HISTORIC STRUCTURE REPORT
East Lodge/Detached Nurses Home (Building 30)
St. Elizabeths West Campus
Washington, D.C.

Final Report
March 12, 2010
WJE No. 2008.4286

Prepared for:
General Services Administration
Washington, D.C.

Prepared by:
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.480.9534 fax
Final Report
March 12, 2010
WJE No. 2008.4286

Prepared for:
General Services Administration
Washington, D.C.

Prepared by:
Wiss, Janney, Elstner Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.480.9534 fax
## TABLE OF CONTENTS

INTRODUCTION ............................................................................................................................... 1
Administrative Data ........................................................................................................................................... 2
  Project Scope and Methodology .................................................................................................................. 2
Building Data .............................................................................................................................................. 5
DEVELOPMENTAL HISTORY ..................................................................................................................... 10
Historical Background and Context ............................................................................................................. 10
  Construction Context, 1852–1853 .................................................................................................................. 10
  Initial Construction, 1861 .............................................................................................................................. 11
  Godding Era Addition, 1887 ........................................................................................................................... 12
  Richardson and White Era Maintenance and Alterations, 1888–1937. ..................................................... 13
  Repairs and Maintenance, 1937–1970 ........................................................................................................... 14
  Rehabilitation, 1970–2004 ........................................................................................................................... 15
  Period of Dormancy, 2004–2009 .................................................................................................................... 16
  Undocumented Alterations 1937–2002 ........................................................................................................ 16
  Construction History, 1861–2008 .................................................................................................................. 16
Evaluation of Significance ............................................................................................................................... 22
  Overall Significance ....................................................................................................................................... 22
  Character-Defining Features ........................................................................................................................... 23
  Assessment of Integrity ................................................................................................................................. 24
PHYSICAL DESCRIPTION AND CONDITION ASSESSMENT ....................................................................... 26
Overall Description ........................................................................................................................................ 26
Exterior Evaluation ....................................................................................................................................... 27
  Description ........................................................................................................................................................ 27
  Exterior Conditions ....................................................................................................................................... 32
Interior Evaluation ......................................................................................................................................... 35
  Corridors ......................................................................................................................................................... 35
  Stairwell ......................................................................................................................................................... 41
  Bathrooms ...................................................................................................................................................... 43
  Attendant Rooms .......................................................................................................................................... 46
  Closets .............................................................................................................................................................. 48
  Dormitory, Room 1016 .................................................................................................................................. 49
  West Wing Rooms ......................................................................................................................................... 52
  East Wing Rooms ......................................................................................................................................... 55
  Basement ....................................................................................................................................................... 56
Structural Evaluation ...................................................................................................................................... 60
  Description ....................................................................................................................................................... 60
  Roofs ................................................................................................................................................................. 61
  Condition Assessment ................................................................................................................................. 63
Mechanical, Electrical, and Plumbing Systems Evaluation ................................................................................ 69
  Description ....................................................................................................................................................... 69
  Condition Assessment ................................................................................................................................. 71
RECOMMENDATIONS FOR TREATMENT ..................................................................................................... 72
Historic Preservation Objectives ................................................................................................................... 72
Requirements for Work ................................................................................................................................... 73
  Guidelines and Standards for Treatment .................................................................................................. 73
Preservation Zoning ......................................................................................................................................... 76
HISTORIC STRUCTURE REPORT
East Lodge/Detached Nurses Home (Building 30)
St. Elizabeths West Campus

Washington, D.C.

INTRODUCTION
At the request of the General Services Administration (GSA) and in cooperation with Perkins + Will, Wiss, Janney, Elstner Associates, Inc. (WJE) has prepared Historic Structure Reports and Building Preservation Plans for the buildings of the St. Elizabeths west campus in Washington, D.C. The Historic Structure Reports and Building Preservation Plans have been developed in accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties, and have also been guided and informed by the Preservation, Design, & Development Guidelines, Master Plan, and Cultural Landscape Report for St. Elizabeths. The individual building Historic Structure Reports and Building Preservation Plans provide a framework for the future rehabilitation of the existing historic buildings as part of the overall planning and design effort for the campus, and provide critical planning and design documents preparatory to the ultimate treatment of the buildings. The proposed development of the site under the guidance of the General Services Administration (GSA) to provide office facilities for the Department of Homeland Security and the Coast Guard will involve rehabilitation of the majority of the historic buildings for new offices and shared uses, as well as historically compatible new construction and renewal of the significant historic landscape. The Historic Structure Reports and Building Preservation Plans are intended to provide guidance to property owners, managers and tenants, preservation consultants, all design professionals, contractors, and project reviewers prior to treatment. Like the Cultural Landscape Report, the individual building reports provide philosophical consistency and promote responsible preservation practices to protect this unique cultural resource, with the Secretary of the Interior’s Standards as the basis for all recommended project work.

1 Although the hospital has historically been referred to as St. Elizabeths the name was not officially given to the property until a 1916 appropriations bill designated the hospital as such. The origin of the name St. Elizabeths dates to colonial times as the piece of land on which the hospital sits was called the St. Elizabeth tract when Maryland was first settled. An 1839 Tract Plan labels the property St. Elizabeth. It should be noted that St. Elizabeth of Hungary (1207–1231) is the patron saint of the poor and outcast. The 1868 Annual Report states that the army hospital housed on the grounds during the Civil War was named for St. Elizabeth. As a result, several patients of the Government Hospital for the Insane began using this name in order to avoid using the word “insane” when describing where they were being treated. Note that the name historically has been written without an apostrophe. It is believed this is due to an inadvertent omission made while drafting the appropriations bill.
East Lodge/Detached Nurses Home (Building 30), a contributing structure of the St. Elizabeths west campus historic district, this Historic Structure Report has been prepared.

Historic Structure Reports (HSRs), first developed by the National Park Service in the 1930s, are documents prepared for a building, structure, or group of buildings and structures of recognized significance to record and analyze the property's initial construction and subsequent alterations through historical, physical, and pictorial evidence; document the performance and condition of the structure’s materials and overall physical stability; identify an appropriate course of treatment; and document alterations made through that treatment. Building Preservation Plans (BPPs) were developed by the General Services Administration to provide building-specific documentation and guidance for planning projects of all scales, to assist in responding to tenant alteration requests, complying with changing codes and requirements, and maintaining historic materials. Information gathered for BPPs is entered into a historic building inventory database maintained by the GSA. For purposes of this project, each HSR as well as each BPP contains key information for input into the GSA database.

**ADMNISTRATIVE DATA**

**Project Scope and Methodology**

The purpose of the Historic Structure Report is to provide a compilation of the findings of research, investigation, analysis, and evaluation of the historic structure. The preservation objectives for the historic property are identified and treatment measures recommended for implementing and accomplishing these objectives. The Historic Structure Report serves as a basis for decision-making and direction for preservation of the building. The report also serves as a record document of existing conditions and as a basis for planning future preservation and maintenance.

The Historic Structure Report addresses key issues specific to the structures of the St. Elizabeths west campus, including the construction chronology of the buildings; the existing physical condition of the exterior envelope, interior spaces and features, structure, and mechanical, electrical, and plumbing systems; and the historic significance and integrity of the building. Assessment of hazardous materials is outside the scope of this study. The project methodology was as follows:

**Research and Document Review.** Archival research was performed to gather information about the original construction and past modifications and repairs to the buildings for use in assessing existing conditions and developing treatment recommendations. Documents reviewed included drawings, specifications, historic photographs, and other written and illustrative documentation about history, construction, evolution, and repairs to the subject buildings. The research for this study built upon the extensive historical and archival research performed by others. Primary reference documents reviewed for this study included the following:

- *The DHS Headquarters Consolidation at St. Elizabeths: Final Master Plan*, Oehrlein &


The following archival repositories were visited in researching this study:

- National Archives Building, Washington, D.C., and National Archives at College Park, Maryland.
- General Services Administration archives, Washington, D.C.
- St. Elizabeths Hospital Health Sciences Library, Washington, D.C.
- Collections at the American Architectural Foundation, Washington, D.C.

Copies of selected archival documentation are provided in Appendix A. A description of research materials and sources reviewed and discovered is provided in the annotated bibliography within this report.

**Condition Assessment and Documentation.**

Concurrent with historical research, a condition survey of the building was performed and observations documented with digital photographs, field notes, and annotation on baseline drawings. For purposes of the field survey, drawings were provided by GSA for our use developed from building scans prepared by Optira, Inc., a sub-consultant to Farewell Mills Gatsch Architects. The condition assessment addressed the exterior walls, roof, windows, and interior surfaces as well as primary interior spaces and features of significance. In addition, the assessment addressed the structural systems, which were examined from the exterior and accessible locations of the building interior. The assessment also addressed primary features of mechanical and electrical systems (particularly features of historical interest). The survey of mechanical and electrical systems was general in nature, as we understand that all mechanical, electrical and plumbing systems are scheduled for replacement as part of the anticipated building adaptive reuse; for this reason, functionality and needed repairs for the mechanical and electrical systems were not assessed. Landscape and site features were not surveyed as part of this study, as the existing
Cultural Landscape Report provides a primary reference.

Materials Studies. In addition to the visual condition assessment, WJE performed field and laboratory materials studies of brick, stone, and mortar. The results of the materials studies are reviewed in Appendix D of this report.

Development of Chronology of Construction, Evaluation of Significance, and Preservation Zoning. Based on historical documentation and physical evidence gathered during the study, a chronology of construction was developed. An evaluation of the significance was also prepared, taking into consideration previous historical assessments including the National Historic Landmark documentation and other reference documents, as well as guidelines provided by National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation. In addition, preservation zoning was evaluated and zoning diagrams were developed based on guidance provided by the GSA. This evaluation of history, significance, and zoning provided the basis for the development of recommended treatment alternatives.

Guidelines for Preservation. Based on the evaluation of historical and architectural significance of the structure, guidelines were prepared to assist in the selection of preservation treatments. These guidelines were coordinated with recommendations provided in the St. Elizabeths West Campus: Preservation, Design, & Development Guidelines (2008).

Treatment Recommendations. Following the overall treatment recommendation of Rehabilitation, specific recommendations were prepared for significant exterior, interior, and site features. These recommendations addressed observed distress conditions as well as preservation zoning guidelines and objectives. All recommendations were developed following the Secretary of the Interior’s Standards for the Treatment of Historic Properties.

Preparation of Historic Structure Report. Following completion of research, site work, and analysis, a narrative report was prepared summarizing the results of the research and inspection and presenting recommendations for treatment. The Historic Structure Report was compiled following the organizational guidelines of the National Park Service in Preservation Brief 43: The Preparation and Use of Historic Structure Reports, with modifications to organizational structure as required by the GSA for purposes of this project. In addition, the reports incorporated guidance provided by the GSA for Building Preservation Plans, including documentation components necessary for future entry in the GSA historic buildings database.

---


3 Caroline Alderson and George Siekkinen, General Services Administration Draft Guidelines for Preservation Zoning, in progress (2009). Note that the term and technique of “preservation zoning” as developed and used for some time by the GSA is not related to the term “zoning” as used in reference to municipal land use and building regulations.


BUILDING DATA

A summary of key information for the building included in this study has been prepared for use by the GSA and future incorporation by the GSA in its historic buildings database. This information is presented in the following table.
<table>
<thead>
<tr>
<th>Detached Nurses Home (Building 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BPP/ HSR creation date</strong></td>
</tr>
<tr>
<td><strong>Building ID</strong></td>
</tr>
<tr>
<td><strong>Current building name</strong></td>
</tr>
<tr>
<td><strong>Historic building name</strong></td>
</tr>
<tr>
<td><strong>Building status</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
</tr>
<tr>
<td><strong>UTM</strong></td>
</tr>
<tr>
<td><strong>GIS</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size and Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Floor area total (gsf)</strong></td>
</tr>
<tr>
<td><strong>First floor area (gsf)</strong></td>
</tr>
<tr>
<td><strong>Second Floor area(gsf)</strong></td>
</tr>
<tr>
<td><strong>Third Floor area (gsf)</strong></td>
</tr>
<tr>
<td><strong>Basement Floor area (gsf)</strong></td>
</tr>
<tr>
<td><strong>Occupiable area (gsf)</strong></td>
</tr>
<tr>
<td><strong>Stories/levels</strong></td>
</tr>
<tr>
<td><strong>Perimeter (linear feet)</strong></td>
</tr>
<tr>
<td><strong>Height (lf)</strong></td>
</tr>
<tr>
<td><strong>Length (lf)</strong></td>
</tr>
<tr>
<td><strong>Depth (lf)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Construction History</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Historical function</strong></td>
</tr>
<tr>
<td><strong>Other functions</strong></td>
</tr>
<tr>
<td><strong>Current use</strong></td>
</tr>
<tr>
<td><strong>Date of construction</strong></td>
</tr>
<tr>
<td><strong>Status</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Historical Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>National Register</strong></td>
</tr>
<tr>
<td><strong>National Historic Landmark</strong></td>
</tr>
<tr>
<td><strong>State/local designation</strong></td>
</tr>
<tr>
<td><strong>GSA determination</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HABS/HAER</strong></td>
</tr>
</tbody>
</table>
| **Reports, studies, and other documentation** | ▪ **Cultural Landscape Report**, Heritage Landscapes and Robinson & Associates. November 2007  
▪ **Wards of a Nation**, Frank Millikan. January 12, 1990 |
Figure 1. Site plan of the St. Elizabeths west campus. The Detached Nurse Home is shaded black.
Figure 2. Existing basement floor plan

Figure 3. Existing first floor plan
Figure 4. Existing second floor plan

Figure 5. Existing third floor plan
DEVELOPMENTAL HISTORY
HISTORICAL BACKGROUND AND CONTEXT

Construction Context, 1852–1853

In December 1852, the United States Congress appropriated $100,000 with President Millard Fillmore’s approval for the establishment of a curative treatment center for the insane of the United States Army and Navy and the District of Columbia. The institution was first developed as the Government Hospital for the Insane although colloquially referred to as St. Elizabeths.

The efforts of Dorothea Lynde Dix and other activists for the mentally ill were successful in promoting moral treatment methods as the preferred medical practice. Dix was a New England educator who had traveled abroad and been influenced by British social reforms and the writings of Samuel Tuke, who strived to improve the physical conditions for mental health patients in England in the 1830s. Upon returning to the United States, Dix witnessed the cruel treatment received by the mentally ill who were often incarcerated, beaten, and punished in an effort to shape their behavior. It was believed that by providing a healthy and serene environment, mentally ill patients could be cured. Dix championed the cause of the mentally ill in the United States, advocating the creation of state hospitals and facilities specific to the mentally ill. Over thirteen years, she was successful in initiating legislation for the formation of thirty-two state mental hospitals, fifteen schools for the Feeble-Minded, a school for the blind, and numerous training centers for nurses.

