas for large events and dinners.

5. CG said that a coat room should be provided on the first floor.

6. CG and MK stated that there needs to be permanent occupants in the building so that the building has an occupant looking out for it. As many as 8 people, perhaps in the second floor of the service wing. This could be a small staff to run the event space. Post meeting note from the 6/4/2015 VCU internal meeting: Three to four people in offices. Possibly some staff from the President’s office.

7. CG stated that lots of technology would be needed including 80” flat screens, video conferencing, which require 2 – 6 screens, and large glass whiteboards, all mounted on walls or on rollers. More than one screen will be needed in larger rooms.

8. It was agreed by VCU that opening up the original Playroom on the third floor as meeting space would be preferable.

9. G&HA proposed that new handicapped toilets be added on the second and third floors. These would most likely be located in the southeast corner of the main building.

10. MC stated that if possible the new elevator should be installed in the existing shaft. G&HA will research LULA elevators.

11. CG agreed that a business center would be useful in a conference center. This space could double as a copy/workroom and be located on the third floor in the Butler’s Room 307.

12. CG decided that storage be provided on each floor for tables, chairs, equipment. Also, an IT room, custodial room, trash and recycling should be provided on each floor as well.

13. CG and MC suggested that Dining Room 103 and Conference Room 115 would probably have a permanent table. Post meeting note from the 6/4/2015 VCU internal meeting: Ground/ first floor should have furnishings that are easy to move.

14. VCU did not determine at this meeting whether the conference room furniture should be modern or traditional.

15. It was determined by VCU that no fireplaces will be used.

16. MC stated that they have had issues with BCOM accepting the Virginia Rehabilitation Code (VREHAB) in the past. G&HA stated it could be due to a certain reviewer. MC decided that VCU should dialogue with BCOM about agreeing to use the VREHAB instead of the Virginia Construction Code (VCC).

17. VCU decided that adequate parking for this building would not need to be provided on this site. Most visitors and even some staff could park at a different location and walk over. Caterers could use the porte-cochere to load and unload equipment and other items for events.

18. VCU determined that three handicapped spaces should be added to the parking.
Three conventional spots are probably permanently claimed by administration.

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<td>19.</td>
<td>KVI and MC to have a meeting with Brian Shaw, the Assistant to the President, on Thursday, 6/4/2015. KVI will then give G&amp;HA direction on how to proceed given the meeting outcome.</td>
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</table>
| 20. | KVI requested that the study estimate be divided into two parts:  
- repairs  
- reordered spaces |   |
| 21. | LG stated that the next meeting will be a follow-up programming meeting where G&HA will present a program draft based on our conversation and gather any feedback for final revision. G&HA’s food service consultant will also attend this meeting where the committee will identify food service needs for this building. |   |

Please review these Minutes as an accurate record of this meeting and notify Glavé & Holmes Architecture of any changes. If comments are not received by 7/8/2015, these Minutes will become a part of the permanent record as submitted.

Submitted by:

**Gibson Worsham**

Gibson Worsham  
Glavé and Holmes Architecture

Cc: Keith Van Inwegan, Virginia Commonwealth University  
For distribution to others
MINUTES OF MEETING

MEETING DATE: August 17, 2015 1:00PM
PROJECT: VCU Scott House Study
PROJECT NO: 21495PW02
LOCATION: VCU: 700 West Grace Street, Suite 1500 Conference Room
SUBJECT: Follow-up Programming Meeting

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANIZATION</th>
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<tbody>
<tr>
<td>Keith Van Inwegen (KVI)</td>
<td>VCU Facilities Management, Planning and Design</td>
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<tr>
<td>Mary P. Cox (MC)</td>
<td>VCU Facilities Management, Planning and Design</td>
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<td>VCU Facilities Management, Physical Plant</td>
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<tr>
<td>Caren R. Girard (CG)</td>
<td>VCU Facilities Management, Planning and Design</td>
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<tr>
<td>Lori Garrett (LG)</td>
<td>Glave and Holmes Architecture</td>
<td>G&amp;HA</td>
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<tr>
<td>Nickolas Coile (NC)</td>
<td>Glave and Holmes Architecture</td>
<td>G&amp;HA</td>
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<tr>
<td>Dan Bendall (DB)</td>
<td>FoodStrategy</td>
<td>FS</td>
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ITEM | DESCRIPTION                                                                                                                                                                                                 | ACTION |
--- |-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
SITE | NC suggested using the rear of the building as a service entry where catering trucks could unload/load from. A bluestone patio could be added that could withstand the weight of a truck. It was agreed that entering from the rear for caterers was preferred to entering from the Porte-cochère. MC questioned whether a truck would clear the existing 2nd floor balcony. Then it was discussed between MC and MK whether the balcony should be removed or kept. MC asked if it was original; NC and KVI thought it was. G&HA will confirm if this element is original to the structure. MC noticed on the site plan that existing window wells might preclude trucks from backing up to the double doors. It was suggested by MC that aprons could be installed for trucks to back up to. KVI proposed that the truck could unload from the raised brick patio and then be taken from the raised patio into the D1 Service Entry Area. CG and MK indicated that the bluestone patio would be useful for the tented outdoor gatherings. Post meeting note from A/E team: Rear balcony is original and should be kept.                                                                                                                                                                                                 | G&HA   |
FIRST FLOOR |                                                                                                                                                                                                                                                                              |        |
2.  | CG mentioned that large areas for furniture storage would be needed on the first floor to accommodate furniture set-up changing from one use to another. CG indicated that the uses will be hospitality, banquet, reception and seminar.                                                                                                                                                                                                 |        |
Hospitality would be the default set-up and would include furniture as it exists in the space currently. Banquet would be the set-up for events such as Board of Visitor, Donor and Kiwanis Club luncheons or dinners and consist of 8 top oval tables. Reception set-up would consist of some hospitality furniture set-up and some stored away. Seminar would be reserved for the A2a Large Event Room only and consist of 20-30 banquet chairs arranged in lecture format. CG’s preference would be to permanently remove the large dining table in the A2b Large Event Room and the marble entry piece in the A1 Prefunction space. KVI suggested that instead of adding large areas for furniture storage on the first floor the large amount of storage in the basement could be utilized for this purpose. The elevator would need to be enlarged to transport the furniture to the lower level and would not fit within the existing shaft. MC and CG agreed that furniture storage on the first floor would be preferable because enlarging the elevator would be problematic given the limited location choices. G&HA will reduce the warming kitchen area and repurpose some of the space for furniture storage. CG said that the committee would need to clarify with Brian Shaw all of the groups that would potentially use the first floor event space. It has been expressed by Brian Shaw that no more weddings will take place at this venue.

| 3. | MC asked MK whether the development office would need this first floor space for fundraising and, if so, do they need any accommodations. MK to ask Ann Hoeffer about the development offices intentions. | MK 9/8/2015 |
| 4. | KVI asked the purpose of the C2 Staging Area. DB stated that this room is a service area for the caterer’s waitstaff to pick-up food, drop off dishes and get beverages. |
| 5. | CG stated that Brian did mention to not skimp on AV, storage and kitchen. |
| 6. | MC suggested that the tabular program be revised to show the number of occupants for the different set-ups described by CG for A2a Large Event Room, A2b Large Event Room and both of the A3 Small Event Rooms. | G&HA 9/8/2015 |

**SECOND AND THIRD FLOORS**

<p>| 7. | KVI asked that G&amp;HA confirm the door opening onto a wall from the main circulation space 214. Post meeting note from A/E team: There is a door that opens onto a wall in this location and this situation is original to the structure. This door was presumably placed to hide the electrical panel. |
| 8. | CG requested that modular tables be utilized in the second and third floor meeting rooms. At first CG suggested furniture storage for these floors, however, she decided that modular tables would suffice since reconfiguration would only be needed in each room and there would not be a need to clear out the furniture of any of the meeting rooms. |
| 9. | Regarding the second floor service wing offices, MC suggested that we show an |</p>
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<td>option for single use offices and another option maximizing the number of workstations.</td>
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<td>10.</td>
<td>NC stated that the Business Office would serve as a Business Center. G&amp;HA to relabel.</td>
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<td>11.</td>
<td>MC suggested a meeting with BCOM to review the potential code issues in the building. Such topics to discuss would be the LULA elevator, accessible paths, width of existing doors and push/pull at existing doors. KVI agreed a representative from G&amp;HA would conduct a meeting with BCOM. MC stated that VCU has placed an emphasis on making barriers disappear and they have elevated the diversity and inclusion to a VP role. Paula McMann is the ADA coordinator for VCU and should be included in the meeting with BCOM.</td>
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<td>12.</td>
<td>DB reviewed several questions regarding food service. CG stated that the frequency of use for the first floor would be limited to about one dinner a month. Both buffet and plated dinners would be held in the event spaces and most dinners will be formal. Stand-up receptions with finger foods may also occur.</td>
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<tr>
<td>13.</td>
<td>CG and MK stated that events will always be catered and they will only need a warming kitchen. This Warming Kitchen will be a space for caterers to assemble and hold food for events. CG indicated that there will be no cooking or process that will require an exhaust hood. DB stated that the warming kitchen will have refrigerators, a small dishwasher, space and electric service for plug-in hot boxes, ice maker, coffee maker, sinks, counters and storage cabinets.</td>
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<tr>
<td>14.</td>
<td>MK indicated that they use various approved caterers and Aramark. MC did say in an effort to reach out to the community, which is a goal of VCU, local vendors have been used. The caterer would bring and install a portable bar and buffet when needed for a particular event. VCU agreed that the conservatory space would be an ideal location for a bar or buffet area. CG stated that the caterer would provide everything except tables and chairs including wait staff. It was decided by CG and MK that a small amount of any VCU owned dishes, glasses and flatware could be stored in the basement. Brian Shaw will verify which VCU owned dishes, glasses and flatware will remain on-site.</td>
</tr>
<tr>
<td>15.</td>
<td>MK stated that the physical plant would conduct maintenance on the building. VCU will likely contract out the future cleaning of this building.</td>
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<td>16.</td>
<td>Outdoor events will typically be receptions. Outdoor plated meals are not anticipated.</td>
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<td>17.</td>
<td>CG indicated that the use of the second and third floor meeting rooms would be heavy. The C4 Warming/Coffee/Staging Areas would be used as a preparation area for coffee and box lunches. No catering or warming equipment will be needed in this space. G&amp;HA will relabel C4 to better reflect the use of these spaces. CG said that this space will include a refrigerator, coffee maker, ice maker,</td>
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sink and counter space.

18. MC agreed that the workroom/kitchenette serving administrative use should be located in the office area as the presentation plans showed.

19. NC stated that we have two meetings remaining in this process where we will focus on the concept design. LG indicated that we may be able to accomplish this in one meeting if the design is resolved enough in the first concept meeting.

Please review these Minutes as an accurate record of this meeting and notify Glavé & Holmes Architecture of any changes. If comments are not received by 9/8/2015, these Minutes will become a part of the permanent record as submitted.

Submitted by:

**Nickolas Coile**

Nickolas Coile
Glavé and Holmes Architecture

Cc: Keith Van Inwegan, Virginia Commonwealth University
For distribution to others
# MINUTES OF MEETING

**MEETING DATE:** September 18, 2015 1:00PM  
**PROJECT:** VCU Scott House Study  
**PROJECT NO:** 21495PW02  
**LOCATION:** BCOM, 202 N. Ninth Street, 6th Floor Large Conference Room  
**SUBJECT:** Preliminary Concept Design and Code Review

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANIZATION</th>
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<tbody>
<tr>
<td>Anne B. Hooker (AH)</td>
<td>Bureau of Capital Outlay Management BCOM</td>
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<tr>
<td>Jim Frye (JF)</td>
<td>Bureau of Capital Outlay Management BCOM</td>
</tr>
<tr>
<td>Keith Van Inwegen (KVI)</td>
<td>VCU Facilities Management, Planning and Design VCU</td>
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<tr>
<td>Lori Garrett (LG)</td>
<td>Glave and Holmes Architecture G&amp;HA</td>
</tr>
<tr>
<td>Nickolas Coile (NC)</td>
<td>Glave and Holmes Architecture G&amp;HA</td>
</tr>
<tr>
<td>Nelson Williams (NW)</td>
<td>Dunbar, Milby, Williams, Pittman &amp; Vaughan DMWP&amp;V</td>
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<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>ACTION</th>
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<tr>
<td>1.</td>
<td>AH stated that the project code for the Scott House Study would be 236-A5236-013.</td>
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<td>2.</td>
<td>KVI stated that VCU is proposing to reprogram the Scott House into an Event and Meeting Center. Storage would be designated for the basement, event rooms and support spaces for the first floor, meeting rooms and support spaces for the main wing of the second floor, offices and support spaces for the service wing of the second floor and meeting rooms and support spaces for the third floor.</td>
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<td>3.</td>
<td>LG stated that our team will be using the 2012 Virginia Rehabilitation Code (VREHAB). Applicable chapters include Chapter 10: Change of Occupancy and Chapter 12: Historic Buildings.</td>
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<td>4.</td>
<td>LG stated that we will be changing the occupancy. These changes include S-2 and B changing to S-1 in the basement, the areas being used for event space will change from B to A-2 on the first floor and B to A-3 on the second and third floors; the remainder of the spaces on these floors (restrooms, kitchenette, offices, etc.) will remain B use group.</td>
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<td>5.</td>
<td>NW indicated that the existing first floor construction allows for the assembly uniform load of 100 pounds per square foot while the second and third floors</td>
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allow for a uniform load of 80 pounds per square foot for corridor and 70 pounds per square foot elsewhere. NW stated that based on plans for how these meeting rooms will be furnished (with conference tables and not lecture style seating,) DMWP&V believes that 70 pounds per square foot would be more than adequate. Also, adding more structure to comply with 100 pounds per square foot assembly loads would necessitate removal of the historic plaster. Based on Table 1607.1 of the 2012 Virginia Construction Code (VCC) and the use of the meeting rooms AH and JF agreed that the loads described in Table 1607.1 for Office Buildings is adequate for the second and third floor meeting rooms. AH stated that the event rooms on the first floor would need to comply with the assembly loads stated in Table 1607.1. AH determined that the architectural and plumbing drawings should recognize the second and third floor meeting rooms as assembly and the structural drawings can recognize these areas as office.

6. NC stated that according to the VREHAB we are changing to a higher hazard category which bumps us to the 2012 Virginia Construction Code (VCC) for Means of Egress, Height & Area and Exposure to Exterior Walls.

7. NC said we will be selecting a nonseparated occupancy for this structure. This requires us to meet the height and area for the strictest occupancy which is A-2. Our building meets these limits with the automatic sprinkler system increase, which is provided with the existing sprinkler system that was added during the 2003 renovations by SMBW. AH stated that the existing sprinklers have to comply with NFPA 13 not NFPA 13R to be eligible for the height and area increase. Post Meeting Note from A/E Team: According to the 2003 East Coast Fire Protection, Inc. sprinkler shop drawings the sprinkler system is based on NFPA 13.