Under the guidance of Dorothea Dix, President Fillmore appointed Dr. Charles H. Nichols as superintendent in the fall of 1852. Nichols was an ambitious young doctor who had obtained a reputation as a moral and faithful physician during his years of experience. Like Thomas Kirkbride, Pliny Earle, and numerous other medical superintendents who believed in the moral treatment philosophy, Nichols was a member of the Quaker Society of Friends’. Born in Maine in 1820, Nichols graduated from medical programs in New York and Pennsylvania by the age of twenty-three. Under the tutelage of Dr. Amariah Brigham at the New York State Lunatic Asylum at Utica, New York, Nichols learned about the issues in dealing with the mentally ill. By 1849, Nichols accepted a promotion as a physician at the New York State Asylum in Bloomington. In 1852, he was appointed superintendent at St. Elizabeths Hospital where he resided until 1877. Nichols returned to the Bloomington State Asylum in 1877 and presided as superintendent until his death in 1889.6

As the nation’s first and only federal mental institution, it was the responsibility of St. Elizabeths to serve as a national role model and provide the best care, conditions, and treatment for its patients. This responsibility was embraced by Superintendent Nichols in his design for the hospital. Preceding the American Civil War, the Eastern State Hospital in Williamsburg, Virginia, was the only state mental institution to accept African-American patients. Beginning with its establishment in 1773, the hospital had a surprisingly high admittance of both freed and slave African Americans.7 African-American patients were integrated with white patients into the existing hospital establishment. Despite the apparent demand for African-American mental health facilities, it was not until St. Elizabeths Hospital was opened that another public institution admitted African-American patients. Nichols original campus plan consisted of the Central Building complex and two detached

patient ward buildings for African Americans. St. Elizabeths was unique in that it provided separate facilities for African-American patients. These facilities "possessed most of the provisions of an independent hospital, inaugurates, we believe, the first and only special provisions for the suitable care of the African, when inflicted with insanity, which has yet been made in any part of the world . . . ."8 St. Elizabeths was a national example in the treatment of mentally ill African Americans following the Civil War.

**Initial Construction, 1861**

Information regarding the original construction of the East Lodge/Detached Nurses Home is limited to an 1860 Ground Plan, references in annual reports, 1887 construction documents, and existing physical evidence. There is limited archival documentation of the appearance of the structure immediately following construction.

The building was constructed in 1861 as the East Lodge, a companion building to the West Lodge (1856). The two lodge structures were located south of the Center Building complex on axis with the outer corridors of the East (Building 3) and West Wing (Building 4) buildings and in symmetry with each other. The brick buildings were specifically designated as detached patient wards for African-American residents: males occupied the West Lodge while females resided in the East Lodge. However, during the Civil War, male patients were moved to the East Lodge while the West Lodge was used as a temporary hospital for the Navy.

The East Lodge/Detached Nurses Home was originally built as a two-story brick structure with concrete foundation. Bricks were dried and fired on site. The structure had cast iron drip molds and window sills, molded brick water table, stone stringcourse, and stone cornice with a crenellated parapet roof and wood battlements.

A castellated chimney with corbelled brick detailing and a blind arcade projected one-and-a-half stories above the building (Figure 6).9

The cross-shaped plan consisted of a double-loaded corridor with individual patient dormitory rooms, attendants’ quarters, and a dining hall. Each floor functioned as an independent ward. Two staircases flanked the central hall and provided the cross axis of the plan.10 The interior finishes consisted of wood floors with plaster walls and ceilings and wood-framed door and window openings.11

The design of the East Lodge/Detached Nurses Home was consistent with Superintendent Nichols’ moral treatment philosophy. Emphasis was placed on creating family units where patients and attendants lived together in a peaceful and secure environment. The concept was to reinforce the moral treatment associated with the home atmosphere, which would allow patient to focus on rehabilitation.

As the building was completed, the Civil War began. Construction at St. Elizabeths was halted as the hospital tended to the soldiers housed in tents on the property grounds. During the remainder of the Nichols era, only building repairs of immediate concern were addressed. In the 1858 Annual Report, reference was made to the failure of the wood coping on the battlements, which required “painting and sanding.”12 In 1863, Nichols requested a $2,500 appropriation to purchase an iron coping as “the coping of the battlements is of wood and is beginning to decay. It is believed that for the small sum asked the wood can be replaced by iron, which will be lasting and protect the battlement walls . . . .”13 The funding was approved. However, by 1864 the price of iron was too high and expenditures were not made.14

---

8 Historic Resources Management Plan, 54, citing the 1856 Annual Report
9 1887 construction documents
10 1860 ground plan
11 1898 archival photograph
12 1858 Annual Report
13 1863 Annual Report
14 1864 Annual Report
Written or photographic evidence is not available to support the eventual installation of iron coping. The roof and parapet wall were removed during an extensive 1887 renovation.

**Godding Era Addition, 1887**

Following the Civil War, the service of St. Elizabeths was extended to include military veterans. The change in administrative policy altered the demographics of the institution and lead to rapid increase in the patient population. New patient facilities were constructed to accommodate the needs and growing number of aging and mentally challenged Civil War veterans. With the exception of minority patient groups, who remained segregated, early expansion efforts focused on continuing Charles Nichols’ Kirkbride plan. The Dawes (Building 7), Garfield (Building 5), and Center Building addition (Building 2) were ward wings attached to the Center Building complex and created under Superintendent Nichols to exemplify his principles. As additions were constructed, patients remained grouped into wards by their perceived mental condition, gender, and race.

These principles were adapted by William Godding (1877–1899) when he became superintendent of St. Elizabeths Hospital. However, for the development of new patient wards a different architectural form was adopted. Starting in 1878 with Atkins Hall (Building 31), the ward buildings were constructed as detached “cottages” and clustered into small groups. Each building group was designed and designated for a specialized patient type. The cottage type of architecture consisted of an open patient dormitory with attached attendants’ quarters and allowed for the orderly separation of patients in the healthy and serene family atmosphere of the ward units, without the constraints or limitations of a large single building.

In 1887, as need arose to expand African-American patient services, Godding’s system of expansion was implemented. Plans were outlined for the construction of a new wing to the East Lodge/Detached Nurses Home. The new structure was linked to the existing building and designed to embody Godding’s cottage plan principles. A new two-story brick structure was constructed to the east of the original building and linked through a two-story breezeway. The brick structure had a concrete foundation and wood-framed slate tile hip roof with vent hoods along the ridge with cast iron drip molds and window sills and ten-over-ten double-hung windows. A molded brick water table, stone stringcourse, and cornice with frieze wrapped the building. The connecting breezeway had a concrete foundation and pyramidal roof with vent hood.

As a part of the expansion project, the parapet roof and chimney on the existing west building were removed and a third floor was added. The third floor addition incorporated the cast iron drip molds and window sills prevalent throughout the original east building and was capped by a wood-framed slate hip roof with vent hoods. Shed roof dormers projected from the north and south roof of the structure.

---

15 As a Federal mental institution, admission to the hospital following the Civil War was open to all veterans. Marked gravestones in the St. Elizabeths cemetery affirm that both Union and Confederate veterans resided in the hospital. There is no reference made in the Annual Reports indicating the separation or discourse between Union and Confederate veterans. State mental institutions, that may be more sympathetic to either the Union or Confederate cause, were another option available to military veterans. The Army Register of Sick and Wounded at St. Elizabeths Hospital, Navy Register of Sick and Wounded at St. Elizabeths Hospital, and the St. Elizabeths Military Admission Records provide more insight and a detailed record of patients admitted to the hospital. These can be viewed at the National Archives.

16 1898 archival photograph and 1887 construction documents.

17 1945 Public Building Administration survey. There is no reference made to the construction of dormers in the 1887 construction documents.
brick used in the expansion was similar in size to that of the existing structure but varied slightly in color (Figure 7 through 9).

The interior of the East Lodge/Detached Nurses Home addition contained a ward unit on each floor with open dormitory space and attendants’ quarters. Bathroom facilities were enclosed by the breezeway connection and staircases were located at the east end of the extension building, within the breezeway structure, and at the west end of the original East Lodge building. Construction documents indicate that heating and ventilation were incorporated in interior wall construction of the east building addition. An 1898 archival photograph verifies construction of the integral mechanical system (Figures 10 and 11).\(^\text{18}\)

The third floor addition was constructed with a plan consistent with Nichols era design. It had a double-loaded corridor with access to patient dormitory rooms, attendants’ quarters, and a shared dining room (Figure 12). Archival photographs indicate original finishes in the new construction to consist of wood floors, plaster walls, and ceiling, and wood-framed door and window openings.

**Richardson and White Era Maintenance and Alterations, 1888–1937**

The focus of building alterations during the Richardson and White eras was on maintaining the existing structure and improving its function as a patient ward. The alterations were documented through construction drawings, annual reports, and historic plat maps.

In 1904, exterior fire escapes were erected at the East Lodge/Detached Nurses Home. The stairs were constructed by Barber and Ross in accordance with other fire escapes installed at the Center Building, Atkins Hall, and the Construction Shops (Building 49).\(^\text{19}\) There is no available archival documentation from which to determine the appearance of the exterior stairs. However, existing physical evidence indicates the stair was located at the north facade of the west structure.\(^\text{20}\)

In 1907, the building ceased to function as a patient dormitory ward and was converted into a residence for male nurses.\(^\text{21}\) Plans and specifications were generated for new plumbing facilities and the construction of a new central interior stair. The three-story steel-framed staircase was located in the breezeway structure and consisted of fluted newel posts and wrought iron decorative details. It was constructed adjacent to the existing two-story center staircase which was subsequently dismantled (Figure 13).\(^\text{22}\)

In 1933, a new slate tile roof composed of 11 inch by 22 inch slates was installed. In 1934, renovation of existing plumbing facilities was completed for the Center Building complex, the Dix buildings, and some of the lettered buildings, as well as the East Lodge/Detached Nurses Home. These upgrades included remodeling of lavatories.\(^\text{23}\)

During the White era, the function of the East Lodge/Detached Nurses Home shifted from a ward building to a residence for attendants and staff. Undated archival information indicates alterations were made to convert the second floor of the east building into an apartment to accommodate staff residence (Figure 14). The open dormitory space was subdivided into a five-room apartment with central hall.\(^\text{24}\) By 1927, one administrative staff member was

\(^{18}\) 1898 archival photograph and 1887 construction documents.

\(^{19}\) 1904 Annual Report

\(^{20}\) An existing metal fire escape is erected at this location. Based on similarly detailed staircases elsewhere on property, the existing exterior escape appears to be circa 1950s construction.

\(^{21}\) 1907 Annual Report

\(^{22}\) 1907 construction documents

\(^{23}\) 1933 Annual Report and 1934 Annual Report

\(^{24}\) Undated construction documents
listed as living in the building and the East Lodge/Detached Nurses Home is identified as the “Male Nurses’ Home.”

Between 1900 and 1945, a new main entrance door was created on the south facade of the original west building. An existing wood-framed window was removed and the opening was extended to floor level; the existing cast iron drip mold remained. A wood-framed door with multi-light transom and sidelights was installed and an exterior concrete staircase with pipe metal handrails was constructed to provide access from grade. It is assumed that the addition of the doorway coincide with a change in building function.

**Repairs and Maintenance, 1937–1970**

In 1946, major administrative changes were made to St. Elizabeths Hospital that affected the potential use and maintenance plan for the west campus, as the supervising Board of Visitors was officially disbanded. This organization, which consisted of a group of private citizens, had been charged with monitoring and surveying conditions and treatment methods at St. Elizabeths since the hospital’s inception in 1855. At the same time, it was determined that patients from the United States Army and Navy would no longer be admitted to the hospital. St. Elizabeths was relieved of the governing civilian body as well as the issue of overcrowding that had overwhelmed the institution since the end of the Civil War. The dramatic administrative changes continued when the federal government shifted control to the newly created Department of Health, Education, and Welfare in 1953. Development at St. Elizabeths Hospital responded through the gradual relocation and consolidation of patient services from the older facilities of the west campus to the newly constructed east campus. With few exceptions, new construction was limited to the east campus while the existing structures of the west campus were renovated, maintained, or demolished, depending on their physical condition.

In the 1960s, an extensive effort was made at St. Elizabeths Hospital to modernize mechanical, plumbing, and electrical systems in the aging west campus buildings. The effort was initiated in response to the series of conflagrations that had plagued the campus for two decades. On April 20, 1961, a fire in the Larch ward of Pine (Building 6) resulted in a patient fatality. The following day, a fire erupted in the K Building (Building 66) which caused extensive damage to the structure and surrounding buildings. Funds were quickly directed by the Department of Health, Education, and Welfare toward creating a campus-wide plan to improve fire suppression plans, plumbing facilities, heating units, and electrical systems.

In 1963, an $865,000 appropriation was made for the installation of sprinkler systems in non-fire-resistant buildings. The suppression unit consisted of surface-mounted sprinklers and was installed in every room. That same year, a study of the existing plumbing and electrical systems was initiated. The study led to the appropriation of funds for a multi-million dollar facilities modernization project. Plans for building alterations were generated between 1963 and 1965 and included the replacement of electrical wiring and outlets, upgrades to lavatory and plumbing systems, and the installation of fluorescent light fixtures. The new piping and conduit were installed over finish materials and exposed to view. Construction began in 1966 and continued through 1970. Existing physical evidence indicates that alterations were made to the electrical, plumbing, and fire suppression systems of the East Lodge/Detached Nurses Home. Based on the materials and character of

---

26 Comparison of 1900 and 1945 archival photographs
27 1962 Annual Report
Rehabilitation, 1970–2004

In 1968, the Department of Health, Education, and Welfare reorganized its management structure and placed St. Elizabeths under the control of the National Institute of Mental Health. The Institute sought to demonstrate how a large mental hospital could be converted into a smaller modern facility for training, service, and research. The change in administrative direction resulted in dramatic alterations to the planning and function of the west campus.

In 1970, patients were moved from all pre-1900 buildings. Dormitories constructed during the Nichols and Godding eras, which constituted half of the west campus buildings, were cleared and patients were relocated to the east campus or lettered buildings. This process temporarily resolved the urgent need for building maintenance on the aging west campus structures. The East Lodge/Detached Nurses’ Home, constructed in 1861, had functioned as a staff residence. During this time period, the nurses’ quarters were relocated to the east campus. The mass closure resulted in the relocation of the nurses’ quarters to the east campus. By 1980, the building was converted into a drug rehabilitation center for patients from the Anacostia region of the District of Columbia.

Plans were generated in the 1980s to convert the building into an office for facilities management and other associated staff. Undated construction documents outline upgrades to the electrical and plumbing systems. However, the plan of the structure remains relatively unchanged from its original construction and circa the 1920s renovation. The only alterations were the construction of partition walls in the breezeway to create an additional office space. The building remained in use as office space through 1992.

By 1977, the National Institute of Mental Health commissioned a master plan for the hospital to outline future growth and determine the fate of the aging west campus structures. The plan called for the temporary reuse of remaining west campus structures as patient support facilities until they could be phased out. In that same year, controversy arose when St. Elizabeths Hospital was denied its long-standing accreditation as a teaching and training school because the condition of campus buildings did not meet safety and structural requirements as outlined by the Life Safety Code.

In 1978, a supplemental appropriation of $52.2 million was approved for the renovation and modification of the hospital. Improvements and upgrades were made to address fire and safety deficiencies, electrical systems improvements, infrastructure improvements, and issues of accessibility. On the west campus, the renovations were focused on providing ramps and lavatories in compliance with accessibility laws. It is assumed that a wood-framed accessibility ramp, constructed along the south entrance of the east building was erected as a result of the 1978 appropriation (Figure 15).

33 Comparison of undated construction documents and existing conditions. Based on the scope of the work and similar notated drawing sets for other west campus buildings, the documents are assumed to be circa 1982.
34 A 1993 Historic Resources Management Plan, building inventory identifies the building’s present use as “office”.
36 2003 archival photograph indicates the existence of an accessibility ramp. There is no conclusive
Period of Dormancy, 2004–2009

The Department of Health and Human Services retained control of the St. Elizabeths Hospital west campus until 2004 when the property was transferred to the GSA. The campus facilities were stabilized and the buildings were mothballed by 2005. Window and door openings were covered and protected with plywood and access to the campus was secured.