8. Regarding plumbing fixture calculations involving multiple occupancies LG stated fractional numbers for each occupancy shall first be summed and then rounded up to the next whole number. All agreed.

### MEANS OF EGRESS

9. AH asked if all of the floors meet the common path of travel and travel distances. AH explained that if only one basement stair complies then the structure will need to follow Table 1021.2. If only one exit can be provided then 75 feet will be our maximum travel distance. AH commented that we would need to add a wall to block off any portion of the basement that does not comply with the 75 foot maximum distance. Later in the meeting, it was agreed that the second stair to the basement provides a second means of egress since this stair was deemed an acceptable means of egress for the 2003 renovation by SMBW.

10. The existing means of egress was reviewed. There are two means of egress currently provided: 1) the new stair added in the 2003 renovation by SMBW (interior stair from third floor to second floor, and exterior stair from second floor to grade); 2) the original stair which was enclosed and deemed an acceptable means
LG explained that due to the existing floor plan and location of exterior walls, it is not possible to expand the existing elevator shaft without constructing an addition on the third floor. The Scott house is listed on the National Register, and KVI and LG mentioned that based on their experience with the Department of Historic Resources, DHR would oppose alterations to the exteriors of the Scott House. Therefore, a Limited Use Limited Access (Lula) elevator is being proposed. AH commented that while a Lula elevator is permitted by 2010 ADA, it does not meet the State’s stretcher requirements. AH stated that BCOM would prefer a stretcher-compliant and 2010 ADA-compliant elevator. However, if it is determined after consultation with DHR that they do in fact oppose the modifications necessary to accommodate an enlarged shaft, and if VCU sends a letter stating such, BCOM will allow a Lula elevator to suffice in lieu of a larger elevator.

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<td>LG explained that due to the existing floor plan and location of exterior walls, it is not possible to expand the existing elevator shaft without constructing an addition on the third floor. The Scott house is listed on the National Register, and KVI and LG mentioned that based on their experience with the Department of Historic Resources, DHR would oppose alterations to the exteriors of the Scott House. Therefore, a Limited Use Limited Access (Lula) elevator is being proposed. AH commented that while a Lula elevator is permitted by 2010 ADA, it does not meet the State’s stretcher requirements. AH stated that BCOM would prefer a stretcher-compliant and 2010 ADA-compliant elevator. However, if it is determined after consultation with DHR that they do in fact oppose the modifications necessary to accommodate an enlarged shaft, and if VCU sends a letter stating such, BCOM will allow a Lula elevator to suffice in lieu of a larger elevator.</td>
</tr>
<tr>
<td>12.</td>
<td>AH stated that the shaft walls for the elevator will need to be rated 2 hours. She asked the construction of the existing walls. NC stated that this level of detail has not been field verified because we are in conceptual design.</td>
</tr>
<tr>
<td>13.</td>
<td>AH asked where the machine room would be placed in this building. KVI commented that it would be located in the basement as it was with the previous elevator. AH indicated that this elevator will need to serve all four floors including the basement.</td>
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<tr>
<td>14.</td>
<td>JF stated that an elevator sump pit will likely be needed.</td>
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<tr>
<td>15.</td>
<td>LG mentioned that a 5’ diameter turnaround space could not be provided in the third floor elevator vestibule due to the existing wall placement. After reviewing the plans AH and JF determined that this circumstance would be allowed if it is stated on the drawings that reconfiguring this space would be technically infeasible per Section 1205.15 or if modifications would cost more than 20% of the worth of the building.</td>
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<td>16.</td>
<td>AH stated that per 1109.2.1 a family/unisex handicapped accessible restroom will be needed due to the assembly occupancy and the number of plumbing fixtures required.</td>
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**HISTORIC STAIRWELL**

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<td>17.</td>
<td>LG shared with BCOM the many challenges with the historic stairwell. AH stated that since the historic stair was deemed an acceptable means of egress for the 2003 renovation by SMBW, then it passes for this project as well. This logic will need to be stated on the drawings.</td>
</tr>
</tbody>
</table>
HISTORIC DOORS

18. NC reviewed the historic exterior doors with BCOM. AH decided that both the front double door and side single door would need to swing out. The front door could serve as the accessible entrance if a sloped transition was installed to bridge the 3 ½” high threshold. LG said that to comply with DHR preferences the sloped transition would need to be reversible, similar to what is currently in place for example. AH determined that the sloped transition would need to be wider than the current. AH said that another option would be to use the double door from room 102 to the exterior as the accessible entry. For this exit to comply, either this room would act as a vestibule with no furniture or the exit path and width, would need to be permanently marked on the floor. LG and KVI agreed that the front door option would be their preference.

19. NC reviewed the historic interior pocket doors with BCOM and stated that the VREHAB and VCC do not address pocket doors. AH stated that only areas with 25 or less occupancies can have pocket doors. NC proposed keeping the pocket doors in place, but installing a stop which would prevent the pocket doors ability to close beyond the width required for egress. AH agreed that if the pocket doors are restricted from closing into the required egress clear space then they will be allowed to stay in place.

20. AH stated that all of the offices and meeting rooms will need to have accessible entries not just a majority. AH stated that if the service wing offices are not altered then the entries are acceptable as is.

21. LG asked whether the entries into historic bathrooms need to be handicapped accessible if the fixtures within the bathrooms are not handicapped accessible. AH stated that non-accessible entry ways and plumbing fixtures are satisfactory if these bathrooms are not included in the plumbing count and if this is clearly stated on the drawings.

Please review these Minutes as an accurate record of this meeting and notify Glavé & Holmes Architecture of any changes. If comments are not received by 10/12/2015, these Minutes will become a part of the permanent record as submitted.

Submitted by:

Nickolas Coile
Nickolas Coile
Glavé and Holmes Architecture
MINUTES OF MEETING

MEETING DATE: September 29, 2015 11:30AM
PROJECT: VCU Scott House Study
PROJECT NO: 21495PW02
LOCATION: VCU: 700 West Grace Street, Suite 1500 Conference Room
SUBJECT: Concept Design Meeting

NAME | ORGANIZATION
--- | ---
Brian Shaw (BS) | VCU Office of the President, Senior Executive Director
Harry Wyatt (HW) | VCU Facilities Management, Associate Vice President
Mary P. Cox (MC) | VCU Facilities Management, Planning and Design
Caren R. Girard (CG) | VCU Facilities Management, Planning and Design
Margaret S. Kelland (MK) | VCU Facilities Management, Physical Plant
Keith Van Inwegen (KVI) | VCU Facilities Management, Planning and Design
Lori Garrett (LG) | Glave and Holmes Architecture
Nickolas Coile (NC) | Glave and Holmes Architecture

ITEM | DESCRIPTION | ACTION
--- | --- | ---
1. | LG reviewed process to date highlighting the conditions assessment document and the historical diagrams. |  
2. | LG presented the site plan options. KVI indicated that the path additions would be brick to match the existing paths. MK commented that a tree will need to be removed for the service space turnaround as designated in both Options A and B. MK mentioned that there are 2 spaces that were added after the 2003 renovations just to the west of the carriage house. G&HA will update the site plans accordingly for the cost estimator and project booklet. MC indicated that the cost estimate should include a line item for the additional parking spaces shown on Option B utilizing stabilized sod. | G&HA
3. | LG shared that we met with BCOM for a concept design review where the main topic was the proposed Lula elevator. If a Lula elevator is not allowed, the existing shaft would need to be enlarged, requiring changes both to the existing structure and exterior envelope. LG stated that the Lula elevator does not meet state requirements, however, BCOM was willing to accept it if it was determined that DHR would not allow a disruption to the exterior envelope. MC commented that sometimes BCOM is more understanding at the beginning of the project, however, once the fire protection official gets involved it is another story. |  
4. | LG presented the proposed first floor plan. HW commented that the path to the restrooms seems circuitous and asked whether the two doors into the stairwell were needed. LG replied both doors were added during the 2003 renovations by |  

178
Minutes of Meeting  
Date:         September 29, 2015  
Project Name: VCU Scott House Study  
Page 2 of 3

SMBW to comply with fire code. LG stated that hold opens could be added so these doors could remain open.

5. LG verified that the furniture storage size could adequately accommodate the table and chair storage needs for this floor. LG mentioned further plan refinement will be reviewed during schematic design; for example widening the doors into the stairwell to accommodate moving the furniture with greater ease.

6. LG mentioned that the historic pocket doors would need to be restricted from closing into the required egress width. LG verified that the door frame modifications would be reversible in accordance with the Secretary of the Interior Standards.

7. BS asked how many people can fit at a meeting table in the A2a Large Event Room and the A2b Large Event Room. LG mentioned that the A4 Large Meeting Room is similar in size to A2a and A2b. G&HA will lay out modular meeting tables to maximize the number of people in A2a, A2b and A4 and submit to VCU.

8. LG presented the proposed second floor plan. HW asked if the historic restrooms were functional. MK indicated that the two kept in the concept design were having problems. LG stated that these restrooms would not be included in the plumbing count or need to be operational; instead they would be retained for their historic significance.

9. MC stated to BS and HW that the service wing on the second floor was not conducive for meeting rooms so these spaces were designated for offices. BS agreed that this was a logical choice because the building’s caretaker will need to have an office in here.

10. CG asked whether G&HA discussed the balcony during the BCOM meeting. LG stated that this balcony could be used if the structural upgrades suggested by the DMWP&V report were implemented. LG indicated that if the area of the balcony is less than 250 square feet it only needs one exit. MC and MK mentioned that columns may be needed for this stabilization, which could disrupt the site plan options. BS determined that it would be best to block off the balcony to any occupant use. LG stated that one of the doors could remain operational for maintenance purposes but locked otherwise.

11. HW asked whether the Lula elevator would be used for furniture or food transportation. LG verified that the Lula elevator could be used for these purposes but MC stated that use of the Lula elevator should be on a limited basis because it is not intended for continual use. BS stated that furniture storage could be added to the second floor by replacing one of the office and to the third floor by replacing the business center. All agreed that this could be explored during schematic design.

12. MC stated that the fire alarm may need to be updated. MK suggested that if we have questions regarding this topic we direct them to Carl Purdin. LG confirmed that we would price concealed sprinkler heads if they do not already exist.

13. LG reviewed the next steps. All agreed that a follow-up concept meeting would
not be needed and that the team can proceed with the design narrative and cost estimate. LG indicated that we will submit a design narrative to VCU within 3 to 4 weeks for their review and approval. Thereafter, the documents would be given to a cost estimator.

14. MC indicated that historic state tax credits could be an option. LG confirmed that other universities have found this to be advantageous, and stated that if VCU is interested in this option they should consult a lawyer specializing in historic tax credits.

15. MC stated that the cost estimate should be prepared in today’s dollars and would be a CM at risk job due to the particular expertise required. MC indicated that the cost estimate should be submitted to VCU to add the soft costs and that the estimate should not be included in the project booklet.

Please review these Minutes as an accurate record of this meeting and notify Glavé & Holmes Architecture of any changes. If comments are not received by 10/21/2015, these Minutes will become a part of the permanent record as submitted.

Submitted by:

**Nickolas Coile**
Nickolas Coile
Glavé and Holmes Architecture

Cc: Keith Van Inwegan, Virginia Commonwealth University
For distribution to others
APPENDIX D

STRUCTURAL ASSESSMENT AND DESIGN CRITERIA
**Structural Assessment**

*KVirginia Commonwealth University*  
*Scott House Condition Survey*  
*909 West Franklin Street*  
*DMWPV #1502-62*

**Basement:** (Refer to "Basement Photo Key", Sheet S1.B)

Photographs 68-91 were taken at this level.

**Observations**

1. In Room 001, the first floor framing above was exposed. The exposed floor framing consists of diagonal board wood decking supported by wood 3x14 floor joists spaced at 16" +/- on center spanning east to west, and are supported by the interior masonry walls. The joist width varies between 3 1/4" to 2 3/4". The depth varies between 13 3/4" to 13" deep. The first floor framing above this room appeared to be in good condition.

2. In Room 002, the first floor framing above was exposed. It consists of a concrete slab spanning east to west supported by two interior beams that are either reinforced concrete or steel beams encased in concrete for fire-protection. The slab is supported at the west end by the exterior masonry wall and at the east end by the interior masonry wall. It appears that the bottom reinforcing is exposed and rusted at many locations of this slab and has extensive honey-combing; refer to Photographs 79-81 and 83-90. The concrete beams have extensive honey-combing; refer to Photographs 80-83 and 91.

3. In Rooms 003 and 004 the first floor framing above was covered with a drywall ceiling and not visible to observe.

4. In Rooms 005 and 006, the first floor framing above was exposed. The exposed floor framing consists of diagonal board wood decking supported by wood 3x14 floor joists spaced at 16" +/- on center spanning east to west, and are supported by the interior masonry wall and the exterior masonry wall. The joist width varies between 3 1/4" to 2 3/4". The depth varies between 13 3/4" to 13" deep. The end of the floor joists extending into and bearing on the exterior wall has termite/moisture damage at several locations. It appears that an angle 3 1/2"x2 1/2"x1/4"x 2'-0" Long Leg Vertical (LLV) had been added to the end of the joists bearing into the exterior wall that are damaged; refer to Photographs 77 and 78. The joist bears on the horizontal leg of this angle and the angle is attached to the joist with (2) 1/4" diameter through bolts. We have analyzed the capacity of these reinforcement angles and they do not have the capacity to support the joists for a live load of 50 psf. In Room 005 (9) out of (10) floor joists are
damaged at the end bearing into the exterior masonry wall and are reinforced with these angles. In Room 006 (5) out of (18) floor joists are damaged at the end bearing into the exterior masonry wall and are reinforced with these angles.

5. In Rooms 007, 008, 011, 012 and 013, the first floor framing above was exposed. The exposed floor framing consists of wood decking supported by wood 6x12 floor beams spaced at 48" +/- on center spanning east to west, and are supported by the masonry walls. The first floor framing above these rooms appeared to be in good condition.

6. In Rooms 009 and 010, the first floor framing above was exposed. The exposed floor framing consists of diagonal board wood decking supported by wood 3x14 floor joists spaced at 16" +/- on center spanning east to west, and are supported by masonry walls. The joist width varies between 3 1/4" to 2 3/4". The depth varies between 13 3/4" to 13" deep. The first floor framing above these rooms appeared to be in good condition.

7. In Room 014, the first floor framing above was exposed. The exposed floor framing consists of wood decking supported by wood 6x12 floor beams spaced at 48" +/- on center spanning north to south, and are supported by the masonry walls. The first floor framing above this room appeared to be in good condition.