The East Lodge/Detached Nurses Home, along with most of the west campus, is currently vacant and has been mothballed. Plans are underway to restore, rehabilitate, renovate, and construct buildings on the west campus for future use. Documentation on the recent history of the East Lodge/Detached Nurses Home includes the Cultural Landscape Report; St. Elizabeths West Campus Preservation, Design, & Development Guidelines; 2003 Stabilization and Mothballing Study; archival photographs; and physical evidence.

Undocumented Alterations 1937–2002

Archival research and existing physical evidence suggest that changes made to the East Lodge/Detached Nurses Home that are not well-documented through available resources. Because of the limited information, a specific construction date cannot be identified for these alterations, as described below.

Linoleum flooring and carpeting were installed throughout the structure and acoustic tile was installed in several locations in the west building.

Construction History, 1861–2008

The construction history of the East Lodge/Detached Nurses Home has been interpreted primarily through the Historic Resources Management Plan; annual reports; 1945 Public Building Administration survey; archival photographs; and construction documents from 1887, 1907, 1964, 1967, and 1981.

1861 The East Lodge/Detached Nurses Home was constructed.

1887 A new wing and third floor addition to the East Lodge/Detached Nurses Home was constructed.

1904 Exterior fire escapes were erected.

1907 The building was converted from a patient dormitory ward to a residence for male nurses. Alterations were made to the structure.

1888–1927 The building was converted from a patient ward facility to the Detached Nurses Home and administrative staff residence.

1970 Patients were vacated from all pre-1900 buildings.

1945–1992 Nursing staff was relocated to the east campus and the structure was converted to office space.

2004–2005 Ownership was transferred from the District of Columbia to the GSA in 2004. The structure was stabilized and mothballed by 2005.

---

37 Cultural Landscape Report. Pg. V.2
Figure 6. 1887 construction documents of East Lodge/Detached Nurses Home. Original 1861 structure is depicted on the right side. Source: GSA archives, image DC1338SE0102

Figure 7. 1887 construction documents showing cross and transverse section through new building. Source: GSA archives, image DC1338SE0110.
Figure 8. View from west east of East Lodge/Detached Nurses Home. The 1888 addition is in the foreground, the original 1861 structure is behind it, and the Holly is on the left side, 1905. This is a mirrored image. Source GSA archives, image DC1338SE0P001.

Figure 9. View from the west of the west structure of the East Lodge/Detached Nurses Home. The 1888 addition is in the background on the left side of the image, and Holly is on the right, 1905. This is a mirrored image. Source: GSA archives, image DC1338SE0P002.
Figure 10. 1887 construction documents showing the second floor plan of the East Lodge. Detached Nurses Home. The new addition is on the left and the existing 1861 structure is on the right. Source: GSA archives, image DC1338SE0114.

Figure 11. 1887 construction documents showing the third floor plan of the East Lodge. Detached Nurses Home. The third floor was a new addition on top of the existing 1861 structure. Source: GSA archives, image DC1338SE0101.
Figure 12. View of the interior of the 1888 addition to the East Lodge/ Detached Nurses Home, 1905. The building served female African-American patients. Note the interior finishes and ventilation grilles on the interior wall. Source: GSA archives, image DC1338SE0P004.

Figure 13. Construction documents from 1907 outlining details for a new central staircase. Source: GSA archives, image DC1338SE0103.
Figure 14. Undated plans for all floors of the building, circa 1920. Source: GSA archives, image DC1338SE0113.

Figure 15. View from the southeast, 2002. Note the wood-framed accessibility ramp extending from the door of the east wing and the main entry door constructed at the south facade of the west wing. Source: GSA archives, image DC1338SE0P012.
EVALUATION OF SIGNIFICANCE

Overall Significance

The Criteria for Evaluation for listing on the National Register of Historic Places state:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history. 40

The Criteria for Evaluation for the designation of a National Historic Landmark state:

The quality of national significance is ascribed to districts, sites, buildings, structures, and objects that possess exceptional value or quality in illustrating or interpreting the heritage of the United States in history, architecture, archeology, engineering, and culture and that possess a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to, and are identified with, or that outstandingly represent, the broad national patterns of United States history and from which an understanding and appreciation of those patterns may be gained; or
B. That are associated importantly with the lives of persons nationally significant in the history of the United States; or
C. That represent some great idea or ideal of the American people; or
D. That embody the distinguishing characteristics of an architectural type specimen exceptionally valuable for a study of a period, style or method of construction, or that represent a significant, distinctive and exceptional entity whose components may lack individual distinction; or
E. That are composed of integral parts of the environment not sufficiently significant by reason of historical association or artistic merit to warrant individual recognition but collectively compose an entity of exceptional historical or artistic significance, or outstandingly commemorate or illustrate a way of life or culture; or
F. That have yielded or may be likely to yield information of major scientific importance by revealing new cultures, or by shedding light upon periods of occupation over large areas of the United States. Such sites are those which have yielded, or which may reasonably be expected to yield, data affecting theories, concepts and ideas to a major degree. 41

Various previous studies have considered the historic significance of the East Lodge/Detached Nurses Home. In the National Historic

Landmark nomination, individual buildings on the campus, including the Detached Nurses Home, are designated as Contributing. There is no hierarchy or rating system on this form and the relative significance of individual buildings is not addressed in the text.

The District of Columbia Landmark nomination form indicates buildings as either Significant or Contributing. The Significant category is further subdivided by historic period, with the designation S1 for Nichols, S2 for Godding, S3 for Richardson, and S4 for post-1903. The East Lodge/Detached Nurses Home is designated as S1 in this report, indicating its high individual significance dating to the initial period of construction on the campus under Superintendent Nichols.

The Master Plan uses numerical designations 1 through 6 to indicate the number of categories of significance that pertain to the individual buildings, as noted in the Master Plan Table 4.1. Examples of categories of significance include “Example of Architectural Style,” “Association with Civil War,” and “Rare Survivor in Washington, D.C.” Although these various associations of historical significance are of differing importance, the Master Plan sums the relevant categories that apply to each building to derive a numerical total. In the Master Plan, the Detached Nurses Home is given a 5 designation; note that this numerical designation refers to a quantity of categories rather than a rank of significance,

The findings of the Preservation, Design, & Development Guidelines address and tabulate contributing buildings only. Those buildings not listed in the report are considered non-contributing. The Preservation Guidelines are understood to follow the determination of significance in the Master Plan. The East Lodge/Detached Nurses Home is considered Contributing.

The East Lodge/Detached Nurses Home is significant under National Register Criterion A for its association with the treatment of mental illness on the St. Elizabeths campus.

The Detached Nurses Home is also significant under National Register Criterion C for its architectural design.

The period of significance for the Detached Nurses Home extends to include the 1888 addition.

Character-Defining Features

The following existing exterior and interior elements and features contribute to the historic character of the building.

**Exterior**

- **Walls**
  - Exterior brick and stone masonry
  - Masonry detailing: molded brick string courses and water tables, stone masonry details
  - Cast iron sills and window hoods
  - Wood-framed multi-light windows
  - Wood multi-panel doors

- **Roof**
  - Slate roofing
  - Sheet metal built-in gutters and cornice
  - Sheet metal ventilators

- **Interior**

- **Walls**
  - Plaster finishes, arched plaster openings
  - Wood millwork: window and door surrounds, baseboard, picture rail, built-in cupboards
  - Ventilation grilles
  - Multi-panel wood doors and transoms

- **Ceilings**
  - Plaster finishes and cornice moldings
  - Exposed brick arch floor structure
Other Features

- Iron stair treads and risers; balustrade
- Connection to campus-wide tunnel system

Assessment of Integrity

Assessment of integrity is based on an evaluation of the existence and condition of the physical features which date to a property’s period of significance, taking into consideration the degree to which the individual qualities of integrity are present. The seven aspects of integrity as defined in the National Register Criteria for Evaluation are location, design, setting, materials, workmanship, feeling, and association. As noted in National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation:

Location is the place where the historic property was constructed or the place where the historic event occurred. . . . Design is the combination of elements that create the form, plan, space, structure, and style of a property. . . . Setting is the physical environment of a historic property. . . . Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. . . . Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. . . . Feeling is a property’s expression of the aesthetic or historic sense of a particular period of time. . . . Association is the direct link between an important historic event or person and a historic property.\(^{42}\)

National Register Bulletin 15 defines integrity as “the ability of a property to convey its significance.”\(^{43}\)

The primary historical significance of the Detached Nurses Home is related to the initial development of the St. Elizabeths campus in the middle nineteenth century. The integrity of the exterior facades, the interior layout of primary and secondary rooms, the relationship of the Detached Nurses Home to the Center Building group, and its place within the overall west campus are the most important physical aspects that convey this significance. The discussion below considers each of the seven aspects of integrity as they relate to the Detached Nurses Home.

**Integrity of Location.** The Detached Nurses Home retains a high degree of integrity of location in relationship to its site. The building location and the boundaries of the site are unchanged since the building was constructed.

**Integrity of Design.** The Detached Nurses Home retains high degree of integrity of design. Although the original two-story form of the building was altered with the 1888 addition to the building, this change is considered to fall within the period of significance. The building essentially retains its original organization, and the exterior facades and primary interior spaces reflect their original design. Design changes occurred after the period of significance, including the construction of the fire escape on the north elevation. These changes detract from the original design, but the essential features of the original design can still be perceived in spite of these localized alterations.

**Integrity of Setting.** The Detached Nurses Home retains a moderate degree of integrity of setting. The area surrounding the campus of St. Elizabeths has developed from a rural to an urban location over time. Also, the campus itself retains a fair amount of integrity due to the remaining large open spaces within the campus and the forested bluffs overlooking the river and District of Columbia. Since the Detached Nurses Home is a relatively early building on the campus, its immediate surrounding has changed noticeably as the west campus has evolved. In particular, the addition of Holly (Building 29) and Linden (Building 28) affected the original

\(^{42}\) National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation, 44–45.  
\(^{43}\) Ibid.
setting of the Detached Nurses Home as a somewhat isolated structure on the campus. Also, the campus circulation routes have changed, and the Detached Nurses Home is now more prominent to persons entering the campus than it would have been originally. However, the visual connection between the Detached Nurses Home and the Center Building group is still readily perceived.

**Integrity of Materials and Workmanship.** The Detached Nurses Home retains a moderate degree of integrity of materials and workmanship. Many original exterior materials such as brick and stone have survived in good condition. Historic interior finish materials such as wood and plaster are present throughout the building but are deteriorated in many locations.

**Integrity of Feeling.** The Detached Nurses Home retains a high degree of integrity of feeling. Despite the notable changes to the site and the surroundings, the building still conveys the historic and aesthetic feeling of the period of significance.

**Integrity of Association.** The Detached Nurses Home is significant primarily for its association with the history and initial development and expansion of St. Elizabeths west campus. As a contributing structure in the National Historic Landmark District, the Detached Nurses Home conveys its role in the historic development of treatments for mental illness and retains a high degree of integrity of association.
PHYSICAL DESCRIPTION AND CONDITION ASSESSMENT

OVERALL DESCRIPTION

The East Lodge/Detached Nurses Home is located south of the Center Building group. Holly closely adjoins to the north, Staff Residence No. 3 (Building 27) is located to the east, and Atkins Hall is across Redwood Drive to the south. East Lodge/Detached Nurses Home has a dumbbell-shaped plan, with the rectangular east and west wings connected by a narrow link. The west wing is three stories in height, while the east wing is two stories. On the east side of the east wing and west side of the west wing are projecting bays. The west wing has a central north-south corridor with rooms on both sides, while the east wing has one large main room on each floor with smaller rooms off its west side. The connecting link contains bathrooms and the one stairwell in the building.

The East Lodge/Detached Nurses Home was constructed in two phases. The original building, constructed in the 1850s, was a two-story building, cross-shaped in plan. As seen in historic photographs from the 1860s, the building originally had a crenellated parapet wall, similar to the center building complex. This original portion of the building is the west wing of the existing building. Circa 1887, a two-story addition was built, extending the building to the east and creating the present-day dumbbell plan. At about the same time, a third story was added to the original building. Later changes included construction of a new interior stairwell circa 1907, which apparently included the removal of three original stairwells in the building. An exterior entrance was created on the south elevation of the west wing at a former window opening location, and three other original exterior doors were closed up. Also, a fire escape was added to the north elevation of the west wing.

The west campus of St. Elizabeths houses an extensive network of underground tunnels connecting multiple buildings, and totaling over 3,800 feet in length. The tunnel infrastructure served a variety of purposes, including transporting food and laundry, providing passageway for pedestrians, and housing the complex mechanical and electrical infrastructure of the campus. The tunnels are typically accessible through the basements of the buildings they serve.

The first tunnel network was created during the early development of the campus, prior to 1898, and connects the Center Building with surrounding buildings. This early tunnel system was then connected to a wood shaft transporting steam pipes and electrical conduit from the Boiler House. After the construction of the new Power House, these wood shafts were replaced with concrete tunnels to provide services to the older sections of the hospital. Additional tunnels were constructed during the Richardson expansion era of development on the campus, creating a continuous connection in the south end of the campus between the A, B, C and M Buildings. The Fan House, adjacent to the M Building, served as an exhaust for these tunnels.

The tunnels are typically constructed as brick masonry barrel vaults, although portions of the southern tunnel network are built of brick walls with a flat concrete ceiling. The floors are typically dirt or concrete, and the masonry elements are exposed and either painted or unpainted. The tunnels generally feature a narrow track bed which facilitated the transfer of materials from building to building using small rail cars. There are intermittent vents throughout the tunnels. Full height clearance is not provided.

44 The tunnel system was first documented in a plat map included in the 1899 Annual Report. The elaborate tunnel system linked many of the west campus structures. The 1899 Annual Report requested funds totaling $3,000 for the repair of a collapsed tunnel under the Laundry Building (now known as the Construction Shop, Building 49) caused by a heavy summer rain and subsequent flooding of the tunnel.
in all tunnels due to the presence of suspended pipes. Over the years, some of the tunnel portals have been bricked off, denying access to those portions of the tunnel system.

The tunnel enters the basement of the east half of the building from Holly, located to the north. This branch of the tunnel network originates in the Center Building group (Building 1 through 6) and extends through the basements of Linden and Holly before it terminates at the East Lodge/Detached Nurses Home. A concrete ramp with track starts at basement floor height and descends into the brick barrel vaulted tunnel. The tunnel remains accessible.

**EXTERIOR EVALUATION**

**Description**

**Typical Exterior Materials and Features**

The exterior walls of the East Lodge/Detached Nurses Home are constructed primarily of red brick masonry in a common bond pattern, with headers every sixth course. The first floor level is consistently located several feet above grade. Around much of the perimeter of the building, concrete or brick paving is located adjacent to the building wall. Sandstone masonry is used for basement level window heads and window sills in the west wing; the sandstone has been painted red. Basement level windows in the east wing have flat rectangular cast iron heads and cast iron sills, also painted red. The west wing of the building has a continuous string course of molded brick units, painted red, above the first floor, while the east wing has a continuous painted galvanized metal trim line at the same location with the same profile. Where molded brick courses turn building corners, sandstone units are used to maintain a consistent profile. At the roofline, there is a galvanized sheet metal cornice, painted red. Below the cornice, the frieze zone of brick masonry is also painted red. In the west wing, the frieze zone is defined by a continuous string course of molded brick, painted red. In the east wing, the frieze is defined by a continuous sheet metal cornice with the same profile, also painted red.