8. In the room south of Room 014, the first floor framing above was exposed. The exposed floor framing consists of wood decking supported by three bays of wood 3x8 floor joists spaced at 16" +/- on center spanning east to west. The joists at the west bay are supported by the exterior masonry wall and a wood beam consisting of one 4x10 and two 1 3/4"x9 1/4" LVL members; refer to Photographs 68 and 69. The joists at the middle bay are supported at each end by the wood beams consisting of one 4x10 and two 1 3/4"x9 1/4" LVL members; refer to Photographs 68 and 70. The joists at the east bay are supported by the exterior masonry wall, with a wood header beam over an opening; refer to Photograph 71, and a wood beam consisting of one 4x10 and two 1 3/4"x9 1/4" LVL members; refer to Photograph 70.

9. Photograph 72 shows the bottom of a stone member on the opposite side of the wood support beam over the opening shown in Photograph 71.

10. Photographs 73-76 were taken within Room 007 and show the underside of a formed concrete slab within the Crawl Space below Room 109. It appears that the bottom reinforcing is exposed and rusted at several locations of this slab; refer to Photographs 74 and 75.

Refer to "Recommendations" and "Conclusions" following all of our observations.

**Level 1:** (Refer to "First Floor Photo Key", Sheet S1.1)

Photographs 61-67 and 92-108 were taken at this level.
Observations

1. A plaster ceiling covered the second floor framing above from observations, at all the rooms.
2. In Room 105, a tight crack in the plaster wall finish, adjacent to the door opening, was observed; refer to Photographs 61 and 62.
3. In Room 109, the plaster wall finish, adjacent to the ornamental plaster inside corner piece, appeared to have moisture damage; refer to Photographs 63 and 64. The ornamental outside corner piece appeared to be separating from the plaster wall finish; refer to Photographs 65.
4. In Room 108, wall paint was flaking off the plaster wall finish, possibly due to moisture; refer to Photograph 66.
5. In Room 110, a tight horizontal crack in the plaster wall finish, adjacent to the door opening, was observed; refer to Photographs 67.
6. We did not observe any significant cracks in the ceiling and wall finishes in the remaining rooms.
7. Photographs 92-108 were taken from the ground level at the outside of the building.
8. From the ground level we did not observe any structural defects, with the exception of the Rear Balcony located at the second floor at the south side of the building; refer to Photographs 97-100. On May 14, 2013 Dunbar Milby Williams Pittman & Vaughan, PLLC issued a Condition Survey for the elevated rear balcony, "Scott House - Rear Porch Condition Survey" and sent it to Jerry W. Helton. This survey addressed observed moisture damage to the floor decking, roof and floor framing members and bottom of the metal posts supporting the roof, as well as a damaged copper roofing. A follow-up "Rear Porch Second Floor Framing and Stabilization Plan" and "Rear Porch Roof Framing and Stabilization Plan" were also issued, on July 25, 2013, which indicated locations of temporary shoring posts and other items needed to temporarily stabilize this elevated rear balcony.

Refer to "Recommendations" and "Conclusions" following all of our observations.

Level 2: (Refer to "Second Floor Photo Key", Sheet S1.2)

Photographs 40-60 and 109-117 were taken at this level.

Observations

1. A plaster ceiling covered the third floor framing above from observations, at all the rooms.
2. In Room 202, cracks and a separation of the plaster ceiling trim, was observed on 05/12/15; refer to Photograph 48. On 5/18/15 or 05/19/15 the plaster ceiling trim that had separated fell down onto the floor; refer to Photographs 109-117, taken on 05/29/15. Cracks in the plaster wall finish were observed; refer to Photographs 49-51.
3. In Room 203A, cracks in the plaster wall finish, adjacent to each corner, were observed; refer to Photographs 52 and 53.
4. In Room 204, a crack and bulge in the plaster ceiling finish were observed; refer to Photograph 55.
5. In Room 205A, a crack in the plaster ceiling finish as well as what appeared to be possible moisture damage was observed; refer to Photograph 60.
6. In Room 205, a crack and separation of the ceiling trim, was observed; refer to Photograph 56. Cracks in the plaster ceiling finish were observed; refer to Photographs 57 and 59. A tight crack in the plaster wall finish as well as what appeared to be possible moisture damage, adjacent to a corner, were observed; refer to Photograph 58.
7. In a Storage Closet, adjacent to Room 206, a large crack in the plaster ceiling and wall finishes, in the corner of the room, was observed; refer to Photographs 40 and 41.
8. In Room 210, above the stairs, a tight horizontal crack in the plaster wall finish was observed; refer to Photographs 42 and 43.
9. In Room 211, a vertical and horizontal crack in the plaster wall finish were observed; refer to Photographs 44-47.
10. In Room 214, a diagonal crack in the plaster wall finish, above a door, was observed; refer to Photograph 54.

Refer to "Recommendations" and "Conclusions" following all of our observations.

**Level 3:** (Refer to "Third Floor Photo Key", Sheet S1.3)

Photographs 1-20 and 27-35 were taken at this level. Photographs 36-39 were taken from the attic access opening above Level 2.

**Observations**

1. A plaster ceiling covered the roof framing above from observations, at all the rooms.
2. In Room 301, tight vertical cracks in the plaster wall finish, adjacent to door openings, were observed; refer to Photographs 1-3. A tight vertical crack in the plaster wall finish, adjacent to a corner, was observed; refer to Photograph 4. Photograph 5 shows exterior ornamental balustrade outside of Room 301.
3. In Room 302, a tight horizontal and vertical crack in the plaster wall finish, adjacent to a door opening, was observed; refer to Photograph 19. A tight vertical crack in the plaster wall finish, was observed; refer to Photograph 20.
4. In Room 303, diagonal cracks in the plaster wall finish, adjacent to door openings, were observed; refer to Photographs 8, 9, 10 and 11. A crack in the plaster wall and ceiling finish, in the corner of the room, was observed; refer to Photographs 12 and 13. A crack in the plaster ceiling finish and separation of the ceiling trim, was observed; refer to Photographs 14 and 15. A tight crack in the plaster ceiling finish, was observed; refer to Photograph 16.
5. In Room 305, tight cracks in the plaster ceiling finish, were observed; refer to Photographs 17 and 18.

6. In Room 310, a tight crack in the plaster ceiling finish, was observed; refer to Photographs 6 and 7.

7. Photographs 27 and 28 were taken from an attic access opening in the low roof outside of the third floor. These photographs show the wood framing along the north side of the low roof. Access to this area is very tight and difficult. There is no light or floor panels to help a worker to crawl within this space. We did not enter this space. The framing that was visible from this access opening had some water staining, but appeared to be in good condition.

8. Photographs 29-35 were taken from the low roof outside of the third floor. The exterior ornamental balustrades, made of cast stone or terra cotta, were damaged in several locations; refer to Photographs 29-32.

9. Photographs 36-39 were taken from the attic access opening above the second floor. These photographs show the low roof wood framing, south of the third floor. Access to this area is very tight and difficult. There is no light or floor panels to help a worker to crawl within this space. We did not enter this space. 2x4 stud walls had been added below the hip boards and ridge board down to a double plate supported by the ceiling joists. The framing that was visible from this access opening had some water staining, but appeared to be in good condition.

Refer to "Recommendations" and "Conclusions" following all of our observations.

**High Roof:** (Refer to "High Roof Photo Key", Sheet S1.4)

Photographs 21-26 were taken from within the attic space, accessed from an opening above the third floor.

**Observations**

1. Photographs 21-26 were taken from the attic space above the third floor. There is no light or floor panels to help a worker to crawl within this space. 2x4 stud walls had been added below the hip boards and ridge board down to a double plate supported by the ceiling joists. We were not able to observe the roof framing above the stairs and elevator, due to the difficulty in accessing this area. The framing that was visible appeared to be in good condition.

Refer to "Recommendations" and "Conclusions" following all of our observations.

**Recommendations:**

We recommend the following general items:
1. The spalled concrete and exposed rusted reinforcing at several locations at the underside of the floor slab above the crawl space, below Room 109, and at the underside of the floor slab above Room 002, should be repaired by a General Contractor specializing in concrete repairs.

2. The steel reinforcement angles that were added to the ends of the damaged wood floor joists, supporting the first floor, which extend into and bear on the exterior wall in Rooms 005 and 006, are totally inadequate and need to be replaced with a reinforcement angle of sufficient length and attachment to the joists, full depth sistered joists pocketed into the wall, or possibly the addition of posts or a 2x4 stud wall parallel, and adjacent to, the exterior wall to support the joists at the ends that are moisture/termite damaged.

3. There is a drywall ceiling that is in-place within Rooms 003 and 004. This ceiling prevents the observation of the wood floor joists supporting the first floor above. Since the end of several floor joists are moisture/termite damaged, where they extend into and bear on the exterior wall in Rooms 005 and 006, it is possible that there could be floor joists above Rooms 003 and 004 that also are damaged, especially at the end where they extend into and bear on the exterior wall. It is our recommendation that a strip of drywall ceiling be removed adjacent to and along the exterior masonry wall, in order to observe the condition at the ends of the floor joists extending into the exterior wall. If damage is observed repairs or reinforcement should be made. If no damage is observed, or repairs or reinforcement has been made, the drywall ceiling could then be replaced.

4. In Room 202, the plaster ceiling trim that was loose fell down onto the floor; refer to Photographs 109-117, taken on 05/29/15. The framing supporting the third floor above this section was renovated, reinforced and re-worked in 2003. We recommend that the plaster ceiling be removed, as necessary, to observe the third floor framing members and determine why this section of plaster trim separated and fell.

5. We recommend that the repairs recommended by our office, Dunbar Milby Williams Pittman & Vaughan PLLC, for the Rear Balcony in the "Rear Porch Condition Survey", dated May 14, 2013 be implemented.

Conclusions:

It is our opinion that the cracks in the plaster wall and ceiling finishes are not significant and not generally a structural concern. However, since a section of loose plaster trim fell above Room 202 this section of ceiling will need to be evaluated. Overall, the roof framing members, from what we were able to observe, appear to be sound and in good condition. As discussed in our "Recommendations" the spalled concrete and exposed rusted reinforcing at the underside of the floor slab above the crawl space, below Room 109, and at the underside of the floor slab above Room 002, should be repaired by a General Contractor specializing in concrete repairs. As discussed in our "Recommendations" the reinforcement angles that were added to the ends
of the damaged wood floor joists, bearing in the exterior wall in Rooms 005 and 006 need to be replaced with reinforcement angles of sufficient length and attachment to the joists, or replaced with full depth sistered joists pocketed into the wall, or possibly the addition of posts or a 2x4 stud wall parallel and adjacent to the exterior wall. This report is a "Condition Survey" only. For the next phase of renovations we recommend preparation of a set of Structural Repair Documents, for a General Contractor to bid and implement repairs, and to provide Construction Administration services to observe the Contractor in the implementation of repairs on the structural documents.

**Allowable Floor Loads:**

Based on our analysis and the information shown and indicated on the existing drawings that we received, previous repair/renovation projects on this building and previous studies, the following maximum Live Loads appear reasonable for each floor are as follows:

- **First Floor at Rooms 101-104:** 100 psf
- **First Floor at Room 105:** Unknown - (refer to paragraph below)
- **First Floor at all remaining rooms:** 70 psf
- **Second Floor:** 70 psf
- **Third Floor:** 70 psf
- **Corridors at the Second and Third Floor:** 80 psf

The maximum allowable live load of 100 psf, for the First Floor Rooms indicated above will meet the code required live load for Assembly use.

The maximum allowable live load of 70 psf, for the Second and Third Floors, will meet, or exceed, the code required live load for an office space of 50 psf. The 2012 Virginia Uniform Statewide Building Code does not list a required live load for a conference room. However, it is our opinion that a minimum live load of 50 psf is required.

The maximum allowable live load of 80 psf, for the Corridors above the First Floor will meet the code required live load.

The first floor framing below Room 105 is located over the Mechanical (Boiler) Room and consists of a concrete slab, of undetermined depth and reinforcing, supported by two beams, that are either reinforced concrete or steel beams encased in concrete that bear on the interior and exterior masonry walls. It is not possible to evaluate the capacity of this floor system based only on visual observations, and no structural information is shown on the existing drawings to identify the floor framing in-place. If Room 105 is to support more load than it currently supports we believe it will be necessary to perform a structural investigation, with some minor demolition, of the current system and most likely it will involve adding steel framing members if it is required to support a 100 psf live load for Assembly use.
General Notes and Limitations:

The field information for this letter was obtained during two site visits. No destructive tests were conducted. All observations were visual. The opinions expressed here are based on limited existing drawings, previous repair/renovation projects, previous studies, the observations we made at the site, and our professional experience. This report is a statement of our professional opinion and not a guarantee or warranty of any kind.
BASEMENT PHOTO KEY

(PHOTOGRAPHS 68-91)
STRIP OF PLASTER CEILING TRIM FELL DOWN ON 05/18/15 OR 05/19/15
STRUCTURAL DESIGN CRITERIA:

Structural design parameters for this project will be based on the Virginia Uniform Statewide Building Code (VUSBC), IBC 2012, with Virginia amendments. New construction - Part 1 of the VUSBC - “Virginia Construction Code”. Renovation/Alteration - Part II of the VUSBC - “Virginia Rehabilitation Code”. Based on our review of the code and related references in Chapter 16 of the VUSBC, the following design parameters have been established for this project:

Classification of Work: Alteration - Level 2

Building Risk Category: II

Roof Snow Load:

<table>
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<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Ground Snow Load</td>
<td>( P_g = 20 \text{ PSF} )</td>
</tr>
<tr>
<td>Snow Exposure Factor</td>
<td>( C_e = 1.0 )</td>
</tr>
<tr>
<td>Snow Thermal Factor</td>
<td>( C_t = 1.0 )</td>
</tr>
<tr>
<td>Snow Load Importance Factor</td>
<td>( I_s = 1.0 ) (ASCE 7-10 Table 1.5-2)</td>
</tr>
<tr>
<td>Rain-on-snow Surcharge</td>
<td>5 psf</td>
</tr>
<tr>
<td>Flat Roof Snow Load</td>
<td>( P_f = 20 \text{ PSF Minimum} )</td>
</tr>
</tbody>
</table>

Roof Uniform Live Load: 20 PSF, no reduction permitted
plus drifting snow, where applicable

Wind Load:

Basic Wind Speed: \( V_{ult} = 115 \text{ MPH} \) (3 second gust)
Wind Importance Factor: \( I_w = 1.0 \) (ASCE 7-10 Table 1.5-2)
Wind Exposure: B
Internal Pressure Coefficient: \( 0.18 (+/-) \)
Main Wind Force Resisting System (MWFRS) - Per Chapters 26 & 27 (ASCE 7-10)
Components and Cladding Design Pressure - Per Chapter 30 (ASCE 7-10)

Seismic Loads: Seismic Importance Factor, \( I_e = 1.0 \)
\( S_s = 0.187 \)
\( S_1 = 0.62 \)
\( F_a = 1.6 \)
\( F_v = 2.4 \)
\( S_m = 0.299 \)
\( S_{m1} = 0.149 \)
\( S_{ds} = 0.200 \)
\( S_{d1} = 0.099 \)
Seismic Site Class: D (assumed)
Seismic Design Category: B
Base Shear – \( V = C_s W \)

Alterations to this building do not increase the Demand/Capacity of any existing structural lateral force resisting element by more than 10%, therefore an engineering lateral evaluation and analysis of the altered existing structure is not required.
**Floor Uniform Live Load:**

Basement slabs-on-grade ............ 100 PSF

Elevated First Floor: 100 PSF at corridors and assembly areas, 50 PSF plus 20 PSF partitions at other areas

Elevated Second and Third Floors: 50 PSF plus 20 PSF partitions, except 80 PSF at corridors

**Geotechnical:**

Geotechnical information for the site (if needed) will be provided by the University as soon as it is available. Design of structural elements will be performed using allowable stress design (ASD) methods, rather than load and resistance factor design (LRFD).
Scott House Plumbing Survey and Recommendations

GENERAL
We utilized various existing plumbing drawings of the building that illustrated the basic current configuration of the building. The drawings did not show all of the existing plumbing in its current state but did provide adequate information to use as a basis of our survey.

The building was built in 1907 numerous small renovation projects through the years with the last renovation occurring in 2003 that added accessible restrooms on the first floor.

The building and parts of the infrastructure are 100+ years old and are generally in good condition. Repairs and renovation have been made throughout the years that have extended the life of the building. Depending on the future needs and direction of the building certain piping systems and equipment should be further evaluated to determine if repair, replacement or reconfiguration is required.

Code references:
2012 Virginia Uniform State Wide Building Code (VUSBC)
International Plumbing Code (IPC) 2012

The building was survey on May 29, 2015.

We’ll report on the building in six separate areas: Basement Area Plumbing Items, First Floor Plumbing Items, Second Floor Plumbing Items, Third Floor Plumbing Items, Mechanical Support and Building Utilities.

BASEMENT AREA PLUMBING ITEMS

Description
The basement does not contain any active plumbing fixtures. An abandoned water closet, bathtub and three old laundry sinks are located in the basement but do not have active plumbing connections. These fixtures can be removed and should have their supply and drain connections capped. Three floor drains are located in the basement; one drain receives the condensate from two air handling units. The floors drains do not contain trap primers but no smell issues were present.
Deficiencies

None observed

FIRST FLOOR AREA PLUMBING ITEMS

Description

The first floor contains a ADA accessible men’s restroom, a ADA accessible women’s restroom, three single user restrooms and a kitchen area.

The ADA accessible men’s restroom (113) is centrally located in the rear of the house and contains one ADA accessible wall mounted manual flush valve urinal, an ADA accessible floor mounted flush tank water closet and a ADA accessible lavatory sink with manual faucet. This is a multi-user restroom with toilet partitions. This restroom was installed during the 2003 renovation.
The ADA accessible women’s restroom (112) is located in the west part of the rear of the house and contains an ADA accessible floor mounted flush tank water closet and a ADA accessible lavatory sink with manual faucet. This is a multi-user restroom with toilet partitions. This restroom was installed during the 2003 renovation.

A single user non-ADA accessible women’s restroom (118) is located in the west part of the rear of the house and contains a floor mounted flush tank water closet and a lavatory sink with manual faucet. This restroom was installed during the 2003 renovation.

A second single user non-ADA accessible women’s restroom (106) is located in the central part of the house near the main stair and contains a floor mounted flush tank water closet and a lavatory sink with manual faucet. This is a newer restroom but its installation date is unknown.

A single user non-ADA accessible men’s restroom (107) is located in the central part of the house near the main stair and contains a floor mounted remote flush tank water closet and a lavatory sink with manual faucets. This is an older restroom that is indicated on the existing drawings, its last renovation is unknown.

The kitchen (108) contains a double bowl stainless sink with a manual faucet and a built in wall mounted espresso/cappuccino machine with a hard piped water connection.
Deficiencies

None observed

SECOND FLOOR AREA PLUMBING ITEMS

The second floor contains eight non-ADA accessible single user restrooms.

Each single user non-ADA accessible restroom contain a floor mounted flush tank water closet, a lavatory sink with manual faucet and a bathtub, some tubs have shower connections. The restrooms mostly contain older style plumbing fixtures of considerable age. Some water closets have been replaced with more modern flush tank type fixtures (most likely for replacements due to failure). The bathtubs are not used.
Each restroom’s location, approximate age and condition is listed below.

North Central Restroom (203A): This restroom is shown on the original drawing in its current configuration; its last renovation is unknown and it is operational.

West Outer Restroom (204A): This restroom is not shown on the original drawings in its current configuration but is co-located adjacent to the next restroom in a location where an original larger restroom was once located. Its last renovation is unknown and it is operational.

West Outer Restroom (205A): This restroom is not shown on the original drawings in its current configuration but is co-located adjacent to the previous restroom in a location where an original larger restroom was once located. Its last renovation is unknown and it is operational.

West Outer Restroom (206A): This restroom is shown on the original drawings in its current configuration; its last renovation is unknown and it is operational.

Southwest Restroom (207A): This restroom is shown on the original drawing in its current configuration; its last known renovation is unknown. This restroom is marked out of service. It was said to leak water and has not been used in sometime.

South Restroom (208A): This restroom is not shown on the original drawings; its date of installation and last renovation is unknown. This restroom is operational. This restroom is slated for demolition to make run for a workroom/kitchenette.
Southeast Restroom (213) (located on landing of new east stair): This restroom is not shown on the original drawings; its date of installation and last renovation is unknown. This restroom is marked out of service. It was said to leak water and has not been used in sometime.

East Outer Restroom (201A): This restroom is shown on the original drawing in its current configuration; its last known renovation is unknown. This restroom is marked out of service. It was said to leak water and has not been used in sometime.

THIRD FLOOR AREA PLUMBING ITEMS

The third floor contains two non-ADA accessible single user restrooms and a small kitchen area.

A single user non-ADA accessible restroom (301A) is located in the west part of the third floor and contains a floor mounted flush tank water closet and a lavatory sink with manual faucet. This is an older restroom that is not on the existing drawings, the time of its installation is unknown. This restroom is slated for demolition to make room for to expand the existing adjacent kitchen area (306, see below) into a catering, warming coffee staging area.

A single user non-ADA accessible restroom (304) is located in the east part of the third floor and contains a floor mounted flush tank water closet, a lavatory sink with manual faucet and a stall shower. This is an older restroom that is not shown on the existing drawings in its current configuration; the time of its installation is unknown. This restroom is marked out of service. It was said to leak water and has not been used in sometime.

The small kitchen area acts a coffee bar/break area (306) and contains a single bowl stainless sink with a manual faucet and a free standing water cooler with a hard piped water connection. This space will be expanded and renovated into a catering, warming coffee staging area.

MECHANICAL SUPPORT

Basement Mechanical Room

The basement mechanical room (002) contains a gas fired steam boiler and an old abandoned coal chute/storage room (003). A make-up water connection is provided for the steam boiler. The rooms do not contain any active floor drains or other plumbing drains.

Deficiencies

The make-up water connection for the steam boiler lacks a code required backflow preventer. A Reduced Pressure Zone (RPZ) type backflow preventer is required on the make-up water connection to the boiler. We recommend the installation of a 3/4” RPZ type backflow preventers.

The mechanical room shows evidence of flooding in the 1-2” range. It is recommended that a small sump pump and pit be added in the adjacent coal room to contain the flooding and to
drain the mechanical room as required. A method to filter the mud should also be investigated to prevent fouling of the pump.

**BUILDING UTILITIES**

**Domestic Water**

Domestic water is supplied to the building from a connection to the City of Richmond water system. The water entrance is on the west side of the building and is located in a basement storage room (004). A 1-1/4” water service provides water to the building. A 1-1/2” reduced pressure zone backflow preventer (RPZ) is located after the water service enters the building and protects the public water supply from backflow of building water. The drain on the backflow preventer is piped to a 4” inch open site drain (O.S.D.) with a trap primer. A 1-1/2” copper water line serves the building.

![Water Service Entrance with Main Shut-off Valve, RPZ, and Open Site Drain.](image)

The domestic water system and piping appears to be in fairly good condition. Based on the visibly inspectable piping, it appears that copper piping is used throughout the building. Numerous repairs, renovations, etc have taken place and it unknown as to the amount of original water piping that remains in the building.

Adequate pressure and flow is available in the building for the current use of the building and currently installed plumbing fixtures. The use of flush valve water closets is not recommended due to the lower than average water pressure available on the upper floors. Scale accumulation and pipe size reduction may be present but the lack of problematic water
pressure or water flow areas seems to rule this out. No pipe replacement is recommended at this time.

A combination of ball valves and gate valves are scattered throughout the building. The main shutoff valve to the building is a newer ball valve. The full-shut off reliability of the existing/original domestic water gate valves is questionable due to their age. A one for one change out is not recommended. Gate valves should be replaced when renovation work is performed in the building. If any full domestic water shut-downs are performed it is recommended that major high importance gate valves (i.e. main shutoffs and critical areas isolation valves) be replaced with ball valves as a precaution.

A 3/4” RPZ is provided for the irrigation water supply for protection of the potable water system. The RPZ is located in a basement storage room (007).

Domestic hot water is supplied to the building by a gas fired water heater located in the basement mechanical room (002). The water heater is an 84 gallon 199,999 btu/h input model. It provides 181 gallons per hour of hot water and is of adequate size to serve the existing facility arrangement. The exact age of water heater cannot be determined but it appears to be approximately 15 years old and is at the end of its service life. That being said no operational issues are occurring and replacement is not required at this time. Should problems with the heater start to occur, due to its age, the water heater should be replaced and not repaired. The building does not contain a pumped hot water recirculation system.

Deficiencies
Two non-code compliant domestic water connections are located between the main shutoff valve and the RPZ. One connection serves an interior hose bib and the second serves an exterior hose bib. These connections should be relocated to a location after (downstream) of the RPZ.

The water heater lacks a thermal expansion tank on its cold water inlet. When the heater requires replacement an expansion tank should added.

The upstream water piping that is located before the irrigation RPZ is Sch. 40 PVC. Sch. 40 PVC is not allowed in a domestic water system and should be replaced with copper between the RPZ and the connection to the existing domestic water system.

![Image of irrigation RPZ with PVC piping]

Irrigation RPZ, PVC piping on right of picture requires replacement with copper or other code approved material

**Sanitary Sewer**

The building is served by a combined sanitary and storm system with approximately 10 vertical risers located on the exterior walls that serve both restrooms and the roof drainage system. Renovations to this system will require careful calculations and further exploration to determine available capacity of the existing piping system. The replacement and separation of the storm and sanitary systems is not recommended unless the building undergoes large scale renovations.

The existing combination sanitary and storm sanitary consists of hub and spigot cast iron pipe with lead and oakum caulked joints, some threaded galvanized pipe. Solvent cemented PVC and no-hub cast-iron piping is used in the newer renovated areas for general piping repairs. The age of the hub and spigot piping and the galvanized piping is unknown and there are some existing restrooms with known leak issues that may require repair or renovation depending on the future use of the building. As areas of piping are exposed during renovations, all piping exposed should be replaced with new no-hub style service weight cast iron or PVC piping.
Roof Drainage and Storm Water

The main building roof is drained primarily by a gutter system and utilizes a combination of interior and exterior rain leaders. A smaller portion of the second floor parapet roof uses roof mounted roof drains. The interior rainleaders are part of the combination sanitary and storm system. Ultimately both the interior and exterior drains combine together underground before being routed and connected to the City of Richmond infrastructure. The size, layout and quantity of the roof drains and associated piping appear to adequate for building as there are no known issues. Emergency roof drainage is provided by sheet flow of water over the edge of the roof and is code compliant.

Deficiencies

None observed

Natural Gas

Natural gas is supplied to the building to serve the steam boiler, the domestic water heater and the gas stove located in the kitchen. The gas service is assumed to be a 0.5 psig service. Piping is black steel and with threaded joints and fittings. The gas meter is located near the conservatory.

Deficiencies

None observed

Fire Protection

The building is served by both a wet pipe and dry piping sprinkler system. Fire protection water is routed to the building from West Franklin Street. The building is served by a 6” fire main with a supervised double gate, double check assembly located in a pit in the front lawn. The 6” service spits after entering the building. A 4” branch serves the wet pipe sprinkler that serves the basement, first and portions of the second floors and a 6” branch serves the dry piping riser and valve assembly that serves the third floor and the attic. A fire department connection is located on the west side of the building.
The building is fully sprinkled in accordance with NFPA 13. The first floor mainly uses concealed style pendant heads. The upper floors use mostly use exposed style pendant and dry piping heads with the exception of parts of the second floor that uses concealed heads.

**Deficiencies**

None observed

**Miscellaneous Plumbing Items**

The building is missing two types of code mandated plumbing fixtures: water fountains and a janitor’s sink. Future renovations may be required to add a minimum number of water coolers and a janitor’s sink to comply with current fixture requirements in the current plumbing code.

**PLUMBING RECOMMENDATIONS**

1. Re-pipe existing water entrance to remove the two water connections that are tapped before the water entrance RPZ. The pipe connection should be relocated after (downstream) of the RPZ.

2. Replace the PVC piping feeding the irrigation RPZ with copper or CPVC.

3. Repair the sanitary pipe leak issues in the following existing to remain restroom (207A). All piping repairs shall be performed from above and shall remove the existing floor to
access to the piping. Ceiling spaces below restroom will be preserved. It is recommended that the repairs be extended as far as possible and include any easily accessible sanitary stacks. Piping shall be replaced with either Schedule 40 PVC with DWV fittings or No-Hub Cast Iron with Heavy-Duty Bands.

4. While trying to make all efforts to preserve the historic features of the building, any accessible vertical sanitary risers and accessible domestic water piping that are exposed during renovation work should be replaced. Sanitary piping shall be replaced with Schedule 40 PVC with DWV fittings or No-Hub Cast Iron with Heavy-Duty Bands. Domestic water piping shall be replaced with Type L copper with soldered or press-type fittings or solvent cemented CPVC. All hot water piping should be insulated.

5. In support of the mechanical recommendations the following plumbing related items shall be required: remove the gas and water connections for the existing steam boiler and cap them in the mechanical room. The gas piping shall be extended to serve the new Dedicated Outside Air Unit described in the mechanical section.

6. Existing restroom 213 is located in an inaccessible location (behind a stairwell railing) and is also out of service. At a minimum all fixtures connection shall be capped or plugged to prevent possible water leaks and the discharge of sewer of gases into the space from evaporated traps seals.