The original internal roof drainage system has been abandoned, and non-original prefinished steel downspouts are present throughout the elevations. Generally, these downspouts penetrate the wall below the parapet zone, and are connected by piping inside the building to the original roof drains.

The window openings in the East Lodge/Detached Nurses Home have Gothic Revival-style cast iron hoods and molded cast iron window sills. Most window openings have wood double hung ten-over-ten light sash. At the time of this study, all of the windows and doors of this building were boarded up with plywood; the configuration of the sash were confirmed during the interior investigation but are described as part of the exterior description for simplicity. Many window openings are missing the sash entirely; these locations are noted as part of the interior condition survey.

**North Elevation, West Wing**

The west wing is the right half of the north elevation of the building. The main portion of this elevation has a centered, double window opening at each floor level, including a double window opening at the basement level. Each window opening has paired double-hung windows under a single cast iron hood. In front of these windows, a steel fire escape has been added (Figure 16). The fire escape has a platform below each window sill, supported on decorative wrought iron brackets anchored to the masonry wall. Steel step ladders rise from one platform to the next (Figure 17). The fire escape is enclosed within a steel heavy-gauge diagonal wire mesh security cage, with an exit door at grade level. The enclosure cage is supported on grade but is anchored to the masonry wall.
Turning the corner from the main part of the north elevation of the west wing is an east-facing return wall (Figure 18). The return wall has two window bays, each with a single window opening at each floor level, including the basement.

Perpendicular to the return wall is the last segment of the west wing north elevation. This short wall has a window opening at the first through third floors. An offset in the plane of the wall as well as the change in height of the building from three to two floors marks the joint between the east and west wings (Figure 19).

**North Elevation, East Wing**

The east wing is the left half of the north elevation of the building. The first segment of the elevation is the north-facing elevation of the connecting link (refer to Figure 19). This elevation is two window bays wide. The right hand bay has window openings at the basement, first, and second floors, while the left hand bay has window openings at the first and second floors. Below the first floor window of the left hand bay, a mismatched area of brick shows that this window was originally a door opening from the first floor.

Perpendicular to the first segment is a west-facing return wall (Figure 20). The return wall has two window bays, each with a single window opening at each floor level including the basement. There is a downspout at the left end of this elevation.

Turning the corner from the return wall is the primary north elevation of the east wing (Figure 21). The elevation has a centered, double window opening at each floor level, including a doubled window opening at the basement level. Each window opening has paired double-hung windows under a single cast iron hood.
Figure 19. An offset in the plane of the wall as well as the change in height of the building marks the joint between the east and west wing.

Figure 20. Perpendicular to the first segment of the East Wing is a west-facing return wall.

Figure 21. Around the corner from the west-facing return wall is the primary north elevation of the East Wing.

Figure 22. A door is located on the first floor of the south side return of the projecting volume.

Figure 23. Around the corner of the main part of the south elevation of the east wing is a west-facing return wall.

Figure 24. Perpendicular to the return wall is the last segment of the east wing south elevation.
East Elevation

The east elevation has a center projecting volume. The left (south) side has two window bays; the center projecting volume has two window bays; and the right (north) side has two window bays. Each bay has a single window at each floor level, and a smaller window opening at the basement level. The basement level window sills are nearly level with grade. The north side return of the projecting volume has no openings. The south side return of the projecting volume has a door opening at the first floor level. There are cast-in-place concrete stairs from this door to grade; there is no handrail at the stairs. The door has a flat rectangular cast iron threshold and a flat rectangular cast iron head (Figure 22). There is one downspout at the south end and one downspout at the north end on this elevation.

South Elevation, East Wing

The east wing is the right half of the south elevation of the building. The main portion of this elevation has a centered, double window opening at each floor level, including a doubled window opening at the basement level. Each window opening has paired double-hung windows under a single cast iron hood.

Turning the corner from the main part of the south elevation of the east wing is a west-facing return wall (Figure 23). The return wall has two window bays, each with a single window opening at each floor level, including the basement. There is a downspout at the south end of this elevation.

Perpendicular to the return wall is the last segment of the east wing south elevation (Figure 24). This elevation is two window bays wide. The left hand bay has window openings at the basement, first, and second floors, while the right hand bay has window openings at the first and second floors. Below the first floor window of the right hand bay, a mismatched area of brick shows that this window was originally a door opening from the first floor.
An offset in the plane of the wall as well as the change in height of the building from two to three floors marks the joint between the east and west wings.

**South Elevation, West Wing**

The west wing is the left half of the south elevation of the building. The first segment of the elevation is a narrow, south-facing elevation. This wall has a window opening at the first through third floors.

Perpendicular to the narrow elevation is an east-facing return wall (Figure 25). The return wall has two window bays, each with a single window opening at each floor level, including the basement. There is one downspout at the south end of the return wall.

Turning the corner, the main part of the south elevation of the west wing has a centered, double window or door opening at each level (Figure 26). The second and third floors have paired double-hung windows under a single cast iron hood. The first floor has an exterior door with sidelights and transom set into the former window opening at this location (Figure 27). Exterior limestone steps with limestone side walls descend to grade from the door. No handrails are present.

**West Elevation**

The west elevation of Building 30 has a center projecting volume (Figure 28). The left (north) side of the elevation has two window bays; the center projecting volume has two window bays; and the right (south) side has two window bays. Each bay has a single window at each floor level, and a smaller window opening at the basement level. The basement level window sills are located just above grade. The north side return of the projecting volume has no openings, although a slightly mismatched area of brick indicates the original location of a first floor door opening (Figure 29). The south side return of the projecting volume has a door opening to the basement level. From grade, sandstone steps

---

*Figure 28. View of the west elevation.*

*Figure 29. A slightly mismatched area of brick indicates the original location of a first floor door opening on the north side return of the projecting volume.*

*Figure 30. There is a painted steel guardrail at grade along the side of the well on the west elevation.*
supported on brick masonry descend to the door opening; the stairwell is defined by a brick masonry retaining wall with a sandstone cap. There is also a painted steel guardrail at grade along the side of the well (Figure 30). There is one downspout at the north end of the west elevation.

**Roof**

The East Lodge/Detached Nurses Home has a hip roof covered with slate at both the two-story and three-story portions. Sheet metal copings are used at ridgelines. The perimeter of the roof has a continuous built-in gutter lined with sheet metal; the gutter is integrated with the sheet metal cornice. Rising from each level of the roof are two decorative sheet metal-clad ventilation stacks. There is also a shed dormer on the south face of the west wing roof. The dormer and vent stacks provide ventilation for the building attic. The roof also has a brick chimney at the west face of the west wing roof, and an exterior access hatch at the west face of the east wing roof.

**Exterior Conditions**

Locations of conditions observed are noted on the elevation drawings. Appendix B.

**Masonry**

- Areas of open and eroded brick masonry joints are present throughout the facades. Small isolated areas of brick masonry have been previously repointed (Figures 31 and 32).
- Step cracking of the brick masonry was observed between the windows on the east end of the north elevation (Figure 33).
- Some locations of brick masonry are saturated, possibly due to leakage or overflowing gutters and/or downspouts. Examples include the west courtyard elevation and the east elevation (Figures 34 and 35).
Peeling was typically observed at painted masonry surfaces, which include the frieze zone below the cornice and the string course (Figure 36).

Cracks, spalls, and delamination are present in sandstone units used for basement level window head and window sills throughout the west wing as well as sandstone corner units. Isolated units appear to be face-bedded, resulting in large planar delaminations. Some stone units have been coated and the coating is failing (Figure 37).

Efflorescence is present throughout the facades, most commonly in the frieze zone below the cornice (Figure 38).

Dark staining is present throughout the facades and is most pronounced in the spandrel zone vertically between window openings. Dark staining was also observed under the projecting string course. Examples include the east courtyard elevation and the west elevation (Figure 39).

Organic growth/green staining is present on some areas of the building. This is typical at grade level and was observed on the north, east, and west elevations. Small areas of organic growth/green staining were observed at grade level on the west courtyard elevation (Figure 40).
Ornamental Metals

- The sheet metal cornice includes peeling of the finish layer.
- Galvanized metal trim above the first floor on the east wing was observed to have a peeling finish layer.
- The sheet metal trim and cornice is judged to be in fair condition.
- The existing paint coating of the cast iron window sills and hoods is generally worn, with surface peeling and flaking. Many units have localized surface corrosion at the location of finish deterioration (Figure 41).
- Overall, the cast iron components are judged to be in good condition.
- The metal fire escape on the north elevation has localized corrosion in areas of worn surface finish.

Windows

From the exterior, only plywood board-ups are visible. As viewed from the interior, wood deterioration was observed at window components (sash, frame, sill, and trim). Surface corrosion is widespread on steel window components such as security screens. Many cracked, broken, or missing panes of glass were observed. Sash cords and counterweights are broken or missing, making many windows inoperable. Some original window sash are missing. Original painted interior and exterior window finishes are deteriorated. Overall, the
windows are judged to be in fair to poor condition.

Roofing
Asphalt shingles, brick chimneys, painted wood cupolas

Downspouts and Drainage
The existing downspouts, none of which appear to be original, discharge at grade into high density polyethylene (HDPE) plastic extensions. The water drains onto the site; the grading of the site may not permit proper drainage away from the building in all cases. The downspouts appear to be watertight, with some exceptions such as the south side of the east elevation.

INTERIOR EVALUATION
The East Lodge/Detached Nurses Home is a dumbbell-shaped plan with wide rectangular east and west wings connected by a narrow link. The building has a full basement that extends partially above grade.

The west wing of the building floor plan is a three-story element that is accessed from the exterior at the south end and from the interior through the east-west connecting sub-corridor. The west wing originally housed the majority of the private rooms and also contained associated living support spaces centrally located on the first and second floors: dining room, kitchen, bathroom, and clothing rooms. The primary stairwell for the building is located at the center of the row of rooms along the east side of the west wing.

The east wing of the building is a two-story element that originally housed the community-type living and associated functional spaces of the building and is accessed from the east-west connecting sub-corridor. Occupying two-thirds of the east end of this wing on the first floor is the largest space in the building, the dormitory. The original design drawings included similar dormitories on the first and second floors. Opposite the first floor dormitory, on the west sides of the corridor were the attendant rooms. Completing the east wing of the building at the southwest corner of the wing is a room approximately twice the size of a typical private room in the west wing, which served as the dining room.

Corridors
Figure 42. Key plan of first floor, showing corridors.

Figure 43. Key plan of second floor, showing corridors.

**Description**

Entrance into the building is through room 1005, a small vestibule at the south end of the west wing. The primary entrance per the original design drawings was into the connecting link. Floors are wood tongue-and-groove covered with linoleum, and finished with carpet tiles (Figure 44). The space contains a wood baseboard and plaster walls and ceiling. The entrance door is wood with one large wire glass light over two horizontal panels. Full-height wood-framed sidelights with eight lights each flank the door and there are wood transoms with two lights each above the sidelights and a five-light transom above the door (Figure 45). The interior door is a wood screen door with two vertical lights at the top and bottom and one narrow horizontal light near the middle, and a mail slot. Similar to the exterior door, the interior vestibule door is finished with surrounding sidelights and transoms (Figure 46).
Each floor of the west wing of the building is laid out with a north-south double-loaded central corridor (Figure 47). On all floors the corridors (rooms 1008, 2008, and 3000) provide access into the building’s only stairwell through a door near the center of the east corridor wall. The corridors feature original wood tongue-and-groove flooring covered with carpet tile (Figure 48). The first and second floors have a painted wood baseboard and the third floor has a quarter-round baseboard (Figure 49). The walls are plaster applied directly to the brick masonry wall construction. The tops of the walls are coved above the height of the doors to meet the ceiling on the first and second floors (refer to Figure 47). The ceilings are lath and plaster applied to framing above.

Exposed sprinkler piping and surface mounted electrical conduit are located throughout the west wing corridors, and modern florescent light fixtures are suspended from the ceilings. Gas pipes run from the floor to ceiling at the west wall serving a radiator at the middle of the corridor wall (Figure 50). Air vents are located near the base and the top of the walls throughout the corridors. These vents are typically finished with decorative grilles (Figure 51).
On the west wing first and second floors, the punched door openings leading into the rooms are finished with brown painted wood trim (Figure 52). On the third floor, the punched door openings are cased plaster returns with a round corner bead (Figure 53). There are window openings at the north end of the corridor on all floors and at the south end of the corridor on the second and third floors. These window openings each contain a pair of double-hung wood windows separated by a wide wood mullion (Figure 54). Wood sash are ten-over-ten lights and trim is painted wood. Plywood and metal louvers have been installed on the exterior face of the windows; however, this mothballing and ventilation system is intrusively installed with two wood horizontal boards which brace against the interior face of the window frame that are mechanically fastened (often through lights) to the plywood on the exterior. The first floor windows also have steel diamond mesh security screens installed at the exterior upper sash (Figure 55).
Rooms 1012 and 2012 are transverse sub-corridors along the south wall within the connecting link. They connect the two building wings and provide access to the bathrooms on the first and second floors. Room 1012 has a plywood floor with carpet tiles, a wood base, and plaster walls and ceiling (Figure 56). There are two ten-over-ten double-hung wood windows in the south wall at both levels. There is a new painted steel door within an in-filled arched opening at the west end of the corridor. The door at the east end is an original wood door, typical within the building. Similar to fixtures in the west wing corridor, a modern florescent light fixture hangs from the ceiling. Room 2012 retains original tongue and groove wood flooring that has been overlaid with carpet tiles (Figure 57). Otherwise, it is finished similarly to room 1012.

The east wing is essentially a mirror of the west wing plan shape; however, the floor plans are different. The east wing maintains an open floor plan while the west wing plan is centered on a double loaded corridor. The first floor of the east wing does not contain a north-south oriented double-loaded corridor, as it houses the large open dormitory space. The second floor exhibits modifications to the original plan; its north-south oriented double-loaded central corridor was a late 1880s addition. Partial-height walls were added to form rooms at each end of the corridor. Rooms 2017, 2019, and 2022 comprise the second floor north-south corridor. Walls and ceiling are plaster in this corridor and there is a
crown molding in each room. The east corridor wall and the walls forming the rooms that subdivide the original second floor dormitory were also part of the late 1880s addition (Figure 58).

**Condition Assessment**

- Floors in the primary corridors are in good condition. Carpet tiles have reached the end of their useful life. Some carpet tiles are missing, revealing the original wood tongue-and-groove flooring beneath. The wood shows signs of wear on the surface, but the wood is generally intact without any significant deterioration or splintering (Figure 59). There are some minor localized areas of moisture damage and a few holes in the wood floor. Original wood floors in the connecting corridors are in fair to poor condition, characterized by moisture damage and rot.
- The wood baseboards are predominantly in place and are in fair to good condition. There are minor areas of moisture damage and rotting beneath the windows at the ends of the corridors (Figure 60).
- The wall plaster is typically in fair condition, with widespread loss of paint and finish coat cracking. The base coat remains intact in many regions although there are some minor portions missing, exposing the brick (refer to Figure 60).
- The ceiling plaster on the first two floors of the west wing has been recently skim coated and is in good condition (Figure 61). The third floor ceiling shows more deterioration than the ceilings below, with peeling paint and minor cracks (Figure 62). The ceiling plaster is in good condition in the second floor east wing corridor.
The wood windows are typically in fair to good condition. All but one window maintain their sash. Several window lights are broken, and some lights have been removed to connect the supporting wood planks to the exterior plywood barriers. The wood sash is typically in good condition. The wood trim has widespread peeling paint and the sills are in fair condition, characterized by decaying wood (Figure 63).

Stairwell

Building 30 has one stairwell, located at the center of the row of rooms along the east side of the west wing. It projects outward from the east exterior wall of the wing to join the building’s connecting transverse link. According to archival drawings, this stairwell was designed as a “new stairway” and appears on drawings dated 1907. Originally there were three stairs in the building: a central stair, a stair at the east end which connected the dormitories, and a stair at the west end adjacent to the first and second floor dining rooms. These changes were part of the 1888 building expansion.

The existing U-shaped stair remains in the building as depicted on the 1907 drawings. It extends from the basement through the third floor to the roof and is open in the center of the stairwell. Construction of the stair system consists of tongue-and-groove wood landings

45 1888 construction documents
connected by cast metal treads and risers. Stairwell walls and ceilings are typically finished with plaster. A wide stringer finishes the stair run and obscures the cast metal carriage, treads, and risers. The stringer supports an open square vertical bar railing adorned with symmetrical scrolls and topped with a sculpted wood handhold (Figure 65). There is no opposite/wall-side handrail. Risers are closed with recessed cast metal panels and the treads are grooved (Figure 66). Cast metal newel posts are fluted and are dropped below the carriage soffits (Figure 67). Metal carriage soffits have a painted finish.

Approximately 60 percent of the finish coat of the wall plaster is deteriorated beyond repair and approximately 30 percent of the base plaster coat is heavily deteriorated or missing (Figure 68). The stair elements typically exhibit paint staining and mild corrosion (Figure 69), but are generally sound. Peeling paint is typical at the plaster-finished landing soffits and the undersides of the cast carriages (Figures 70 and 71). Doors openings are located at the southwest and southeast corners of the stairwell; the door at the southwest corner of the stairwell at the first floor is missing. Original doors that remain are in fair to good condition and the remaining stairwell doors are newer painted steel. There are two windows per floor in the stairwell: one in the south wall at the southeast corner of the stairwell space and one in the north wall at the stair landing. The steel windows and wood trim in the first floor stairwell are in fair to good condition. There is one missing sash at the second floor and a few cracked lights.
Figure 68. View of plaster condition in the stairwell.

Figure 69. View of paint staining and mild corrosion typically present on the stair elements.

Figure 70. Example of peeling paint at the plaster-finished landing soffits.

Figure 71. Example of peeling paint at the underside of the cast carriages.

Bathrooms

The bathrooms are identified as rooms 1013, 2013, 2015, 2016.

Figure 72. Key plan of first floor, showing bathrooms.

Figure 73. Key plan of second floor, showing bathrooms.

Description

There are two main bathrooms in the building, located on the north side of the connecting link/transverse corridor on the first and second floors. The second floor bathroom has been expanded to include an adjacent room in the east
wing of the building, room 2015. Room 2015 was originally connected to room 2016 to the north, which also houses a toilet. Rooms 2014, 2015, 2016, and 2023 were originally associated with attendant functions.

The bathrooms have two-inch hexagonal ceramic tile floors and a combination of a six-inch ceramic tile and a painted concrete base. The walls are finished with painted plaster applied directly to masonry structure; ceilings are lath and plaster. Each bathroom has two typical double-hung wood windows with ten-light sash on the north wall. Entrance doors to each room are painted wood vertical board with five-light transoms in wood frames above (Figure 74). Toilet and shower stalls are defined by marble and painted metal dividers; plumbing fixtures are typically original, including a bathtub in the southeast corner of the second floor original bathroom (Figure 75). There is one radiator per bathroom at the north/window wall of the connecting link. The plaster ceiling in the first floor bathroom features exposed water supply and sprinkler piping (Figure 76) where the second floor bathroom ceiling has been refinished (Figure 77).
Condition Assessment

- Bathroom floors are very dirty but are in otherwise in fair to good condition; there is minor cracking of hexagonal floor tiles at the first floor. The ceramic tile base (Figure 78) and concrete base (Figure 79) are in good condition.
- The plaster walls and ceilings are typically in fair to poor condition. Deteriorating and missing finish coat and extensive peeling paint (Figure 80) indicate that the surfaces within these rooms have been exposed to moisture over time (Figure 81).
- Wood doors and transoms are in good condition (Figures 82 and 83). Wood windows are in fairly good condition.

Figure 78. An example of the ceramic tile base which is generally in good condition.

Figure 79. An example of concrete base which is generally in good condition.

Figure 80. View of typical plaster wall and ceiling which showing deteriorating and missing finish coat and peeling paint.

Figure 81. The condition of the plaster indicates that the surfaces within these rooms have been exposed to moisture.

Figure 82. View of typical wood door in bathrooms
Attendant Rooms

Description

Attendant rooms originally lined the west side of the east wing across from the dormitories. On the first floor these included rooms 1014, 1015, and 1017, which remain fairly intact. Attendant rooms on the second floor have been rehabilitated into bathroom annex space (room 2015) and office spaces containing plumbing fixtures (rooms 2016 and 2023).

The first floor attendant rooms typically feature vinyl asbestos tile adhered to wood flooring and wood baseboard throughout. The walls are finished with plaster applied directly to masonry and the ceilings are lath and plaster. Each room has a window in the west wall. The windows are double-hung wood units typical of the building with ten-over-ten light sash and wood trim. Room 1017 has two windows. Doors are the typical vertical board door found elsewhere in the building; entrance doors to these rooms are topped with five-light transoms. All woodwork is typically painted dark brown. There is a radiator at the north wall of room 1014.

Condition Assessment

- The floors are typically in poor condition. Observable wood flooring beneath the adhered tile is severely decayed and rotted due to moisture damage (Figure 85).
- The wood baseboard is missing in some locations and is in fair to fairly good condition elsewhere in these rooms (Figure 86).
Plaster finishes in these rooms are significantly deteriorated due to moisture damage, especially the west and north walls. Figures 87 and 88 showing rooms 1017 and 1014 respectively depict the ongoing moisture damage to plaster wall surfaces. Plaster ceilings have been replaced or skim-coated in rooms 1014 and 1017; however, newer finishes exhibit peeling paint, moisture staining, and mold growth (Figure 89). Large portions of plaster are missing from the north wall and ceiling in room 1015 (Figure 90 and 91). Plaster and wall finishes behind a roof drain pipe in the northwest corner of room 1015 are missing, also due to aggressive moisture intrusion (Figure 92).

The windows are in fair condition: wood heads and sills in room 1017 are in poor condition and the head at the window in room 1015 is also in poor condition. There are several cracked lights in the northernmost window in room 1017. Active leakage was observed at the head of the southernmost window in room 1017 (Figure 93).

The wood doors and transoms located in interior walls are in typically in fairly good condition. Transom lights are often painted over, but other than peeling paint the wood is in good condition.
Closets

Description

The first room to the north upon entering the east wing from the connecting link is a closet, room 1018. For purposes of this report the closet is discussed in conjunction with the entrance corridor to the east wing. The second floor closet, room 2014, retains its original tongue and groove wood flooring and a painted wood baseboard (Figure 95); flooring at the first floor is plywood over vinyl asbestos tile (Figure 96). The closet is enclosed with two wood French doors with eight lights each, flanked by door-height sidelights containing four vertically stacked lights. A continuous horizontal twelve-light transom tops the closet doors/sidelights enclosure (Figure 97). The interior of the closet is finished with painted plaster walls and ceiling and a wood baseboard. Built-in shelves above three drawers fill the interior of the room (Figure 98).

Figure 91. View of ceiling in room 1015 showing portions of missing plaster.

Figure 92. View of missing plaster in northwest corner of room 1015.

Figure 93. Active leaking at the head of the southernmost window in room 1017.

Figure 94. Key plan of second floor, showing closet.

Figure 95. View of original tongue and groove wood flooring and painted wood baseboard in room 2014.
**Condition Assessment**

- The extant historic wood tongue-and-groove floor at the second level is in good condition. Wood flooring at the first floor is obscured by vinyl asbestos tile. The wood baseboard at the first floor closet is in poor condition, with extensive moisture damage and rot.
- The wall plaster in the first floor closet is in worse condition than the plaster on the walls in the upstairs closet, including peeling paint and some deterioration of the -finish coat plaster. Ceiling plaster within both closets is in fairly good condition.
- Millwork in the second floor closet is in good condition. There is a much greater quantity of peeling paint on the millwork and failed finish plaster coat at the first floor closet (refer to Figures 97 and 98). The doors, sidelights, and transoms are in good condition.

**Dormitory, Room 1016**

**Description**

According to the original design drawings, rectangular dormitories occupied the eastern two-thirds of the east wing on both first and second floors of the building. Entrance into the dormitory space from the connecting link is through an arched plaster opening at both levels. The original dormitory space on the first floor remains largely intact; however, the second floor space has been subsequently subdivided into a double-loaded corridor arrangement. Another significant change to the original dormitory wing is the loss of a stair that occupied the rectangular projection at the east end of the building. The stair originally connected the two dormitory levels and exited to the south at the first floor.
The dormitory flooring is currently carpet tiles over vinyl asbestos tile. The room features a wood baseboard. The walls and ceiling are finished with painted plaster and the room features a plaster crown molding. There is a pair of wood windows at the north and south ends of the space and the east wall is lined with six windows, regularly spaced: all are typical double-hung units with ten lights per sash. A diamond wire security screen is typically located on the exterior of the dormitory windows (Figure 100). The original wood vertical board/panel door with five-light transom exists at the south-facing return at the original stair projection (Figure 101). Two continuous rows of fluorescent light fixtures are suspended from the flat plaster ceiling. There are eight original ventilation grilles located near the top and bottom of the west wall (Figure 102) and four radiators within the space. Roof drain piping exists in the southwest corner.

**Condition Assessment**

- The carpet tiles have reached the end of their useful life and the vinyl asbestos tile obscures the wood beneath. Flooring and baseboard are poor condition in the southern-third of the space, and are deteriorated or missing due to moisture damage.
- The wall plaster ranges from good to extremely poor condition. The southeast corner of the room exhibits significant loss of plaster finishes, including wall and ceiling plaster and approximately 20 linear feet of crown molding (Figures 103 through 105).
- Where present, the ceiling plaster is typically in poor condition, with significant cracking of finish coat and extensive mold growth (Figure 106).
- The windows are typically in fair to good condition with the exception of several cracked lights and a few missing security screens. Sash paint is typically peeling and glazing is cracked or missing. The window in the southeast corner of the room is deteriorated beyond repair due to extensive moisture damage and wood decay.
- The wood door, transom, and trim are in good condition (Figure 107).

Figure 103. View of the southeast corner of the room showing the condition of the room.

Figure 104. View of the southeast corner of the room showing the condition of the room.

Figure 105. View of the ceiling in the southeast corner of the room.

Figure 106. View of ceiling plaster which is typically in poor condition.

Figure 107. View of typical wood door, transom and trim.
West Wing Rooms

Description

The west wing houses similar spaces on the first and second floors. Originally the west wing housed private nurses’ rooms, offices, a dining room and private bathroom on the first and second floors, clothes rooms, two stairwells, and an elevator. The third floor, a late 1880s addition to the building, reflects minor changes from the original drawings; walls have been removed to achieve spaces twice the size of those shown on the original plans.

![Figure 108. Key plan of first and second floor, showing west wing rooms.](image1)

Each of the rooms along the double-loaded corridor is entered through a recessed opening with wood casing. The wood doors typically have a vertical board appearance (Figure 109), accompanied by a painted metal mesh in-filled transom that is typically boarded up (Figure 110). The rooms are typically small spaces, except for the rooms in the center of the west side of the corridor, which were the original locations of the dining rooms, a stair, and an elevator/dumbwaiter.

Each room has at least one window; room 1004 has two. Although similar in design to windows in other parts of the building, the majority of the windows in the west wing are ten-over-ten painted steel double-hung units with painted wood surrounds and trim. The floors are typically composed of original wood covered by carpet tiles, accompanied by an eight-inch painted wood base (Figure 111). The walls and ceilings are finished with painted plaster; wall plaster is applied directly to the brick surface, while at the ceilings plaster is applied to lath which is attached to the framing above. The east-west walls typically cove to meet the ceiling (Figure 112). The rooms have one decorative metal grille that previously supplied heated air via shafts built into the masonry wall from steam radiators in the basement; some rooms have a second grille/vent that allowed stale air to be exhausted upward to the attic (Figure 113). The design of the vent grilles varies slightly from room to room (Figure 114 through 116). A radiator exists in room 2002; radiators are more common in the third floor rooms. Surface mounted conduit and sprinkler systems exist in most rooms, in addition to either a surface mounted or suspended florescent light fixture (Figure 117). Many second floor rooms feature wood shelves (Figures 118 and 119).

![Figure 109. View of typical door in the west wing.](image2)

![Figure 110. View of a typical painted metal mesh in-filled transom.](image3)
Figure 111. View of typical floor condition showing the original wood flooring covered by carpet tiles.

Figure 112. View of east-west walls which typically cove to meet the ceiling.

Figure 113. View of decorative grilles in the west wing.

Figure 114. An example of one grille design.

Figure 115. An example of one grille design.

Figure 116. An example of one grille design.


**Condition Assessment**

- Tongue-and-groove floors that remain are typically in fair to good condition, with isolated areas of poor condition. The carpet tiles and vinyl asbestos tile obscure the majority of original tongue-and-groove flooring.

- The wood baseboard, where present, is typically in fair condition. There is a significant amount of missing and severely deteriorated baseboard toward the southeast corner of the west wing. Baseboard in rooms at the north end of the wing has extensive peeling paint and areas of rot.

- The wall and ceiling plaster is in poor condition at the north end (Figure 120) and southeast corner of the west wing, including large sections of failed ceiling plaster (Figure 121). Plaster surfaces elsewhere are in fair to good condition. A large portion of the plaster finishes on the third floor are newer (Figure 122).

- The steel window sash are typically in fair condition, with cracked and deteriorated paint, corrosion, and several cracked lights. Glazing is typically cracked or missing.

- Doors are typically in fair to good condition, although remaining transoms are typically boarded up. Door surrounds and trim are in fair to good condition with some missing sections of trim, impact damage, and minor rot.
East Lodge/Detached Nurses Home (Building 30)
Historic Structure Report
March 12, 2010
Page 55

East Wing Rooms

Description

Rooms 2018, 2020, and 2021 were part of the originally-designed dormitory; changes were made to this space in the late 1880s at the same time improvements and additions were being made to the west wing; these rooms thus generally share similar architectural elements, features, and finishes with the dormitory below. However, at this floor, original wood doors have been replaced with new flush wood doors; original five-light transoms typically remain (Figure 124). There is a suspended ceiling just above the height of the window head trim in room 2020. Windows are the typical ten-over-ten double-hung wood sash with wood trim. There is a picture rail in room 2023 (Figure 125). A total of four radiators remain between the three rooms.

Figure 121. View of a large section of failed ceiling plaster.

Figure 122. An example of newer plaster finished on the third floor.

Figure 123. Key plan of second floor, showing east wing rooms

Figure 124. View of original five-light transom in the East Wing.