7. New restrooms are proposed for the area currently encompassed by rooms 201/201A. The exact layout of the new restrooms is unknown but it assumed that at a minimum a single users ADA men’s room and a single user women’s room will be provided. The restrooms shall utilize ADA accessible floor mounted tank type water closets and either counter mounted or wall mounted ADA accessible lavatory sinks with manual cast brass faucets. A bi-level ADA accessible water electric water cooler should also be included. The piping serving this space shall be run in the joist space and all installation shall be performed from the top to avoid damaging the historic ceiling below. A new 4” sanitary stack shall be provided for these spaces. Also new domestic cold water, hot water and hot water recirculation piping risers shall be added to serve these new spaces. The new sanitary stack and domestic water risers shall be routed from the basement, a chase will be required to route the piping through the first floor.

8. New restrooms are proposed for the area currently encompassed by rooms 304/305. The exact layout of the new restrooms is unknown but it assumed that at a minimum a single users ADA men’s room and a single user women’s room will be provided. The restrooms shall utilize ADA accessible floor mounted tank type water closets and either counter mounted or wall mounted ADA accessible lavatory sinks with manual cast brass faucets. A bi-level ADA accessible water electric water cooler should also be included. This restroom shall also utilize the new 4” sanitary and domestic water risers provided for the new second floor restroom spaces.
9. A restroom (208A) on the second floor is being removed and replaced with a kitchenette/workroom. The existing plumbing fixtures shall be removed. It is assumed that the new kitchenette will include an ADA accessible single bowl stainless steel sink with garbage disposal and ADA accessible faucet, a dishwasher and water connections for a coffee service. Any vertical sanitary risers and all accessible domestic water piping that are exposed during renovation work should be replaced. Sanitary piping shall be replaced with Schedule 40 PVC with DWV fittings or No-Hub Cast Iron with Heavy-Duty Bands. Domestic water piping shall be replaced with Type L copper with soldered or press-type fittings or solvent cemented CPVC.

10. Restroom 301A shall be removed and the adjacent kitchenette shall be expanded to include the freed up space. The kitchenette will be repurposed as a catering, warming coffee staging area. The existing plumbing fixtures shall be removed. It is assumed that the new space will include an ADA accessible single bowl stainless steel sink with garbage disposal and ADA accessible faucet, a dishwasher and water connections for a coffee service. Any vertical sanitary risers and all accessible domestic water piping that are exposed during renovation work should be replaced. Sanitary piping shall be replaced with Schedule 40 PVC with DWV fittings or No-Hub Cast Iron with Heavy-Duty Bands. Domestic water piping shall be replaced with Type L copper with soldered or press-type fittings or solvent cemented CPVC.

11. It is recommended that a small hot water recirculation pump be added to the existing hot water system to create a circulating domestic hot water system. The system shall be extended to serve at a minimum: the new 2nd and 3rd floor restrooms and any easily reachable hot water piping serving other existing spaces.

12. A catering kitchen is being proposed for the existing conference room (115) on the first floor. The actually layout is unknown but it is assumed that at a minimum the following plumbing related items will be included: a stainless steel hand sink, a large free standing stainless steel work sink with a garbage disposal and a triple pot stainless steel wash sink with a small floor mounted grease interceptor. A new water heater is proposed for the space and should be located in basement storage area (014) immediately below the space. No cooking appliances are expected. The existing kitchen area (108) will be repurposed as a servery. The existing double bowl sink shall be replaced with a smaller hand sink for server sanitation.
VCU Scott House

Mechanical Existing Conditions Assessment

Heating

  
  o Boiler flue discharges into chimney – chimney door not closed
  
  o No combustion air openings in boiler room

- Boiler feeds gravity indirect heating units serving the first floor, and steam radiators on the second and third floors.

- The front of the house on the first floor was originally served by six (6) gravity indirect heating units which draw outside air through the heaters and supply to the first floor. Only four (4) of these heating units are still functioning, but are in poor condition due to their age. They are also lacking intake filters and the gypsum board housings are not sealed or have large openings.
• The indirect heating unit located in the boiler room (that serves the first floor Den) has been removed and the floor register is open to the boiler room. This grille should be capped. There is no heat source for the first floor Den.

• The indirect heating unit that serves the first floor Drawing Room is not in service as the supply grille has been capped at the floor. There is no heat source for the first floor Drawing Room.

• Two additional gravity indirect heating units have been added to the back of the house on the first floor to serve the Boardroom. These units do not introduce outside air, but only recirculate from floor return grilles.

• Steam distribution to radiators is through single oversized supply risers so that steam condensate can drain back to the condensate return in the basement. Manual steam shut-off valves and vacuum breakers have been added to each radiator. There have been problems with these radiators not being sloped correctly to allow for drainage, which causes condensate blockage and water hammer. These radiators do not have individual room control and have caused damage when valves and vents fail and steam or condensate is released into room.
• A Honeywell controller and third floor thermostat have been added to the steam boiler system.

• The piping and most of the heating units are original to the building and are approximately 100 years old. There is one leaking steam valve in the second floor vestibule between the interior and exterior stairs (the old Sun Room).

*Ventilation*

• The introduction of outside air through the indirect heating units provided the make-up air needed when the fireplaces were operational. None of the fireplaces are used now as this is a commercial space. The fireplaces did not have flue dampers which allowed natural draft ventilation to occur in the summer months as well. This process has been assisted by the addition of wind driven turbine ventilators to some of the chimney caps.
• None of the bathrooms on the second or third floors have any mechanical exhaust. This needs to be addressed for code compliance.

• There is a whole floor exhaust fan on each of the first, second and third floors. These fans do not appear to be currently operational, but provided ventilation in the summer time when exterior windows were opened. The first floor fan is located in the old Tool Room and discharged to the Porte Cochere. The second floor fan is located sidewall above the East Porch Roof. The third floor fan is located in the light well and would have worked with a combination of open light well windows and exterior windows. The light well windows have been replaced with fixed windows. These exhaust fans should be removed and the exterior wall repaired to match existing conditions.

![Whole floor fan from interior](image1.png) ![Whole floor fan from exterior](image2.png)

Air Conditioning

• The first floor front of the house is served by two (2) parallel 5 ton Trane cooling units. The air handlers are located in the basement and the condensing units are located on grade adjacent to the rear stair. These units are 11 years old and are approaching the end of their useful life which is 15 years per ASHRAE. These units also use R-22 which is an HCFC type of refrigerant which is being phased out. The units are not introducing any outside air which does not meet current code.

  o Trane M# 2TEC3F60B1000AA/ S# 6454 MUS2V, 11/06, w/ elec heater
  o Trane M# TWE060D150BO/ S# 4252 L6X2V, 2004, R-22
The first and second floor back of the house is served by one (1) 5 ton Trane cooling unit. The air handler is located in the basement and the condensing unit is located on grade adjacent to the driveway. This unit is 11 years old and is approaching the end of its useful life which is 15 years per ASHRAE. This unit also uses R-22 which is an HCFC type of refrigerant which is being phased out. The unit has an outside air duct routed to a window well that is covered with mulch and is not able to introduce outside air which does not meet current code.

- Trane M# TWE060D150BO/ S# 4223 KWN1V, 2004, R-22
• The existing supply ductwork and insulation appear to pre-date the air conditioning unit age. There are multiple locations with damaged insulation. All supply ductwork should be replaced with new, well sealed ductwork and energy efficient insulation.

• There are approximately ten (10) window cooling units distributed throughout the second and third floors that should be removed to maintain the historical nature of the existing façade.

**Mechanical Recommendations**

As described above, the following items should be removed:

• Due to age, potential for failure and lack of control, the steam boiler and all accessible piping should be removed. Indirect heating units in the basement should be removed. Radiators on the second and third floor can be left in place to maintain the historical aspect as selected by architect, but piping should be disconnected. Outside air intake vents and boiler stack should be capped.

• The turbine vents should be removed from the chimneys and the chimneys capped to reduce unconditioned air infiltration.

• The three (3) whole floor exhaust fans should be removed and the exterior wall repaired to match original conditions.

• The three (3) split system cooling units in the basement and the corresponding condensing units outside should be removed. All associated ductwork should be removed.

• The window cooling units on the second and third floors should be removed.

To preserve the historic features of the building we recommend a heating, ventilating and air conditioning system that is not visible on the outside of the building and minimally invasive to install on the inside of the building. A variable refrigerant flow heat recovery (VRF-HR) system with a dedicated outside air unit is recommended to provide HVAC for the Scott House. The following is a more detailed description of how this can be accomplished:

• A variable refrigerant flow indoor unit would be provided for each space in the building. These indoor units would be connected through refrigerant piping to a bank of outdoor units that would be located on grade behind the building. The VRF-HR system allows for individual temperature control at each of the indoor units and allows for simultaneous heating and cooling of different indoor units on the system. This approach provides control and energy efficiency as well as small penetrations for refrigerant piping instead of larger heating and cooling ductwork.

• This approach of providing both heating and cooling through the VRF units is feasible due to the planned treatment of the exterior windows. Either interior or exterior storm windows will be provided on all original single pane windows. There may be some third floor windows that will be replaced with insulated double pane windows that will not require storm window treatment.
If this planned window treatment was not performed, then heating units at the windows would need to be provided.

- The first floor of the building would be served by VRF indoor units located in the basement and ducted through floor grilles to each space. The second and third floors of the building would be served by high wall mounted VRF indoor units located in each space in such a way as to not disrupt the historic decorative ceilings and crown molding.

- Outside air is required by code and would be provided through a separate ducted system. A dedicated outside air system (DOAS) with direct expansion air cooled cooling and gas heating is recommended to provide neutral temperature air to each space. This unit would need to be located outside on grade behind the building, adjacent to the VRF outdoor units. The outside air duct would be routed into the basement and distributed to multiple vertical duct risers. These risers would need to be located to minimize disruption and horizontal duct routing on the floors above.

- Code required exhaust will be provided for each of the new and re-used existing toilet rooms. Exhaust fans will need to be accessible and penetrations of the exterior façade concealed.
VCU Scott House – Electrical Repairs

**Lighting**

The facility contains a variety of luminaire types. Many of the existing luminaires on the public floors appear to be retrofitted gas luminaires. Existing historical luminaires will remain where possible. The existing wall sconces in the corridors do not meet current ADA depth criteria. However, since they are existing luminaires and historical in nature it is desirable to not replace them. Existing art work luminaires will remain. Supplemental floor lamps and table top lamps are being used in the office spaces and will still be required in the repurposed meeting rooms. Egress lighting on the exterior stairs was installed as part of the 2003 remodel and will remain.

**Basement**
The existing wraparound fluorescent luminaires in the basement will remain in rooms 001, 004, 008, 009, 012, & 014.

**First Floor**
The existing historical and renovation luminaires on the first floor will remain as is in rooms 101, 102, 103, 104 (except for modern sconces), 105, 107, 109, 110, 110A, 111, 112, 113, 114 & 117.

**Second Floor**
The existing historical and renovation luminaires on the second floor will remain as is in rooms 201A, 202, 203, 203A, 204, 204A, 205, 205A, 206, 206A, 207, 207A, 208, 209, 210, 211, 212, 213, & 214.

**Third Floor**
The existing historical and renovation luminaires on the third floor will remain as is in rooms 303, 306, 307, 308, 309, 310, 311 and 312.

Breakfast Room/Conservatory Chandelier
All the existing exit signs and recessed, flip cover style egress luminaires will remain in the corridors and stairs. Retrofit LED lamps or compact fluorescent lamps are currently in use and will be used where possible. The inverter battery cabinet in the basement and the inverters in closets on the upper floors will remain to support the egress lighting levels required.
Wireless Exit Sign

Lighting Inverter Units in Closet
Fire Alarm

The facility has an air sampling smoke detection system for the public floors, which is appropriate for a historical structure. The fire alarm panels are located in the basement at the bottom of the back stairs. The existing fire alarm system was installed as part of the 2003 remodel and will remain. There are flow and tamper switches for the sprinkler system. The basement contains photoelectric and heat detectors for the mechanical type spaces. On the upper floors, the fire alarm system indicating horn/strobes are concealed in recess, flip style boxes that match the egress lighting in appearance. There are horn/strobes in the public corridors and offices of the upper floors.
There are fire alarm pull stations at the front entry door, the Conservatory exterior door, the Porte Cochere door, and the basement rear exterior stair door under the Conservatory. There are no pull stations at the exterior doors in rooms 102, 103 & 115 or at the stairways on the second and third floors. There are beam style detectors in the Conservatory and for the front entry grand stairs to minimize damage to the existing structure and still provide fire detection.
**Security**

The facility has a security system. The security panels are installed in the basement in the room under the Porte Cochere entrance. There is a motion detector at the Porter Cochere exterior door with an alarm arm/disarm panel at the Porte Cochere door. No modifications to the security system are anticipated.

**Telephone/Data**

The existing tele/data distribution equipment is in the basement. There are conduits for distributing cabling from the basement distribution point to the upper floors. The existing telephone backboards and cable cabinets on the second and third floors will remain for distribution on the upper floors.
Receptacles

The facility was built prior to the modern age of electricity and the entire electrical system is a retrofit. Almost all of the receptacles in the house are mounted in surface metal electrical boxes installed just above the floor along the walls. Virtually none of the existing receptacles meet current ADA height requirements. Most receptacles are served by exposed conduits or surface mounted raceway such as Wiremold. There are no code requirements for receptacle spacing in office spaces or conference rooms that would require more receptacles. The location of additional receptacles will be determined by user need during remodel design phases.

The kitchen has been updated with modern appliances. The range is gas in lieu of electric. There are no convenience countertop receptacles in the kitchen.
The existing electrical service is an old, residential grade, 120/240 volt, single phase, 3 wire system that appears to be over 60 years old. There are two 200 amp fused disconnects in the basement at the rear of the house that supply all of the electric load centers and panelboards in the house.
Main Electric Service Disconnects and Meter

The electrical service equipment utilizes cloth covered insulation for the conductors. This type of insulation is no longer in use. It is subject to drying out over time which diminishes its ability to properly safeguard the structure from an electrical fire. Consequently, this portion of the electrical distribution for the house should be replaced for safety reasons. The service conductors to the utility pole at the property line, the electric meter, the utility metering cabinet, and the two fused service disconnects will be replaced.

Cloth Insulated Conductors
The single phase load centers and panelboards that have been installed in the basement, second floor, and third floor appear to be in good working order.

Basement Panels at Bottom of Stair

Panel on Second Floor
Panel on Third Floor

VCU Scott House – Electrical Remodel

Lighting

Egress lighting at the egress path exterior doors will be added.

Basement

Minimal basement lighting consisting of 1 luminaire for rooms 003, 005, 006, 007, 010, 012, & 013 will be installed. Minimal lighting consisting of 2 luminaires or more for rooms 002, 011 & electric service equipment space will be installed. Basement lighting will be surface mounted, lensed fluorescent wraparounds to match existing.

First Floor

Lighting will be replaced and/or rewired in rooms 105A, 106 & 116. Modern sconces in 104 and lighting in 108 will be replaced. Room 115 will be repurposed as a kitchen and will include new lighting appropriate for the task.