Figure 125. View of picture rail in room 2023.
Condition Assessment

- The floors, walls, and ceilings are typically in fair to good condition, except in the areas noted above at opposite (northwest and southeast) corners of the east wing. (Figure 126).
- The southeast corner of the wing has suffered extensive moisture damage (similar to the floor below), resulting in complete loss of plaster finish at walls and ceilings (Figure 127). There are missing sections of crown molding in rooms 2020 and 2021.
- Wood window conditions range from poor to good. There are several broken or cracked lights and the wood surrounds and sills are moisture laden near the south end of the wing.

Basement

The East Lodge/Detached Nurses Home includes a full basement. The basement is connected to the third floor via the main stair. Finish flooring includes concrete slab on grade, brick, and dirt flooring. Herring-bone brick pattern flooring exists in the east wing (Figure 129). Basement walls are typically painted brick with the majority of the paint finish soiled, peeling, or missing (Figures 130 and 131). Finish ceilings include from painted concrete and steel, lath and plaster (Figure 132 and 133), and gypsum drywall attached to wood framing. Several original wood doors remain in the basement (Figures 134 and 135). Other historic features of interest include off-set brick arches in a series (Figure 136), a north-south drainage trough in the concrete floor along the east north-south wall in the east wing (Figure 137), and a tunnel from the northwest corner of the east wing that leads to Holly and Linden. As the basement is largely a utility area, there are exposed piping, conduit, and mechanical equipment and systems throughout (Figure 138). The basement receives fresh air through what were originally masonry window openings that have been infilled with open concrete blocks and sealed with steel mesh (Figure 139).

The basement finishes are typically in extremely poor condition as a result of ongoing exposure to wet conditions. There is standing water on the floors in the majority of the rooms; all ferrous metals have, at a minimum, widespread surface corrosion (Figures 141 and 142); extant wood windows, doors, and trim are soft and largely completely decayed, and remaining ceiling
finishes are deteriorated beyond repair and harbor extensive mold growth (Figures 142 and 143). Masonry bearing walls are subject to ongoing rising damp (Figures 144 and 145).

Figure 129. View of herring-bone brick pattern flooring that exists in the basement of the east wing.

Figure 130. Typical basement walls conditions.

Figure 131. Typical basement walls conditions.

Figure 132. View of lath and plaster ceiling in basement.

Figure 133. View of painted concrete and steel ceiling in basement.

Figure 134. View of the typical conditions in basement.
Figure 135. View of original wood door that remains in the basement.

Figure 136. View of offset brick arches.

Figure 137. View of north-south drainage trough in the concrete floor along the east north-south wall in the east wing.

Figure 138. View of exposed piping, conduit, and mechanical equipment and systems that are located throughout.

Figure 139. View original masonry window openings that have since been infilled.

Figure 140. View of typical condition of basement finishes.
Figure 141. View of widespread surface corrosion evident throughout the basement.

Figure 142. View of poor ceiling condition seen throughout the basement.

Figure 143. View of poor ceiling condition seen throughout the basement.

Figure 144. View of typical masonry bearing walls which are subject to ongoing rising damp.

Figure 145. View of typical masonry bearing walls which are subject to ongoing rising damp.
STRUCTURAL EVALUATION

Description

The East Lodge/Detached Nurses Home, originally constructed in 1861 and expanded in 1887, is a brick masonry structure with wood framed floors and roofs. The existing building has a dumbbell-shaped plan, as shown in Figure 146, and has a two-story section to the east connected by a two-story link to a three-story section to the west. The building has a brick masonry foundation and basement throughout. The basement beneath the two-story portion provides direct access to the below grade rail system on the campus. As shown in the overall view of the building provided in Figure 147, a slightly different brick color is present on the third floor of the west section and on the two-story portion, which were the later additions to the original structure. Schematic drawings with observed structural conditions are included in (Appendix C) of this report.

Walls and Floors

The East Lodge/Detached Nurses Home has load bearing masonry walls and wood framed floors and roof assemblies in both the two-story and three-story sections. The exterior walls are composed of clay brick masonry laid in a common bond pattern with a header course located every sixth course. The brick units are generally 8-1/4 inches long. The structural systems are similar between the two-story and three-story building sections and are as follows.

The three-story west wing is generally rectangular in plan, measuring about 34 feet east to west by 53 feet north to south. The structure has primary supporting walls that are generally arranged in a tripartite organization, with a central corridor measuring approximately 9 feet 6 inches wide that runs north to south, and lines of rooms flanking the corridor on the east and west sides that are approximately 9 feet 7 inches deep. The exterior walls and corridor walls are typically 13-1/2 and 18 inches thick respectively. The corridor walls include

Figure 146. Overview plan of the East Lodge/Detached Nurses Home.
continuous chases that functioned as part of the original gravity fed forced air heating system. The secondary walls located between adjacent rooms are typically 9 to 10 inches thick with two wythes of masonry and are supported by arches that span between the corridor and exterior foundation walls. The floor framing in the corridor includes 2-3/4 inch wide by 9 inch deep joists spaced about 15 inches on center that span east to west between the corridor walls. The floor joists in the side rooms are of similar size and span north to south between secondary walls on the first floor level, and span east to west on the second and third floor levels. The floor assembly also has a counter floor consisting of wood fillets secured to the sides of the floor joists that support wood planks and a gypsum based fill material (Figure 148).

The two-story east wing is generally a rectangular building that measures approximately 34-1/2 feet wide east to west by 54 feet north to south, and is attached to the three-story section by a link that is approximately 20 feet wide and that extends roughly 23 feet between the two-story and three-story sections. The rectangular section has three primary load bearing walls including the east and west exterior walls and an interior wall that is about 20 feet from the east wall. These load bearing walls continue through to the basement foundation (refer to Figure 146). The north and south exterior walls are the primary load bearing walls for the link. The exterior walls are 18 inches thick at the link and the rectangular portion. The interior load bearing wall is also 18 inches thick and includes chases for the heating system similar to those described for the three-story section. Secondary walls located between adjacent rooms are typically 9 to 10 inches thick with two wythes of masonry, and bear on arches that span between the interior and exterior foundation. The floor framing has 2 inch wide by 12 inch deep joists spaced about 15 inches on center that span east to west in the rectangular portion and north to south in the link. The floor framing on the west portion of the link near and extending into the three-story section has been altered at the first, second, and third floors to provide for a new metal stair, which extends from the attic above the three-story portion to the basement. This floor and adjacent bathrooms (located within the link) currently have a cast-in-place concrete floor system at the first and second floors.

**Roofs**

Three separate hip roofs are located over the three-story, two-story, and link sections of the building. The attic space above the three-story section roof is accessible by a stair that continues up from the metal stair discussed above. The attic space above the two-story section and link are accessible from a ceiling hatch in the second floor closet located in the two story section. Each of the hip roof
assemblies is composed of stick framing that bears on short stud walls secured to the exterior masonry walls around the building perimeter. The studs are 2 inch by 4 inch members that are aligned with the rafters and bear on continuous wood sill plates over the ceiling joists. Diagonal wood braces are face nailed to the sides of the stud walls that engage the ceiling joists at an approximately 4 foot spacing. Additional interior wood supports consisting of 3 inch by 8 inch beams on 3 inch by 4 inch posts spaced about 4-1/2 feet apart are provided at the larger roof areas. Schematic roof framing plans for these roofs are included in the Appendix B. The rafters support wood plank sheathing (about 1 inch thick) and slate shingle roofing. Internal downspouts located at building corners drain the perimeter box gutter system. The roof framing above the two-story and three-story sections has a slope of approximately 25 degrees and has 2 inch wide by 8 inch deep rafters spaced 24 inches on center. The roof framing above the link has rafters of a similar size and spacing sloped approximately 20 degrees. The ceiling joists over the third floor and second floor areas follow the same size and spacing patterns as the floor joists (Figures 149 through 154).

Figure 149. View of roof framing above the two-story east wing.

Figure 150. Views of roof framing above the two-story east wing.

Figure 151. Views of roof framing above the two-story east wing.

Figure 152. Views of roof framing above the connecting link.
Condition Assessment

Observed conditions of the building structure are noted on inspection sheets included in Appendix C, and are summarized below.

Wall Assemblies

The existing masonry walls are in fair to poor condition. Isolated areas of distress were noted at various locations in the building that correspond with downspouts located at building corners. As part of a previous repair, internal drains have been rerouted to exterior downspouts, several of which have active leaks. The following items were observed with regard to the masonry structure within the two-story and three-story sections.

- The brick masonry foundation walls were generally intact and in sound condition with only minor areas of eroded and deteriorated mortar.
- The exterior masonry walls viewed from grade were in fair conditions with no evidence of settlement or significant structural distress observed. Only isolated areas of mortar and brick deterioration were observed.
- A steel framed fire escape located on the north elevation of the three-story portion is in fair to poor condition. The fire escape is generally intact, although isolated areas of corrosion exist and hand railing attachments were observed to be loose. The fire escape includes a metal screen enclosure. This enclosure is loose at the upper floor levels and has become partially detached from the building.
- Significant moisture seepage was present throughout basement areas under the link and three-story building section. The basement floor of the three-story section is paved with bricks that are concealed with a layer of wet mud/clay. After a heavy rain during the inspection (about 1.66 inches based on available weather data for December 11, 2008), standing water was present throughout the basement of the link and three-story section (Figure 155).
- Radiator equipment and piping was still in place at the base of the interior primary load bearing walls beneath the three-story section of the building (Figure 156).
Figure 155. View of standing water present in basement.

Figure 156. Radiator equipment and piping are still in place at the base of the interior primary load bearing walls beneath the three-story section of the building.

Figure 157. View of arches below the three-story building section.

Figure 158. View of arches below the three-story building section.

Figure 159. View of location where original masonry wall once stood. Circled portion designates roughened wall surface where original masonry was removed.

Figure 160. The rail line accesses the two-story section at the basement level through the west side of the north elevation.
The brick masonry walls and arch assemblies were in fair to poor condition throughout the basement level. Several holes have been created through arch assemblies to accommodate piping and have weakened the arch assemblies. Partial views of the arches beneath the three-story building section are shown in Figures 157 and 158.

Evidence of rising damp was visually apparent throughout portions of the basement. Applied coatings were peeling and mortar erosion was observed on the lower sections of the walls.

The new concrete floors at the modified stair and adjacent bathrooms within the two-story link have been constructed such that they bear on the north exterior wall of the link and what appears to be an added interior brick masonry wall. The newer wall is generally intact with no evidence of significant deterioration observed.

The removal of an original brick masonry wall through the height of the building link is visually apparent when viewed in the basement. This wall in question originally served as part of the heating supply system for the 1887 expansion, and was apparently removed during the installation of the concrete floor systems for the bathrooms on the first and second floors. (Figure 159)

The rail line accesses the two-story section at the basement level through the west side of the north elevation (Figure 160). The masonry walls within this portion of the basement are in fair condition with similar distress patterns as described above. The rail line runs to the north of the building through a brick masonry vault. The masonry vault near the building was generally intact, as shown in Figure 161.

The masonry walls within the upper floor levels were generally in fair condition with the plaster finishes intact. However, areas of delaminated plaster wall finishes were located near failed roof drain locations at several locations. Active water leaks were observed at these locations during the inspection. Figure 162 shows damaged wall finishes located in the southeast corner of the main floor level of the two-story section. Figure 163 shows active water damage in the southeast corner at the second floor level of the two-story section.
Plaster wall finishes were water damaged along the east wall of the three-story portion that adjoins the link. This water damage corresponds to the roof framing over the link on the opposite side of this wall, indicating leaks within the roofing system (Figure 164).

Interior walls were observed to be intact with no significant damage or distress other than peeling paint. Isolated secondary walls were observed to have been removed from the third floor level as part of older building modifications. These walls were not load bearing assemblies and their removal has not been detrimental to the building structure.

The interior primary bearing walls of the buildings that served as part of the heating system terminate at the top floor ceiling joist levels in both the two-story and three-story building sections. The chases that run through these walls are open to the attic, as shown in Figures 165 and 166.

Floor and Roof Framing

The wood framing is in fair to poor condition throughout the building. Isolated portions of the wood framed floors have been provided with temporary shoring and additional locations have experienced advance decay and insect damage resulting in localized collapses and deterioration. The roof framing is generally intact; however, isolated areas of water damage and termite damage were observed. The following
conditions were observed regarding the wood framing:

- The basement floor level beneath the three-story section included pavers on grade with no wood framing. Basement floor materials in the link and two-story sections include concrete or masonry.

- Floor framing at the first floor level was observed to be in fair to poor condition. Plaster finishes that had been in place in the basement ceiling have fallen away in large sections, which is attributed to long term moisture damage. The general extent of damaged plaster ceiling is shown in Appendix C.

- Severe decay and localized floor collapses were observed at building corners that correspond with roof drain locations. In the southwest corner of the three-story portion, temporary shoring has been installed in the basement to support the main floor as seen in Figure 167. Similar distress in areas that have not been shored was observed at the main floor level of the two-story building in all four building corners.

- Extensive decay and insect damage is located in the first floor framing at the link. At this location the 2 inch by 12 inch floor joists were cut back to accommodate the new concrete floor in the adjacent bathrooms and consequently they only span about 4-1/2 feet. The existing flooring system is completely deteriorated and in need of replacement (Figure 168). Similar distress exists at the second floor level within the same part of the link. This portion of the floor at the link generally corresponds with a roof valley located above. Based on the deterioration of the plaster ceilings and floors that continues throughout the various floor levels of the building at this location, it is likely that water infiltration at breaches in the roofing systems has contributed to this damage.

- The concrete floor landings and metal stair structures are intact with no significant cracking or evidence of distress observed at the first, second, and third floor levels.

- The concrete floors within the bathrooms located in the link at the first and second levels are intact, with no significant distress observed.

- The wood floor framing at the second and third floor levels is generally intact with no significant deterioration or distress observed, with the exception of areas near roof drains and within the link as described above.

- The majority of the roof framing is generally intact; however, evidence of decay and insect damage was observed at isolated locations within the attics of both the two-
story and three-story sections. This damage generally corresponds with malfunctioning roof drain assemblies and leaks along the box gutter assembly. The majority of the rafters are in serviceable condition.

- An active leak was observed at the southeast corner of the building within the attic (Figure 169) and evidence of additional water infiltration was observed within the roof framing over the building link (Figure 170).

*Figure 169. View of an active leak visible in the southeast corner of the attic of the building.*

*Figure 170. Evidence of additional water infiltration was present within the roof framing over the building link.*
MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS EVALUATION

Description

Mechanical Systems

The centralized coal-fired steam heating system from the Power House (Building 56/57) fed steam to the East Lodge/Detached Nurses Home through insulated cast iron pipes that are located in a subterranean tunnel that enters the building from the north at basement level.

The original indirect heating system is still in place in the basement, although it has been abandoned for some time. Individual indirect radiant radiators are set within cavities of the interior masonry bearing walls and are encased in either rectangular or cylindrical sheet metal housings (Figures 171 and 172). Separate vertical air ducts are provided in the hallways and within most rooms near the ceiling. Exhaust air grilles are provided near the floor and are vented via ducts into the attic (Figure 173). Input and exhaust vents are capped with cast iron grilles.

The heating system was retrofit with direct hot water radiation utilizing cast iron radiators of which there are numerous styles (Figures 174 though 176). Natural ventilation was provided through operable windows and louvers in the attic. A single electric space heater was observed suspended from the ceiling of one of the offices of the second floor.

Electrical, Plumbing, and Life Safety Systems

The East Lodge/Detached Nurses Home was served by a 2000A, 208Y/120V electrical switchboard located in the basement. The main switchboard feeds individual panelboards located throughout the building (Figure 177). Utilities entered the building through the basement tunnels (Figure 178).

Plumbing supply and waste is composed of cast iron pipes and fittings with some additions in polyvinyl chloride (PVC).

The building is not supported by a life safety generator; however, wall-mounted unit battery packs were installed throughout the building to function as emergency lighting in the event of a power outage (Figure 179). The building is monitored by a fire alarm panel (Figure 180). The building has no sprinkler system.
Figure 173. View of the heat registers in the hallway. The upper cast iron grills supply heat from the basement and the lower grills exhaust air into the attic space where it finds its way outside.

Figure 174. Two pipe hot water radiators.

Figure 175. Two pipe hot water radiators.

Figure 176. Two pipe hot water radiators.

Figure 177. One of the electrical panelboards in the basement. These are typically in poor condition.

Figure 178. Utility supply through the tunnels in the basement.
Figure 179. Emergency battery fed lighting in the hallways and stairwells.

Figure 180. Outmoded fire alarm system in the basement.

Condition Assessment

Mechanical Systems

The existing hot water piping and radiators are in poor condition. The air handling units are typically in fair condition but are likely outdated.

The electrical switchboard has suffered water damage and appeared to have been stripped of all of its individual components. The other panelboards appear to be more than twenty to thirty years old, are severely corroded, and are in extremely poor working condition.

The plumbing supply and waste system is in poor condition.
RECOMMENDATIONS FOR TREATMENT

HISTORIC PRESERVATION OBJECTIVES

The U.S. National Park Service has developed definitions for the four major treatments that may be applied to historic structures: preservation, rehabilitation, restoration, and reconstruction. The four definitions are as follows:

**Preservation** is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

**Rehabilitation** is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

**Restoration** is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

**Reconstruction** is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. The treatment rehabilitation has been designated for the buildings at St. Elizabeths west campus, given their historical significance and planned repair and alteration for compatible reuse. The Secretary of the Interior's Standards for Rehabilitation are as follows:

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

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

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

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

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

6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the

---

46 The Secretary of the Interior’s Standards for the Treatment of Historic Properties.
new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.

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

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

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

10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.47

**REQUIREMENTS FOR WORK**

**Guidelines and Standards for Treatment**

Guidelines and requirements for treatment have been defined based on the preservation objectives outlined above for St. Elizabeths west campus. All treatment guidelines and recommendations were developed in accordance with the Secretary of Interior’s Standards for Rehabilitation. GSA has indicated that the buildings will be repaired and adapted for continued use as part of a comprehensive work effort for each building, therefore prioritization or phasing of specific repairs is not required for purposes of this study. However, should phasing of work be required, the basic requirements outlined below are presented in general order of descending importance.

Because the buildings are currently accessed by representatives of GSA and the user agencies, as well as consultants to the GSA and members of the design teams, it is important to note that potential safety hazards (such as deteriorated floor systems) do exist and that structural stabilization may be required as work on the buildings proceeds.

**Guidelines for Prioritization of Work**

Based on the condition assessment performed as part of the Historic Structure Report/Building Preservation Plan study, the following general prioritization is indicated for anticipated work on the subject buildings. Depending on the sequence and phasing of work, several of these categories of work (e.g., exterior envelope weatherproofing and modifications for reuse) may be performed simultaneously.

1. Structural Stabilization. Implement structural stabilization repairs as needed to address structural deficiencies and unstable conditions, such as repairs to deteriorated floor systems.

---

47 Ibid.
2. Exterior Envelope Weatherproofing. Perform exterior repairs to prevent water infiltration and deterioration of building envelope materials, and to address conditions that may lead to continued deterioration and loss of historic fabric. These types of repairs include closure of openings in walls and roofs, repairs to roofing and flashings, masonry repairs, and window and door repairs.

3. Modifications for Reuse. Perform repairs and modifications to the building interior and systems to permit reuse as offices and for related support functions. These types of repairs and modifications include work required to meet code, for disabled access, for egress, for structural capacity upgrades, to rehabilitate interior finishes, and to provide new mechanical, electrical, and plumbing systems to permit building occupancy and reuse.

4. Cyclical Inspection and Maintenance. In addition to the specific repairs recommended, cyclical maintenance tasks such as inspection, painting of exterior wood and metal elements, pointing of mortar joints in brickwork (long-term), replacement of joints sealants, and other ongoing maintenance tasks must be continually implemented to avoid damage to the historic building fabric and to reduce the need for large-scale repair projects in future.

All work performed on the subject buildings should be documented through notes, photographs, and measured drawings and/or sketches, or with as-built annotations to construction documents at project completion. These records should be permanently archived as a record of the buildings prior to adaptive reuse, for future reference, and to provide information for future maintenance of the buildings. In addition, these records will allow future observers to identify which materials are historic.

2008 Preservation Guidelines

The St. Elizabeths West Campus: Preservation, Design, & Development Guidelines were developed to provide guidance for the present and future stewardship of the National Historic Landmark and to assist in the preservation of the historic resources and overall character of the historic site. The guidelines, using the Secretary of the Interior’s Standards as a foundation, provide general guidance for anticipated modifications such as rehabilitation of the historic buildings and landscape, placement and design of new construction and landscape features, and proposed new access roadways.

The guidelines are intended to be neither technical nor prescriptive. Specifically, the Preservation, Design, & Development Guidelines note that the guidelines have been prepared to assist in applying the Secretary of the Interior’s Standards to specific project work, are not intended to provide case-specific recommendations, and “cannot, in and of themselves, be used to make essential decisions about which features of the historic buildings and landscapes should be saved and which can be altered.” Instead, the guidelines are intended to provide philosophical consistency for the work as well as guidance during the design process, prior to treatment.

The St. Elizabeths West Campus: Preservation, Design, & Development Guidelines provide the following general treatment standards for the buildings of the west campus:

**Building Treatment Standards**

The West Campus contains a variety of architectural styles ranging in age from the early 1850s to the 1940s. It is critical that rehabilitation retain the integrity and historic fabric of the buildings. The building

---

treatment standards expand upon the Secretary of the Interior’s Standards for Rehabilitation. Building specific preservation treatment zones and preservation priorities will be established by the Historic Structure Reports or Historic Building Preservation Plans which will be prepared for each building.

1. All work on historic buildings and structures will be undertaken in accordance with the Secretary of the Interior’s Standards.

2. Minimum alteration will be made to the historic buildings, structures or site to meet current use and code requirements.

3. Deteriorated building fabric will be repaired rather than replaced. When material deterioration prohibits repair, replacement materials shall match the original in material, color, and texture.

4. Rehabilitation work will retain original windows, window openings, doors and door locations.

5. All work will be designed and executed in a manner that minimizes damage to or removal of character defining elements or significant fabric of the building, structure or setting.

6. All exterior work will be executed in a manner that minimized damage to significant landscapes or site features adjacent to the building or structure.

**Interior Treatment Standards**

There are spaces, materials and details at the interior of the buildings that are significant and character defining. The character defining spaces, materials and details will be determined by the Historic Structure Report or Historic Building Preservation Plan prepared for each structure. Rehabilitation of the interiors of the historic buildings requires new uses that will be compatible with existing space configuration, that can utilize identified restoration zones of the building and that will limit the need to alter or remove the significant interior spaces or materials. The character defining spaces, materials and details and the sense of time and place associated with the interior must be preserved and respected.

1. Proposed design and new uses will integrate and preserve the original interior plan configuration, spaces, features, and finishes.

2. All work will be executed in a manner that retains and does not damage interior features, finishes and original room configuration.

3. Proposed design should include original stairs and their historic configuration, including decorative elements.

4. Proposed design will retain significant features of original mechanical systems.

5. Rehabilitation of the building interiors will avoid subdividing the interior rooms, removing original partitions or altering the floor to floor heights.

6. Design will avoid installation of dropped ceilings or mechanical equipment that will result in the damage or covering of original ornamental moldings and ceiling details or that will intrude on window heads.

7. New design will avoid the removal of original plaster and wood trim from traditionally finished surfaces.

8. Rehabilitation procedures will avoid using destructive methods to remove coatings from historic features.  

The guidelines listed above should be considered in light of the overarching guidance provided by the Secretary of the Interior’s Standards; the stated intent of the *Preservation, Design, & Development Guidelines* as discussed above; and the specific recommendations generated by in the Historic Structure Reports/Building Preservation Plans, which respond to the findings of a comprehensive building-specific significance and condition assessment study.

---

49 Ibid., I-7.
Preservation Zoning

The General Services Administration uses Building Preservation Plans and Historic Structure Reports to provide guidance in accommodating new requirements and building user needs while preserving each building’s unique historic character. The technique of “preservation zoning” is used by the GSA to establish a hierarchy of significance for categorizing exterior and interior areas of each building to guide the long-term preservation approach for individual spaces and for the building as a whole.

Preservation zoning is based upon archival research to understand the chronology of the development of the building, an evaluation of the significance of individual spaces, identification of original features that may be obscured by later alterations, and documentation of existing conditions. Zoning guides the development of specific recommendations for the short and long term care of the building. Of particular importance for historic public buildings is the sequence and character of public spaces such as entrances, lobbies, corridors, and stairways that lead from the exterior to more private interior spaces. (These characteristics are present in some of the St. Elizabeths west campus buildings, although other campus buildings are less hierarchical in organization.) Adjoining interconnected spaces are typically assigned one zone to maintain their character as a continuous suite. Exterior zones include visible roofing as well as associated landscape and site features. Flat or very shallow pitched roof areas not visible from grade are considered separately.

The identification of significant features is an important component both in understanding the overall significance of the building and in defining preservation zoning. National Park Service Preservation Brief 17: Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character describes a process for identification of significant features of historic buildings to assist in understanding their character and recommending appropriate treatment approaches.50

Although evaluation of historic integrity is related to the determination of preservation zones, it is common for spaces in public buildings to have been altered to some extent. These alterations do not prevent a space from being designated as restoration or rehabilitation, as long as the essential form or character is sufficiently intact to make restoration or rehabilitation practical. Preservation zoning is primarily intended to define a future treatment approach. Common alterations to interior finishes, such as the introduction of carpet over original flooring or the addition of suspended ceilings below original plaster ceilings, do not prevent a space from being designated for restoration or rehabilitation.

The GSA has defined three categories of preservation treatment zones: restoration, rehabilitation, and renovation. This hierarchy reflects the relative architectural importance and public visibility of the building’s exterior and interior spaces. The GSA has provided the following guidelines for designation of building elements, and spaces as restoration, rehabilitation, or renovation zones:

**Restoration zones (Zone 1)** typically include primary facades and their settings, landscaped courtyards, public lobbies, corridors, stairways, original elevators, courtrooms, hearing rooms, other ceremonial spaces, libraries, executive suites and restrooms retaining historic ornamental finishes such as marble partitions, structural glass and porcelain pedestal sinks. These spaces merit retention of their original materials and features and restoration to remove inappropriate alterations such as suspended ceilings and reinstall missing

---

features such as period lighting that contribute significantly to the historic character of these spaces.

Rehabilitation zones (Zone 2) generally include most of the tenant spaces where alterations have occurred but significant original materials remain (i.e. windows, trim, doors, plaster walls, etc.) even if some features, such as lighting, have been removed or ceiling volumes obscured by suspended ceiling. Spaces merit a rehabilitation zoning if their historic configuration remains essentially intact and they contain historic materials or architectural features worth preserving. To establish the goal of preserving original materials within these spaces in a major modernization or upgrade, these secondary spaces must be designated rehabilitation zones.

Renovation zones (Zone 3) are typically limited to attics, basements, utilitarian spaces, and areas which have been so altered that no original material remains. These non-significant spaces may be demolished in their entirety, as long as the alterations do not adversely affect adjoining rehabilitation or restoration zone spaces. Alterations to ceilings, walls, doors and other features adjoining rehabilitation or restoration zones, such as changes along a building perimeter, must be undertaken in a manner that preserves the appearance and integrity of adjoining significant spaces. Examples of such approaches include configuring suspended ceilings to preserve the full height of the windows as seen from the outside of the building.  

Restoration zoning indicates that a space will be restored to its original materials and architectural character. Restoration may also imply that the original use of the space will be continued. Contemporary interventions are minimized.

Rehabilitation zoning allows greater flexibility to accommodate new uses while retaining character-defining features and materials. Some alterations and interventions are allowed.

Renovation zoning implies either that few if any original materials or features survive intact or that the particular space does not contain distinguishing materials or features. Spaces zoned as renovation can be freely altered to suit contemporary needs.

Diagrams illustrating the recommended zoning for the Detached Nurses Home are provided below as Figures 181 through 185.

**Zone 1 – Restoration**
The building massing and all exterior facades of the East Lodge/Detached Nurses Home are designated Zone 1. The exterior facades are significant in that they convey the historic appearance and character of the East Lodge/Detached Nurses Home. Significant features of the exterior facades include the exterior brick and stone masonry, original windows and doors, and sheet metal trim. The sloped slate roof with ventilation stacks is also a highly visible and significant feature of the exterior. No interior spaces are designated Zone 1.

**Zone 2 – Rehabilitation**
Spaces designated as Zone 2 include most interior rooms of the first through third floors, except for utilitarian and service spaces, which are designated as Zone 3, Renovation (see below). The interior rooms of the East Lodge/Detached Nurses Home contain some historic features and finishes, but are not of primary significance in the context of the St. Elizabeths west campus. Significant features of these spaces include original windows and doors, plaster finishes and moldings, and wood trim. For the Zone 2 interior spaces, historic elements should be retained where present, but modifications may be appropriate, including removal of partial or entire walls and the introduction of new interior openings.

---

51 Preservation zoning guidelines, correspondence to the authors from Caroline Alderson and George Siekkinen, GSA, February and May 2009.
Zone 3 – Renovation
Spaces designated as Zone 3 include the interior of bathrooms and the entire basement level. These spaces are utilitarian spaces that do not contain significant historic features or finishes.
Figure 181. Basement floor plan of the Detached Nurses Home showing preservation zoning.

Figure 182. First floor plan of the East Lodge/Detached Nurses Home showing preservation zoning.

- Zone 1: Restoration
- Zone 2: Rehabilitation
- Zone 3: Renovation
Figure 183. Second floor plan of the East Lodge/Detached Nurses Home showing preservation zoning.

Figure 184. Third floor plan of the East Lodge/Detached Nurses Home showing preservation zoning.
Figure 185. Attic floor plan of the East Lodge/Detached Nurses Home showing preservation zoning.

- Zone 1: Restoration
- Zone 2: Rehabilitation
- Zone 3: Renovation
RECOMMENDATIONS

Recommendations have been developed as part of the Historic Structure Report/Building Preservation Plan study based on information gathered through the historical and architectural significance evaluation and existing conditions assessment. These recommendations address structural stabilization and safety, repair measures to address existing deterioration, and restoration of missing or deterioration historic features as appropriate to the specific building under consideration. As noted above, the recommendations have been developed in accordance with the Secretary of the Interior’s Standards for Rehabilitation, with consideration of the general guidance provided by the Preservation, Design, & Development Guidelines.