Second Floor

Lighting will be replaced and/or rewired in rooms 201 & 208A.

Third Floor

Lighting will be replaced and/or rewired in rooms 301, 301A, 302, 304 & 305.
**Fire Alarm**

Fire alarm pull stations will be installed at the stairs on the second and third floors. A pull station will be installed at each exterior door on the first floor that is used as an exit that does not already have a pull station. ADA strobes will be installed in the conference rooms that do not currently have them. ADA strobes will be installed in the new and existing restrooms.

**Security**

No upgrades to the security system are anticipated.

**Telephone/Data**

The abandoned elevator shaft is currently being used for conduits up the structure for power and tele/data. These conduits will have to be relocated out of the elevator shaft in order to accommodate the elevator.

Boardrooms 202, 203, 204, 205, 301, 302 and 303 will have A/V capabilities added for video conferencing and use of flat screens. Conduits and raceways will be routed into the wall and/or ceiling.

**Receptacles**

Receptacles will be added based upon the repurposing needs of rooms within the facility. All receptacles will be recessed into the wall. Receptacles will be added in Boardrooms 202, 203, 204, 205, 301, 302 and 303 to facilitate the addition A/V capabilities for video conferencing and use of flat screens.

GFI receptacles will be added at new mechanical equipment for maintenance. GFI receptacles will be added on the exterior of the building and to new and existing restrooms.

**Electric Service**

In order to accommodate the upgrades to the HVAC systems for the facility, the electrical service will be upgraded to a three phase system. The transformers on the utility pole, the electrical service conductors from the service pole to the basement, the utility meter, the utility metering cabinet, and the electrical service disconnects will need to be replaced.

The electrical service upgrade will be sized to accommodate HVAC equipment and the elevator.
APPENDIX F

LIMITED BUILDING ENCLOSURE EVALUATION
Via Email: (gworsham@glaveandholmes.com)

21 October 2015

Mr. Gibson Worsham
Glavé & Holmes Architecture
2101 East Main Street
Richmond, Virginia 23223

Re: Scott House, Virginia Commonwealth University
   Limited Building Enclosure Evaluation
   909 W. Franklin St.
   Richmond, Virginia
   WJE No. 2015.1462

Dear Mr. Worsham:

At your request, Wiss, Janney, Elstner Associates, Inc. (WJE) has performed an assessment of the principle exterior building enclosure components at the Scott House located in Richmond, Virginia, including exterior masonry wall assemblies, portico, Porte-cochere, and terrace elements. The south balcony was not part of our evaluation. The objective of this evaluation was to perform a condition assessment of these exterior elements, provide restoration recommendations, and identify probable costs associated with the work recommendations.

WJE was on site May 13, 2015 to perform the evaluation, which included a visual condition survey of the exterior masonry wall system and roofing. This report includes a brief background of the project, our observations, discussion of our findings, our recommendations for future action, and associated opinion of costs with the recommendations.

PROJECT BACKGROUND AND CONSTRUCTION

Built for Frederic and Elisabeth Scott by the Richmond architecture firm of Noland & Baskervill, the Scott House (constructed between 1907 and 1911), at 909 W. Franklin St., is a stellar example of the American Renaissance. The mansion reflects the grandeur and prosperity of Richmond’s early-20th century, when it was one of the principal insurance and banking centers of the South. Strolling down West Franklin Street, one will notice the uniqueness of the grand mansion at 909. The exterior of the Scott House is unlike any of the other dwellings nearby.

The Scotts chose the Marble House, a Vanderbilt mansion in Newport, R.I., as the inspiration for their city mansion on Richmond’s most fashionable street. The Marble House, in fact, was patterned after the Petit Trianon in Versailles, which was built for Louis XV between 1762 and 1768. Like the Marble House and Petit Trianon, with their strong and imposing facades of towering columns, the Scott House conveys a feeling of wealth, power, and leisure.
The main (north) entry facade is signified by colossal, fluted columns with Corinthian capitals that greet guests entering the house and support the north portico roof. The west facade includes a Porte-cochere that protects the side entrance; on the east facade is a Porte-cochere used for entertaining. Wrapping the front and east sides of the house is a broad terrace that terminates under the east porch. A plan view of the Scott House is included in Figure 1.

The exterior facade that wraps from the east porch to west Porte-cochere consists primarily of Indiana limestone ashlar masonry units. The window surrounds, sills, and balustrades are composed of terra cotta. The terrace walking surface is made of distinctive green tiles from the Grueby Faience and Tile Company. The rest of the house exterior south of the porch and Porte-cochere is brick masonry of similar color finish as the limestone and terra cotta; the cornices at the brick facades transition to ashlar terra cotta and painted wood. There is a balcony at the second floor of the south facade that is supported by iron framing (this was not evaluated as part of our scope of services). A conservatory and exit stairs are located at the southeast corner of the building. The conservatory is a copper and leaded glass structure situated on top of limestone and granite coursing with a brick foundation. The stair structure is painted steel.

The windows generally consist of multi-paned single thickness glazing in wood frames with glazing putty stops. Most are configured as single hung. Windows were not specifically part of our evaluation.

**OBSERVATIONS**

Our evaluation of the Scott House included observations of the exterior from the ground and roofs, as well as limited observations from the interior. The following is a summary of our observations of the principle exterior building enclosure components examined, including the exterior wall system, balustrades, roof, and other elements of note. Specific locations of observed damage are identified on the condition survey drawings in Appendix A.

**Interior Finishes**

Minimal evidence of water infiltration was observed at the northwest corner of the 2nd floor, as well as at the south end of the west elevation (Room 205). Damage was observed in the form of blistered paint and plaster along the exterior walls (see Figure 2). Evidence of uncontrolled water penetration was also observed above the rear emergency exit door at the southeast corner of the house (see Figure 3).

**Exterior Enclosure System**

**Main Roof**

The main roofing assembly is a double hip steep slope configuration reportedly comprised of a built-up membrane over a slag concrete structure. The membrane was recently coated with a reflective fluid-applied waterproof coating to extend its service life. This roof was not accessible during our site visit.

**Third Floor/Porch and Porte-cochere Roofs**

The roofing assembly behind the third floor balustrades is a built up asphaltic membrane roof system. A reflective fluid-applied waterproof coating is applied to portions of the roof membrane behind the balustrade (see Figure 4). Evidence of ponding water was observed throughout the roof area.
The membrane roof base flashing is adhered to the base rail of the balustrade, and to the third floor walls with no mechanical attachment or counterflashing to protect the termination (see Figure 5). There is sheet metal below the roof membrane over the north portico and adjacent to the base rail of the balustrade (see Figure 6). There is evidence of past or ongoing water leakage at the underside of the portico roof (see Figure 7).

The roof assembly over the south wing, porch, and Porte-cochere are also an EPDM single-ply membrane (see Figure 8). The south wing roof includes a supplemental reflective fluid-applied waterproof coating applied at the perimeter gutters, which is in good condition (see Figure 9).

**Third Floor Copper Cladding**

The third floor exterior walls are clad with sections of copper sheet metal joined with horizontal and vertical hemmed seams (see Figure 10). The copper sheet metal is in generally good condition with minimal holes, tears, or open seams. Joints between the copper cladding panels and the window panning are sealed with sealant; however the sealant is deteriorated (see Figure 11).

**Windows**

The majority of windows are single-glazed single hung wood units. They are typically in poor condition. The sashes are deflected, glazing putty has failed, the glass is loose, and paint is peeling from the wood substrates (see Figure 12). The copper panning that wraps the wood frames is in good condition, but nails securing it are unsealed and backing out of the substrate (see Figure 13).

The sealant at window perimeter joints between the wood frames and the terra cotta surrounds is typically in poor condition (see Figure 14).

**Terra Cotta Cornice**

The cornice is comprised of several courses of decorative hand-molded terra cotta, including water table units with a shoulder at the unit edges (to conceal the joints between units), soffit units with integral florets, scroll brackets, dentil units, and ashlar units (see Figure 15). The units are buff-colored with a combed matte glaze. The compound cornice is presumably supported by steel members and hangers, and backed by brick masonry, though observations of the cornice back-up and structure were not possible. During our evaluation we made the following specific observations of the cornice terra cotta elements:

- There are several damaged terra cotta units along the soffit and cornice at the main building and portico roof (see Figure 16 and 17) as well as the cornice of the porch and Porte-cochere on the east facade and west facade (see Figure 18).
- Numerous scroll bracket units are broken or missing from the main roof cornice on the north, east, and west facades (see Figure 19 and 20). Corroded steel support members are exposed at these locations.
- Severe water staining was noted on the northwest corner of the building at the cornice, extending down to the limestone on the west side of the second floor window (see Figure 21). The water damage has stained the terra cotta. There are also corrosion stains at several terra cotta joints in this area.
- There is water damage at the cornice on the northeast corner (see Figure 22). At this area there are also several missing and damaged florets (see Figure 23).
- Water damage was observed on the north facade at the soffit of the entryway where the glaze on the terra cotta has failed (see Figure 23).
There are terra cotta patches on the cornice units on the south and north exposures of the east portico where the bisque is exposed (see Figure 24).

The shoulders on the water table course units are in fair to poor condition, including numerous spalls (see Figure 25). The mortar at the joints is in poor condition.

Water table course units are mis-aligned vertically and horizontally; the joints are smeared with copious amounts of sealant (see Figure 26).

The corner water table units are typically displaced and not level (see Figure 27). The northwest corner unit is in particularly poor condition.

**Stone/Masonry**

The severe water damage and staining on the northwest corner starting at the terra cotta cornice extends onto the limestone terminating approximately the second course down to the west of the second floor window (see Figure 28).

Spalls at anchors were observed in several places on the east and west facades. Additional spalls in the limestone not at anchors have occurred on the south facade on the southeast corner and at a lower quoin on the northwest corner of the west facade (see Figure 29).

Joint mortar between limestone masonry units is in fair condition with some surface deterioration and bondline separations evident (see Figure 29).

Joint mortar at the granite base course and belt courses is in poor condition with some sections missing or unstable (see Figure 30)

**Brick Masonry**

The brick masonry throughout the exterior walls is in good condition, with minimal cracking or physical damage (see Figure 31).

The chimneys above the low roof at the south portion of the house are constructed of brick masonry. The brick masonry units are in good condition but the joints are in poor condition with cracking, bondline separations, and surface erosion evident. (see Figure 32).

There are several as-built modifications to window and door openings on the east and west facades, including a window on the west facade that has been relocated just north of its original location, and a window on the east facade at the first floor adjacent to the iron exit stairs that is not shown on the January 1909 drawings. To the north of this window is a door that was originally shown as a window on the January 1909 drawings. The windows and doors on the east elevation have arched fan lites and vary in design from those shown on the original January 1909 drawings. All modifications are performing consistently with other unmodified fenestration (see Figure 33 and 34).

There are numerous steel nails in the brick masonry joints on the east facade (see Figure 35).

The cornice above the brick masonry facades is constructed of wood and painted. Some evidence of wood instability was observed in the form of wide gaps between wood elements and displacement of the applied dentils along the east elevation (see Figure 36).

**Terra cotta at Exterior Walls**

At the main walls of the Scott House terra cotta is used as window surrounds and as sills in both the limestone and brick facades. These elements are in excellent condition with only minimal damage observed that includes the following:
- Joint mortar is in fair to poor condition; bondline separations and surface deterioration are evident (see Figure 37).
- Minor spalls and shallow chips are visible along terra cotta unit corners and edges (see Figure 38).

**Terra Cotta Balustrades**

The balustrades are located at the roof perimeter, the porch perimeter, and the perimeter of the portico roofs. They consist of a terra cotta top rail, base rail, balusters, and newel posts. Due to the extent of damage, the balusters were assessed using Good, Fair, and Poor ratings. Balusters in “Good” condition have no visible cracks, spalls, or other distress. Balusters in “Fair” condition include minor cracking, small spalls, and other distress, but were not considered a potential fall hazard. Balusters in “Poor” condition are significantly damaged and are unstable and a potential fall hazard.

Balustrades at the roof of the porch and Porte-cochere along the east and west facades were inaccessible for a comprehensive assessment. The roof of the east porch was viewed from the roof and the west Porte-cochere was viewed from windows in Rooms 201 and 202. As such, individual balusters at the second floor could not be evaluated using the established rating scale. The following table summarizes the quantity of damaged balusters observed based on the balustrade location.

<table>
<thead>
<tr>
<th>Location</th>
<th>Total No. of Balusters</th>
<th>Baluster Condition</th>
<th>No. of Balusters Replaced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Floor Porch</td>
<td>140</td>
<td>99, 30, 11</td>
<td></td>
</tr>
<tr>
<td>West Porte-cochere</td>
<td>58</td>
<td>N/A</td>
<td>2</td>
</tr>
<tr>
<td>East Porch</td>
<td>52</td>
<td>N/A</td>
<td>0</td>
</tr>
<tr>
<td>Third Floor Roof</td>
<td>194</td>
<td>102, 67, 25</td>
<td>81</td>
</tr>
</tbody>
</table>

The other balustrade components were found to be in generally fair condition, with isolated damage in the form of cracked or spalled terra cotta units. General observations of the other balustrade components are provided below.

**Porch Balustrade**

- The top rail units at the 1st floor Porch are in good condition and somewhat larger than the top rail units at the east porch and west Porte-cochere roofs and the main roof.

**Third Floor Roof/North Portico Balustrade**

- Balustrade units are in fair condition, with some damage evident in the form of cracks, spalls, and minor displacement (see Figure 39 and 40).
- Virtually all joints between base rail and newel post units are covered with sealant that is deteriorated (see Figure 41). Virtually all joints between top rail units are filled with sealant that is deteriorated (see Figure 42). Multiple campaigns of sealant application are evident; virtually all installed sealant has failed.
- The top rail units are not level and vary in slope and height (see Figure 43).
- Where not concealed by sealant, joint mortar between balustrade units (including the top rail, newel posts and base rail) is deteriorated (see Figure 44, 45, and 46).
Terrace Tile Flooring

- The original tile are largely intact and well bonded to the concrete substrate (see Figure 47).
- There are several cracks in the tile flooring typically spanning from the house to the balustrade perimeter (see Figure 48). Cracks also emanate from the north portico column bases to the porch balustrade (see Figure 49). At this area loss of tile was also observed (see Figure 50). Cracks vary in thickness from hairline to larger separations up to 3/4 inches (see Figure 51). The larger cracks are associated with locations of vertical displacement in the concrete substrate.
- Intermittent cracking is occurring on the east floor between the northern most set of columns at the east porch. The cracks vary in thickness from 1/4 inch to 1/2 inch (see Figure 52).
- Replacement tile are installed at several locations that do not match the original size, color or texture (see Figure 53).

INTERVIEWS WITH VCU FACILITIES AND MAINTENANCE STAFF

WJE personnel contacted both Mr. Dannie Taylor (the Roofing Supervisor for VCU Facilities Management/Physical Plant), and Mr. Mark Powell (the Superintendent-Zone 100 for VCU Facilities Management/Physical Plant) regarding the current condition of the Scott House, as well as past and future maintenance needs from their perspective. Both individuals were reported by our client to have responsibility for the operation and maintenance of the Scott House and the best understanding of its maintenance history.

Mr. Taylor has been with VCU for about 4 years and is responsible for the roofing at the Scott House; he does not have much experience with the other enclosure materials. He commented that the third floor roof is one of his major concerns. He will frequently get calls to address water leakage at the second floor that is believed to be at least partially related to the roof membrane and its termination at the terra cotta balustrade and third floor walls. Ponding and a lack of controlled sloe is perceived as a significant issue, plus the need for ongoing removal of leaves and debris from the drains. The main roof was recently coated with a reflective fluid-applied waterproofing and he believes that this is performing well. He is aware of the joint conditions at the terra cotta cornice and third floor balustrade and believes that this is a potential source of roof deterioration and ongoing water leakage into the second floor. Mr. Taylor also believed there were some problems with the south balcony. He suggested contacting Mr. Powell regarding this and other perceived maintenance needs for the facades.

Mr. Powell indicated that there has been no major maintenance performed to the facades of the Scott House in recent memory. Similar to many of the older buildings along Franklin Street that are part of the Monroe campus of VCU, the mass masonry walls are in need of repointing. He was not aware of any major incidents with the terra cotta (such as loss of unstable fragments), but recognized the need for repairs. Mr. Powell was also aware of the water leakage reported at the northwest corner of the second floor.

DISCUSSION

Scott House is in generally good condition and generally well maintained for a building of its age, stature, and ornate design. Based on our observations, we believe there are several conditions at the building enclosure that warrant additional investigation, repair, or future maintenance. A discussion of individual building elements evaluated by WJE is provided below.
Interior Finishes

Given the age and materials that comprise the building enclosure, uncontrolled water penetration was quite limited. The major locations of reported water leakage are located at the second floor at Rooms 202, and 205. Some evidence of water leakage was also observed at the second floor above the emergency exit door to the exterior stairs at the rear of the Scott House. The leaks at Rooms 202 and 205 are likely due to water penetration through the failed joints of the terra cotta cornice. The roof at the third floor may also be contributing to the finish damage, but further investigation is necessary to ascertain the cause. Since substantial repair and maintenance needs first and then re-evaluate whether water leakage continues to be a concern.

The water damage at the rear stairs is likely to be a result of water penetration at the roof perimeter gutter or deteriorated joint work in the terra cotta ashlar band at the roof line or door surround. Visual examination at close range of the gutter and the masonry joinery, as well as discrete water penetration testing, would also be beneficial to isolate the source(s) of this water damage.

Exterior Enclosure System

Main Roof

According to Mr. Taylor, the main roof is performing well and was recently improved by the addition of a supplemental reflective fluid-applied waterproof coating. Specific information on the product, warranty, or other details of the application were not known. Our examination of the interior below the main roof suggest that there are no leaks related to its in-service performance. Though prudent to schedule roof replacement based on a more detailed assessment by VCU maintenance staff, we observed no other indications that re-roofing is warranted in the near future.

Third Floor, East Porch, and West Porte-cochere Roofs

The roof at the third floor is likely an asphaltic roof membrane placed over an existing metal roof; existing drawings suggest the original roof was copper. Inspection openings are necessary to determine the as-built condition and confirm the substrate. According to Mr. Taylor this roof continues to be problematic for a number of reasons, including inadequate slope, poor drainage, and poor terminations at the roof perimeters. Though not confirmed, it is likely that this roof is or has contributed to uncontrolled water penetration in the past. We agree with Mr. Taylor’s assessment and recommend that further investigation be performed in an effort to attain sufficient information to develop a roof replacement design that is properly integrated with the balustrades and third floor wall assembly.

The single ply membrane roofing assemblies at the Porte-cochere and south wing appear to be performing well, though we do not have any information regarding installation dates, manufacture, or warranty. We do recommend that annual inspections be performed of the membrane for mechanical damage and the interior spaces below them for evidence of uncontrolled water penetration. We also suggest performing a periodic non-destructive moisture survey using either a nuclear moisture meter, thermal imaging, or a capacitance meter to ensure the materials below the roofing membrane are not holding water.

Third Floor Copper Cladding

The copper cladding at the third floor walls is in generally good condition appears to be performing well; however the transitions of the cladding to the copper window panning are not watertight and may be leading
to deterioration of the underlying substrate materials. The panning itself is in good condition but requires refastening to prevent loss during high winds. The fasteners and seams should be made watertight to prevent deterioration of the window frames below. The joint between the panning and the copper cladding panels is filled with deteriorated sealant that should be replaced; note that given the age of the sealant is should be tested for hazardous material such as asbestos.

If energy performance is a concern, consideration should be given to removing the cladding and applying an air/weather barrier membrane to minimize air and water penetration into the substrate materials and the interior. Further investigation of the wall assembly and evaluation of interior comfort requirements is necessary to determine the condition of the copper cladding substrate and whether any substantive modifications are warranted.

**Windows**

The windows at the first and second floors are in fair condition, and appear to have been recently repainted. The windows at the third floor and at lesser accessible locations of the second floor are in poor condition. Complete restoration of all the windows is recommended, including paint removal, re-glazing of the glass, repair of damaged or rotted wood, and replacement of warped or distorted sash elements. Due to the extent of restoration required, partial dismantlement and off-site restoration should be anticipated.

Based on the conditions observed, the performance of the windows with respect to air leakage and thermal efficiency is extremely low. Depending on the historical significance of the property, replacement windows with similar site lines and design should be considered. The original windows are relatively simple in design and could be closely replicated without difficulty. New windows offer the advantage of improved thermal efficiency and operability; new windows may also be less expensive on a unit-by-unit basis considering the level of existing window restoration needed. The existing paint should also be tested for hazardous materials, such as lead.

The sealant at all the window perimeters requires replacement. The current material is in poor condition throughout the building. Given assumed age of the sealant, we recommend testing the sealant for hazardous materials such as asbestos, which can dramatically increase the cost of replacement.

**Terra Cotta Cornice**

Cornices like the one as Scott House are typically supported by a combination of steel structural members that are either cantilevered from or otherwise tied into the masonry back-up materials. The steel provides locations for bearing of some cornice courses and points from which other pieces are hung from steel rods. Over time, the steel support structure corrodes, reducing its capacity to support the terra cotta cornice elements. But more importantly, the corrosion results in rust scale that occupies up to seven times the volume of the corroded portion of the steel. When in intimate contact with masonry such as terra cotta, the expansive rust scale exerts pressure on the brittle masonry and causes it to crack.

The terra cotta cornice is in fair condition but suffers from isolated damage, including several units that are cracked or spalled. The joint materials, particularly at the water table, are in poor condition and allow excessive moisture to enter the cornice and corrode the concealed steel structure. Of particular concern are the several scroll brackets that have fractured and are now missing, revealing a corroded steel support element. We believe the infiltration of water through the poorly sealed water table joints over time has initiated the corrosion process at the underlying steel; the subsequent build-up of rust scale on the cornice support members has caused the brackets to fracture. The remaining scroll brackets, as well as other cornice
units, may be similarly compromised and should be inspected to determine their stability. The cornice joints should be sealed to prevent additional water penetration, thereby slowing or stopping the corrosion process. In lieu of hands-on assessment of the cornice, temporary protection measures such as installation of protective netting may be considered to mitigate the immediate potential for additional bracket failures.

Typical repairs performed to decorative terra cotta units include replacement with newly fabricated pieces that are molded to match the shape and detailing of the replaced pieces. Often the damaged pieces can be stabilized in place with supplemental anchors or removed, repaired, and reinstalled. Most cracks and spalls can usually be successfully repaired in place.

**Stone/Masonry**

There are only a few minor isolated spalls and cracks at the limestone masonry portion of the facade. The majority of the damage appears to be caused by corrosion of embedded anchors (such as dowels and cramps) between stone units. These elements can be repaired by removing the underlying corroded element, replacing it with a new anchor that is corrosion-resistant, and then repairing the stone using solid limestone patches (dutchman) to repair spalls or limestone patching mortar to fill cracks. If the unstable limestone fragments can be salvaged, often they can be successfully reattached.

Although the joint mortar is in fair to poor condition, we do not recommend repointing unless the joints are found to be the source of uncontrolled water penetration to the interior or the mortar fragments are unstable. Repointing risks damage to the stone masonry and provides limited benefit to the wall assembly unless water leakage is a concern.

**Brick Masonry**

The brick masonry portion of the exterior walls is in excellent condition although the joint mortar is somewhat deteriorated, especially at the upper third floor structures and chimneys. Repointing at the chimneys is recommended due to its environmental exposure, to limit water infiltration into the masonry, thereby reducing the potential for further deterioration of the masonry units. Although the joint mortar at the main walls is deteriorated, we do not recommend repointing unless the brick units are unstable or the joints are believed to be a source of excessive water infiltration into the masonry or uncontrolled water penetration to the building interior. Repointing procedures, whether done on a large scale or selectively, risks irreversible damage to the brick units and should be avoided if possible and for as long as possible.

**Terra cotta at Exterior Walls**

The terra cotta units used around windows and doors at the exterior walls are in good condition with only minor damage such as chips. These can be left alone or treated with a breathable acrylic coating if they are found to be visually objectionable. The mortar in joints between the terra cotta units is in generally poor condition; however, the units are stable, and there is no indication they are currently allowing water to reach the building interior. Given their proximity to the window openings, these joints are more likely to be a source of water penetration to the building interior, so pre-emptive repointing of these joints in the future may be desirable, provided the contractor is properly qualified to perform the work without damaging the terra cotta units.

**Terra Cotta Balustrades**

The terra cotta balustrades throughout the property are in poor condition. Top rails are mis-aligned, numerous units are cracked or spalled, and the joint materials are in poor condition. The integrity of the
joint material at the third floor balustrade is particularly critical since water bypassing this assembly also bypasses the roof membrane and may lead to interior water leakage.

The balusters are in generally poor condition, with approximately 30 percent rated either Fair or Poor. Several balusters have already been replaced with cast stone balusters, but the installation of these replacements appears to be partially responsible for the top rail misalignments due to improper dimensioning or installation methods. The original balusters are reinforced and secured to the top and base rails with a steel rod. Over time this steel rod has corroded; the resulting rust scale has expanded and cracked the surrounding terra cotta. Since this construction is consistent for all the original balusters and damaged balusters are present at all balustrades, it is likely that additional baluster failures will occur over time. Replacing the joint materials and reducing the opportunity for moisture to reach the balusters will slow the rate of failure; however, the potential for corrosion-related damage will remain as long as the steel is present within the balusters. The balusters surrounding the third floor roof present a greater concern than those at the porch due to their increased exposure to the elements, and the height from which fragments could fall.

**Tile Floor**

The tile floor is a signature element of the historic building fabric at this property. Unfortunately, the tiles are no longer available. There are a number of tiles that have been replaced with similarly-shaped tiles but that do not match in color. Further investigation should be performed to determine if a matching replacement tile can be produced and used for repairs now and in the future. In lieu of a custom-produce replica tile, a satisfactory replacement tile could be one that matches the original in dimension but perhaps is a contrasting color to clearly indicate which are the replacement tiles and which are part of the original historic fabric.

The vast majority of tiles are in good condition and well bonded. The grout is also in good condition. The tiles are typically disrupted at cracks in the concrete substrate that have reflected through to the tile surface. Though old, the potential for future movement is not known but some should be anticipated, if only from thermal loading. Therefore, repair of the tiles with no regard to the cracks, or repairs of the cracks themselves is unlikely to be completely successful.

Where cracking is minor and the tiles are generally intact, options for restoration include doing nothing, replacing cracked tile only but leading a portion of the tile unbonded where it bridges over the crack, or routing the tiles to create a sealant filled joint that reflects the path of the crack. A crack isolation membrane could be considered but would require removal (and likely destruction) of far more of the tile on either side of the crack. Where the underlying concrete surface is vertically displaced and the associated crack is wide, separating the tiles with a sealed joint and replacing any damage tile on either side is the most prudent action. If an unacceptable tripping risk remains, more invasive tile removal, concrete repair, and tile reinstallation can be performed subject to availability of an acceptable /replica/replacement tile. This option would require a more substantial investigation of the concrete conditions below the major cracks to determine if it can be stabilized as part of the leveling process.

**RECOMMENDATIONS**

To address the deficiencies observed at the exterior building enclosure of the Scott House, we are presenting the following recommendations for corrective action or further investigation. Our recommendations are based on the results of our visual condition assessment of this property, as well as our experience with
similar projects.

Interior Finishes

1. Monitor the interior finish damage at the south exit door to determine if water leakage is ongoing.
2. Perform water leakage testing to determine the source(s) of uncontrolled water penetration and interior finish damage at Rooms 202, 205 and the south exit door if needed.
3. Perform recommended building enclosure repairs to limit the potential for uncontrolled water penetration to the interior, particularly at the third floor cornice.
4. Continue to monitor the interior space and finishes on a periodic basis for visible evidence of future water penetration. Include observations of the ceilings below all roof assemblies as well as at the exterior walls.

Exterior Enclosure System

Main Roof

1. Include the main roof in normal maintenance and replacement rotation. If interior visual observations indicate a change in conditions, investigate the potential for additional repairs or accelerate the roof design and replacement process accordingly.

Third Floor, East Porch, and West Porte-cochere Roofs

1. Perform test cuts and a moisture survey to determine if the underlying roof substrate is wet and to document as-built conditions for future replacement.
2. If further roof investigation and water leakage testing determines the roof is performing adequately, include the roof in the normal maintenance and replacement rotation. If the results of the investigation and testing suggest the roof is not performing adequately, investigate the potential for additional temporary repairs plus accelerate the roof design and replacement process accordingly. Replace the roofing system with one that includes insulation, positive slope for drainage, and watertight terminations at the roof perimeters.
3. Continue to monitor the single-ply roofing assemblies at the Porte-cochere and south wing for mechanical damage or evidence of water penetration.
4. Perform a baseline moisture survey of the porch and Porte-cochere and south wing roofs using nuclear moisture meter, capacitance meter, or thermal imaging to determine if the underlying substrates are dry. Repeat the survey on a comparative basis every three to five years.
5. Confirm if the porch, Porte-cochere, or south wing roofs are under warranty. If warranted, perform or update all necessary inspection to maintain warranty provisions.

Third Floor Copper Cladding

1. Perform further investigation of the third floor cladding and window panning substrate, particularly at the wall panel/window panning interfaces to determine the condition of the underlying materials. If the observed existing conditions dictate, evaluate the potential for installing a supplemental weather barrier or making additional surface repairs to the cladding panels to improve watertightness.
2. Determine desire for energy or tenant comfort improvements at the third floor in the interest of determining if incorporation of an air/weather barrier is cost-effective.
3. At a minimum, replace sealant at all joints between the copper cladding panels and the window panning. Test sealant for hazardous materials. Redesign panning anchors, seams, and interface details to optimize watertightness.

**Windows**

1. Note the potential for hazardous materials in the original perimeter sealant and window paint; perform appropriate testing.

2. Survey each window to determine the necessary scope of window restoration and repairs. Recondition and restore the existing windows by removing existing paint coatings, reglazing the window glass, repairing damaged wood components, replacing distorted sashes, and resealing the window perimeters. Verify mechanical performance and operability of each unit and repair as necessary. Consider inclusion of new gaskets or weather-stripping to reduce air and water penetration through the window assemblies.

3. In lieu of restoration, replace existing windows with new units that match the site lines and operability of the original windows. Perform additional investigation to evaluate the feasibility of replacement and to document as-built conditions for detailing the installation of replacement windows.

**Terra Cotta Cornice**

1. Perform additional close range investigation of representative portions of the cornice to determine the stability of the remaining scroll brackets and other terra cotta cornice units. Remove loose pieces identified and make further recommendations for temporary stabilization or repair of the potentially unstable cornice elements. Make inspection openings or perform borescopic examination to assess the condition of concealed steel elements.

2. If deemed necessary, design and implement any temporary protection or stabilization measures to prevent unstable terra cotta from falling.

3. Restore the cornice elements, including repairing or replacing all damaged terra cotta units. Replace all joint materials in skyward-facing joints with sealant to limit water penetration. Repoint all joints with new mortar.

**Stone/Masonry**

1. Repair damaged limestone masonry units by replacing corroded elements where present and installing new limestone dutchman selected to match the original limestone. Make other necessary repairs to cracks and other distress. Re-attach limestone fragments that can be salvaged.

2. Selectively repoint mortar in the joints between limestone and granite units where the mortar is unstable or fragmented. Only consider comprehensive repointing if the joints are found to be a source of uncontrolled water penetration at the interior.

3. Repoint chimneys and other rooftop elements due to the joint mortar instability and increased environmental exposure.

4. Remove all nails in the brick masonry and repoint holes with mortar.

5. Repaint wood cornices and ensure all components are secure.

**Brick Masonry**

1. Repair damaged brick masonry by replacing them with matching units. Make other necessary repairs to cracks and other distress.
2. Selectively repoint mortar in the joints between brick units where the mortar is unstable or fragmented. Only consider comprehensive repointing if the joints are found to be a source of uncontrolled water penetration at the interior.

**Terra cotta at Exterior Walls**

1. Repair damaged terra cotta by coating exposed bisque with an acrylic coating that matches the glaze color to limit moisture absorption and discoloration. Repair isolated cracks by routing the surface and filling the widened channel with patching mortar formulated for terra cotta and that matches the glaze color.
2. Consider pre-emptive repointing of the joints between terra cotta units at the window surrounds that are most likely to result in uncontrolled water penetration to the interior.

**Terra Cotta Balustrades**

1. Remove all unstable baluster fragments from the third floor, porch, and Porte-cochere balustrades to prevent them from falling.
2. Develop a comprehensive restoration program that includes disassembly of the top rails and all balusters, plus replacement of all damaged balusters in fair and poor condition, as well as the previously replaced balusters. Reinstall the top rails with mortar but raked back to accommodate sealant at the skyward facing surfaces. Provide expansion joints in the top rail to accommodate thermal movements.
3. Incorporate stainless steel reinforcement and dowels in all replacement balusters.
4. Remove sealant from all joints in the balustrade (including the top rail, base rail, balusters and newel posts) and repoint them with mortar.
5. Repair or replace damaged terra cotta units in kind throughout balustrade.

**Tile Floor**

1. Research potential sources of replacement tile to match the existing historic tile. If a match cannot be obtained, procure an acceptable replacement tile that most closely matches the geometry and dimensions of the original tile. Replacement tile may not match in color but should be complimentary to the existing tile.
2. Perform a sounding survey to determine the extent of loose or unbonded tile.
3. Remove and replace the damaged tiles and reinstall intact but unbonded tiles.
4. Install replacement tiles at narrow cracks in a manner designed to accommodate future changes in crack width. Determine preferred method through mock-ups.
5. Evaluate whether the crack conditions constitute a tripping hazard. If so, investigate the substrate conditions and cause of the crack/displacement. Remove a sufficient area of tiles to allow for replacement of the original concrete and leveling of the substrate. Accommodate the potential for future movement in the substrate repairs.
6. Install replacement tiles in a manner to accommodate any anticipated future movements in the substrate without additional damage.
If you have any other questions, or if we can be of any further assistance, please do not hesitate to contact us. Thank you for the opportunity to be of service, and we look forward to continuing our work with you on this project.

Very truly yours,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

Rebecca Wong, PMP
Specialist - Historic Preservation

Matthew C. Farmer, P.E.
Principal
Figure 1. Plan view of the Scott House.

Figure 2. Evidence of moisture infiltration damage observed along a plaster wall.
Figure 3. Water infiltration damage observed at the exit door at the southeast corner of the house.

Figure 4. Roof assembly at the 3rd floor behind the balustrades.
Figure 5. Termination of membrane flashing.

Figure 6. Sheet metal above the north portico below the roof membrane.
Figure 7. Evidence of past water leakage at the underside of the portico roof on the north facade.

Figure 8. Roofing assembly at the Port-cochere on the west facade.
Figure 9. Roofing assembly along the south wing.

Figure 10. Hemmed seams of copper sheet metal wall cladding.
Figure 11. Deteriorated sealant at exterior copper wall cladding.

Figure 12. Current condition of the windows at the 3rd floor.
Figure 13. Nails securing copper wall cladding to window frames.

Figure 14. Condition of perimeter sealant at windows and terra cotta.
Figure 15. Decorative terra cotta cornice.

Figure 16. Damaged terra cotta units at the cornice.
Figure 17. Damaged terra cotta units at the cornice.

Figure 18. Damaged terra cotta units at a Port-cochere.
Figure 19. Broken and missing scroll bracket units at the main roof cornice.

Figure 20. Broken and missing scroll bracket units at the main roof cornice.
Figure 21. Staining of terra cotta and limestone on the northwest corner.

Figure 22. Water damage at the northeast cornice.
Figure 23. Missing scroll brackets at the north cornice and water damage at soffit.

Figure 24. Patches in terra cotta with bisque exposed.
Figure 25. Typical spalls at the shoulders on the water table course units.

Figure 26. Sealant at water table course units.
Figure 27. Corner water table units out of plane on the northwest.

Figure 28. Water damage on northwest corner.
Figure 29. Spall in limestone and bondline separation.

Figure 30. Deterioration of mortar at joints of the granite base course and belt course.
Figure 31. Typical condition of brick masonry.

Figure 32. Condition of brick masonry chimney with deteriorated mortar joints.
Figure 33. Window with arched fanlight that was shown as a rectangular window on the 1909 drawings.

Figure 34. Window behind stairs not shown and door shown as window on 1909 drawings.
Figure 35. Numerous nails in the brick masonry on the east facade.

Figure 36. Painted wood cornice.
Figure 37. Condition of mortar at terra cotta joints.

Figure 38. Minor spalls in terra cotta corner/edges.
Figure 39. Cracks in newels at the balustrade assembly. Note sealant at joints.

Figure 40. Crack in base rail unit and newel of balustrades. Note sealant at joints.
Figure 41. Sealant at base rail unit joints.

Figure 42. Sealant and cracks in top rail units of balustrades.
Figure 43. Top rail units of balustrades that are out of plane.

Figure 44. Deterioration at the joints in the balustrade elements.
Figure 45. Deterioration at the joints in the balustrade elements.

Figure 46. Deterioration at the joints in the balustrade elements.
Figure 47. Tiles at the north entryway.

Figure 48. Typical cracking spanning from the house to the balustrade perimeter.
Figure 49. Crack spanning from the column base to the balustrade perimeter.

Figure 50. Loss of tile at a crack spanning from a column on the north portico.
Figure 51. Crack measuring 3/4-inch wide.

Figure 52. Intermittent cracking on the east floor between northern columns.
Figure 53. Replacement tiles.
SHEET KEYNOTES

1. TERRA COTTA CRACK
2. TERRA COTTA SPALL
3. WINDOW ALTERED
4. NAILS IN BRICK
5. MISSING/DAMAGED FLORET - WATER DAMAGE THROUGH TERRA COTTA
6. CHIP IN TERRA COTTA
7. LIMESTONE SPALL
8. CORROSION STAINING AT JOINT SEV.; TYPICAL AT OTHER LOCATIONS.
9. WATER DAMAGE AND STAINING
10. DISPLACED/NOT LEVEL

THE SCOTT HOUSE
909 W FRANKLIN STREET
RICHMOND, VIRGINIA

GLAVE & HOLMES
ARCHITECTURE
2101 EAST MAIN STREET
RICHMOND, VIRGINIA 23223

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SHEET KEYNOTES:
- "SPALL AT ANCHOR"
- "TERRA COTTA CRACK"
- "TERRA COTTA SPALL"
- "MISSING BRACKET"
- "WINDOW ALTERED"
- "NAILS IN BRICK"
- "MISSING/DAMAGED FLORET - WATER DAMAGE THROUGH TERRA COTTA"
- "CHIP IN TERRA COTTA"
- "LIMESTONE SPALL"
- "CORROSION STAINING AT JOINT SEV.; TYPICAL AT OTHER LOCATIONS"
- "WINDOW RELOCATED"
- "TERRA COTTA PATCH/BISQUE EXPOSED"
- "SOFFIT WATER DAMAGE - COATING FAILURE AT EAST AND WEST PANELS"
- "WATER DAMAGE AND STAINING"
- "DISPLACED/NOT LEVEL"
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<td>13. Soffit Water Damage - Coating Failure at East and West Panels</td>
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<td>14. WATER DAMAGE AND STAINING</td>
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<td>16. MULTIPLE LOCATIONS</td>
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WEST ELEVATION

THE SCOTT HOUSE
909 W FRANKLIN STREET
RICHMOND, VIRGINIA

GLAVE & HOLMES
ARCHITECTURE
2101 EAST MAIN STREET
RICHMOND, VIRGINIA 23223

Wiss, Janney, Elstner Associates, Inc.
2751 Prosperity Avenue, Suite 450
Fairfax, Virginia 22031
703.641.4601 tel | 703.641.8822 fax
www.wje.com
THIRD FLOOR PLAN
APPENDIX G

STAINED GLASS REPORT
March 12, 2015

Glave and Holmes Architecture
2101 East Main Street
Richmond, Virginia 23223

STAINED GLASS REPORT - VCU Scott House

The stained glass windows in the Conservatory are made up of clear and clear textured glass, in addition to opalescent glass with painted and fired detail. The matrix of all 10 panels is colonial profile zinc and all panels were fabricated in a curved plane to accommodate sash design.

The South face contains 5 panels measuring 21.5” x 56”. The East face also contains 5 panels which are slightly smaller measuring 16.5” x 55”. All are set in the exterior side of operable sash and putty glazed in place. One of the sash of the South face does not fully close and is allowing weather into the interspace between the stained glass and interior plexiglas covering. It is expected that issues with sash and framing surround may become evident and require treatment.

Atypical aspects of these windows are the curved plane and a matrix made up of zinc as opposed to the more common lead matrix. Unconventionally, the opalescent glass has painted and fired detail - antique glass is typically and historically used for painted detail.

Present Condition - South Face:
✦ Significant deflections are evident throughout - 4 of the 5 panels affected. Photo #1, #2.
✦ Deflections have caused/allowed the matrix to move considerably, resulting in glass separation from the matrix in numerous areas. Photo #3, #4, #5.
✦ Deflections have caused solder joints to become stressed and eventually break allowing further overall weakness in the matrix. Photo #6, #7, #8
✦ Numerous previous repairs have been attempted with varying results, however these have failed and are ineffective.
✦ Photo #9 shows resoldering attempts which are problematic as zinc came is hollow. Once deterioration occurs, removing corrosion to acquire clean metal is almost impossible.
✦ Photo #10 shows a curved carbon steel bar across the face of a panel for stability. The rust and corrosion are detrimental to the zinc matrix and glass.
✦ In regards to the painted and fired glass, it appears that there may be underfired or loose paint. Photo #11. If this is the case, consolidation of the paint layer would need to be completed to prevent paint loss in affected areas. This can only be discerned in the studio under close inspection via optical magnification.
✦ There is minimal glass loss - example shown in photo #12
✦ Numerous glass breaks are prevalent - example photo #13

Studio: 104 E. 2nd St., Richmond, Va.  Mailing: 1308 Amherst Ave., Richmond, Va. 23227
Present Condition - East Face:
The East face windows exhibit, to a lesser degree, the same conditions as the South face, but are moderately more stable in comparison.

TREATMENT RECOMMENDATIONS
Due to the severity of deflections, matrix deterioration and numerous ineffective previous repairs in the South face windows, a total restoration should be completed. To attempt patch work repairs would be futile if not impossible. The East face windows could conceivably be left in situ, treated and cleaned, however they would most likely require full restoration within 10 years.

Treatment Procedures
✦ East face window treatment in situ entails cleaning, consolidation of breaks, replacement of missing glass & re-weatherproofing. This should be considered a short term solution.
✦ Total restoration of the South (or East) face windows requires disassembly and replacing the existing matrix. The colonial zinc profile is matched to correspond with the original for the reglazing procedure. All original glass would be preserved & reinstalled.
✦ Broken or cracked glass would be consolidated with conservation grade optical epoxies, neutral cure silicones or copper foil method repair depending on the specific conditions.
✦ Any missing glass would be replaced with the closest match possible utilizing period glass from 1910 - 1911 or reproduction glass replicating the appearance.
✦ As noted earlier, there is a question as to the stability of the painted detail on the opalescent glass. This is not uncommon as opalescent glass does not accept fired paint easily. Any instability in the paint layer would need to be treated. This condition is unknown at the present time, consequently the need for treatment cannot be determined.

ESTIMATED COSTS
A full restoration of the windows would require the unconventional method of having forms fabricated on to which the panels would be reglazed. Custom crating would also be required in order to safely transport the panels to the studio facility. Additionally, a zinc matrix is far more rigid than lead, and requires additional time for the glazing process.

South face windows:
$8,500.00 each - total for 5 - $42,500.00

East face windows:
If left insitu, treated and cleaned - $5,200.00 - all 5 windows.

Full Restoration - $7,500.00 each - total for 5 - $37,500.00.

The stated costs could be somewhat higher or lower depending on the process once a form is made and the system of glazing confirmed. This is not unlike a “one-off” scenario in that the first is the most costly. After a system is devised, costs per window could possibly be reduced.

END OF REPORT
APPENDIX H

FOOD SERVICE EQUIPMENT GENERAL LIST
# Appendix B

## Foodservice Equipment General List

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