The recommendations provided in the Historic Structure Reports/Building Preservation Plans are provided for reference by the project team during developing of the rehabilitation design for each building. As part of the rehabilitation design process, consideration should be given to code and life safety issues (e.g., accessibility, egress, etc.), security issues (e.g., ballistic window treatments), and energy performance issues (e.g., window performance), as well as other issues related to building performance and adaptive reuse. Selection, design, detailing of specific modifications required to meet these issues as well as to address program requirements are part of the rehabilitation design scope of work.

Many of the specific recommendations provided below have been developed to address existing deterioration of the subject buildings. In general, deterioration is primarily related to water infiltration through the exterior envelope. Sources of water infiltration include roof leaks and deficiencies in flashings at building interfaces, as well as leakage through deteriorated masonry and at window and door perimeters. In addition, interior materials including wall and ceiling plaster and finish flooring are deteriorating as a result of moisture from condensation. Although temporary moisture louvers and electric solar powered fans are provided in the building, inadequate ventilation as a result of window closure (board-ups), together with lack of heat and air movement, is contributing to this condensation problem.

Also, as with many of the subject buildings, deterioration has resulted in numerous safety hazards. On the building exterior, loose or displaced masonry and roofing elements are a potential safety hazard. On the building interior, one safety hazard is the presence of broken glass in numerous windows. Another example is the spalled and failing ceiling plaster, and loose or detached light fixtures, piping and conduit, and other overhead and wall-mounted appurtenances.

The building exterior should be rehabilitated, guided by the exterior appearance of the building as it existed following the construction of the addition in 1888. Minor alterations to meet contemporary functional needs and code requirements may be required, such as the provision for a historically sensitive, fully accessible exterior entrance path.

The treatment approach for interior finishes will depend upon the final programmed use of each space, the final plan layout for the interior of the building, and the need to install new mechanical and electrical systems. The determination of specific treatments for each room or space will require consideration not only of existing conditions but also of programmatic and functional needs. In some locations, the appropriate approach may vary from one wall of the space to another. The building contains a number of non-original partition walls. These partition walls are of lightweight construction and cannot be reused even if the proposed new use requires a similar room layout; therefore, all of these partition walls should be removed. Original partition walls should be retained where the space layout is compatible with the new use of the building.
Similarly, repairs and modifications to the building structural systems are in part dependent on the specific uses of the interior spaces. The structural recommendations presented below include short term measures needed to address issues related to safety and stability, and long term measures needed as part of overall building rehabilitation.

Specific recommendations for exterior and interior materials and features and building structural systems are presented in the following sections.

**Exterior**

**General**
- Work should be performed in accordance with the *Preservation, Design, & Development Guidelines*.
- Prior to undertaking rehabilitation of the building, the existing and historic spaces, materials, elements, and systems should be documented with HABS-quality drawings and photography.
- Depending upon a review of code requirements for the new use of the building, consideration should be given to removing the existing exterior fire escape.

**Roofing, Downspouts, and Drainage**
- A close-up inspection of the roof should be performed. Where broken, missing, or cracked units are observed, localized replacement of individual slate shingles should be performed using replica units matching the dimensions, profile, color, texture and reflectivity of the original units.
- In order to implement recommended structural repairs or structural upgrades required by the new use of the building, it may be necessary to remove some portions or all of the existing slate roofing system in order to access the roof structure. During this work, intact existing slate shingles should be salvaged for reinstallation. Following any structural repair or strengthening, new or salvaged slate shingles should be installed over appropriate new underlayment, incorporating new copper flashings and other accessories matching the original roofing materials and design.
- The existing built-in gutter system at the roof perimeter should be retained. Appropriate flashing and waterproofing details are required.
- All existing external downspouts should be replaced with new functional internal leader piping. The design of the internal leader piping will require coordination with design of the new plumbing system and the new site drainage system. Consideration should be given either to connecting the internal leader piping to new campus storm sewer systems or designing an appropriate discharge at grade.
- The existing grades, slopes, locations of impervious paving, and site drainage provisions at the building perimeter should be reviewed, particularly as relates to the drainage of water from downspouts or drain piping and the protection of the basement level from water infiltration. Appropriate drainage away from the building foundation should be ensured.

**Masonry**
- Isolated cracked or severely deteriorated areas of brick masonry should be rebuilt using replica brick units that match the dimensions, color, and texture of the original units as well as their physical properties such as compression and absorption. It may be possible to salvage a closely matching brick from another building on campus or a minimally visible area on the same building.
- Poorly matched previous repairs or non-original masonry infill should be rebuilt using replica brick units that match the dimensions, color, and texture of the original units. If the existing materials are similar in size, texture, and quality of workmanship but a mismatch in color, consideration could
be given to applying a masonry stain to achieve a better visual blend between the original and non-original units.

- Consideration should be given to performing physical testing of brick masonry units to determine the compressive strength and absorption of the existing brick. The results of this testing can be used to guide selection of replacement brick units and to assist in designing a repointing mortar.

- Cracked and deteriorated mortar joints should be repointed with new mortar appropriate to the existing substrate and historic appearance. The deteriorated mortar should be removed to a depth equal to twice the width of the joint, or deeper as necessary until sound mortar is encountered. Various mortar removal tools and techniques should be considered in field trials to ensure that the adjacent masonry is not damaged during joint preparation. Compatible new mortar should be installed in the properly prepared joints and tooled to a concave profile.

- Based on the limited analysis performed as part of this study, the original mortar was likely the original mortar on the original building is likely a hydraulic lime (or possibly natural cement) sand mortar. A Type K mortar (specified by proportions, typically 1 part cement to 3 parts lime to 12 parts sand) should be considered for repointing and repair of the brick masonry of the original building. Based on the limited analysis performed as part of this study, the original mortar on the east addition is likely a hydrated lime sand mortar. A lime putty/sand mortar (typically 1 part lime putty to 2-1/2 parts sand) should be considered for repointing and repair of the brick masonry of the east addition. The new repointing mortars should be tinted with non-organic pigments to match the color of the original mortar.

- The exterior masonry should be cleaned to remove general soiling, organic growth, efflorescence, and corrosion staining. The purpose of cleaning is to remove deleterious contaminants, provide a clean substrate for performance of repairs, and improve building aesthetics. The cleaning products or system should be selected based on field trials. The gentlest system that is effective in removing soil without damage to the substrate should be selected. Products and chemicals that are damaging to the building materials or harmful to persons or the environment should not be used.

- The use of clear, penetrating sealers for masonry is not recommended. Sealers are not a substitute for masonry repairs and repointing and are not reversible once applied.

- Non-original and non-functioning conduit, signage, anchors, mechanical fixtures, and attachments on the masonry facades should be removed. Individual masonry units that have been damaged by former anchors or inserts should be repaired or replaced as described above. Existing anchors with the potential to corrode in the future must be removed in their entirety, not simply cut flush with the wall surface. During facade repairs, consideration should be given to removing the existing coating from masonry. Further investigation and evaluation of the masonry should be conducted subsequent to coating removal to identify any conditions previously concealed beneath the coating that may require repair or maintenance, to provide an appropriate substrate for repairs, and to identify deteriorated mortar joints requiring repointing. Assessment of hazardous material content of the existing coatings is outside the scope of this study but should be completed prior to coating removal. Based on a review of archival photographs, it appears that the coating was applied to the brick masonry of the frieze zone within the period of significance of the building. Therefore, a new, breathable coating intended for use on masonry should be applied, matching the historic coating color.

**Metal Elements**

- Existing paint coatings should be stripped from the cast iron facade elements, and the
The existing wood windows should be repaired. Where decay is limited or localized, repair the wood element using compatible fill materials. The wood surface should be prepared by removing all decayed material, and all cracks and voids should be filled to re-create the original profile. Where decay in a particular element is extensive, consideration should be given to splicing in a new replica wood element matching the original configuration and profile. Where deteriorated beyond repair, refer to recommendations for missing window units. Window joinery should be reinforced as needed.

- Interior and exterior window surfaces should be stripped of paint, sanded as needed to prepare the surface, primed, and painted. Colors for exposed coatings should be selected based on sampling of intact original coatings and review of archival photographs.
- Where glass is cracked or missing, new glass should be installed that matches the dimensions, thickness, color, and reflectivity of the original glass.
- Consideration should be given to improving the weather resistance of the existing windows by recaulking, reglazing, and installing new weatherstripping as necessary.
- Missing window units and isolated individual window units that are too severely damaged to be repaired should be reproduced in the same materials as the original, using extant elements of other original windows to inform the dimensions, profiles, and finishes of the replica units.
- The existing wood exterior doors will require wood repairs and recoating similar to the work performed at the windows. Some existing wood exterior doors will require partial replacement of deteriorated wood elements such as the lower stile. The damaged original element should be removed and a new component spliced in that matches the original in dimension, profile, and if possible, wood species.

**Interior**

**Flooring**

- The existing carpeting and vinyl tile flooring in all rooms is too deteriorated for reuse and should be removed and discarded.
- The existing subfloor or other materials below the existing carpeting and/or vinyl tile flooring should be inspected and repaired if required. In some locations, original hardwood finish flooring may be present below later non-original floor finish materials. Since it is an original and character-defining material, consideration should be given to salvaging the hardwood flooring. Repairs such as replacement of individual damaged or missing floorboards with like material and refinishing and recoating would be necessary.
- Since it is an original and character-defining material, consideration should be given to salvaging existing ceramic tile floor finishes for reuse.

**Plaster Finishes**

- Where minor deterioration such as isolated cracking or minor delamination of plaster finishes exists, the existing plaster finishes should be repaired in place by filling cracks or damaged areas with compatible new materials.
- Where moderate deterioration including loss of the finish plaster coat exists, the plaster should be repaired in place by applying a compatible new plaster finish coat.
- Where substantial deterioration including significant delamination or loss of plaster exists, or where the underlying wood framing or brick masonry structure has been saturated with moisture due to roof leakage
or other water infiltration, the existing wall finish materials will require replacement with appropriate new finish materials.

- Where structural repair or strengthening of the underlying brick masonry or wood framing is required, the plaster finishes should be removed to allow for the structural repair. Following structural repairs or strengthening, appropriate new wall finish materials should be installed.
- Decorative plaster including crown molding at wall/ceiling interfaces and arches should be repaired and replicated where missing.

**Interior Paint**

- Due to high humidity in the building, large areas of the existing interior paint coatings have debonded or are cracked, even in locations where the underlying substrate is intact. Therefore, all interior areas will require scraping/sanding to remove loose and debonded paint. Containment of lead-containing paint fragments must be considered.
- Prior to removing existing paint, representative samples of intact paint should be collected and studied as a record of historic finishes and colors. Primary interior spaces that may historically have contained decorative treatments should also be documented prior to repainting.
- The exposed substrate should be primed using primers recommended for the material to be painted. In rare cases, the existing paint may be sufficiently intact and well bonded to the substrate that overcoating can be considered.

**Interior Doors**

- Original wood interior doors in the building should be salvaged for reuse, if possible in their original locations.
- Existing interior doors should be stripped of paint. The historic stained and clear coated finish should be restored.
- Where required to replace missing or heavily deteriorated interior doors at existing door openings, new interior doors should be provided, using intact existing interior doors to guide dimensions, profiles, materials, and finishes.

**Millwork**

- Original door and window surrounds and other wood trim should be salvaged for reuse.
- Existing interior millwork should be stripped of paint. The historic stained and clear coated finish should be restored.
- Where required to replace missing or heavily deteriorated millwork, new wood millwork should be provided matching, based on the design of original millwork in the building and finished to match the historic appearance.

**Ornamental Metalwork**

- Where historic interior metal components such as ventilation grilles are present, these components should be stripped of all paint, primed, and recoated with a new rust-inhibitive coating system.
- Since it is an original and character-defining feature of the building, the existing staircase should be retained and restored. The metal surfaces should be stripped of existing coatings, prepared, primed and repainted.

**Structure**

The two-story and three-story structures that comprise the East Lodge/Detached Nurses Home are in fair condition. The wall, floor, and roof structures are generally intact; however, isolated areas of deterioration require repairs to restore the structure to sound and usable condition. The methods utilized to restore this building structure will be in part contingent upon the specific uses for the spaces. The following remediation treatments have been developed for short term and long term restoration.
Short Term Remediation

- Access to the building should be restricted until long term remediation procedures have been implemented. In addition, access to fire escape should be restricted.
- Gutters and downspouts should be repaired and water shedding characteristics of the building improved. The roof should be repaired at areas of active leaks.
- Roof drains should be rodded out and water directed away from building. As the repair work is implemented, basements should be monitored so that any additional water seepage or infiltration can be addressed as needed.
- Supplemental shoring should be provided at partially collapsed floors at corners of building as described above.
- Building ventilation should be improved. More louvers should be introduced within enclosed window openings. The addition of strategically placed exhaust fans with humidistats should be considered to help control interior humidity levels.
- Existing shoring and bracing systems should be monitored on a regular basis.

Long Term Remediation

- Piping should be removed at improper penetrations though masonry arches. Masonry walls and arch supports at the base of the building should be systematically repaired with compatible materials. This work will require temporary shoring and bracing of existing arches to enable the facilitation of proper repairs.
- Deep pointing operations should be performed with compatible materials within exposed portions of brick foundations and interior masonry walls within the basement that have been affected by rising damp.
- Based on site monitoring of the existing basement seepage, a properly detailed drain tile system and sump pump should be installed. The installation of vapor retarders should also be evaluated at that time.
- Existing wood floor framing throughout the first floor of the building should be systematically removed and replaced with properly designed and detailed assemblies. The disposition of floor framing at the second floor level is contingent upon long term building use and load requirements. If it is determined that the existing wood floor systems will suffice, only isolated repairs at the active building leak locations would be anticipated. Floor repair work will require partial rebuilding of the masonry walls at the floor lines to ensure proper support at the beam pockets, and will need to be coordinated with temporary stabilization/shoring assemblies.
- Partial rebuilding of the roof framing should be performed. This work should include selective replacement of decayed roof decking and rebuilding of isolated portions of decayed and insect-damaged box gutter assemblies. This work should also include a review of anticipated roof live loads and incorporation of proper reinforcing as required.
- The fire escape should be repaired if needed for proposed building use.

Mechanical, Electrical, and Plumbing

All steam and hot water piping in the building should be removed or abandoned in place. All radiators should be removed as well. The individual space heater should also be removed. An appropriate new heating, ventilating, and air conditioning system for the building should be designed and installed.

Due to the existing conditions of the building, the electrical equipment has been exposed to heat, humidity, and dirt build-up over a prolonged period of time. This exposure caused corrosion on the contact surfaces and severely compromised the operating mechanisms of the circuit breakers within the equipment. As a result, the operation and functionality of the overall equipment have been adversely affected and the equipment has been rendered unfit for
reuse. The existing service switchboard, distribution panels, and panelboards should be removed completely and replaced with new equipment. All new electrical equipment should be located in dedicated electrical closets. The existing lighting should also be removed. Modern lighting control technology and equipment will be required to serve any new lighting design for the space.

It would be preferable for the building to receive an incoming medium voltage feed directly from the electrical utility company (PEPCO); however, this should be confirmed. Both 208/120V and 480/277V electrical service should be available to feed the building loads, as larger mechanical loads are commonly served at 480V. If this direction is pursued, a new 480V pad-mounted transformer should be supplied by PEPCO. New 480-208/120V step-down transformers will be required and should be placed in dedicated electrical closets strategically located within the building.

Plumbing is generally unusable as it would not be feasible to return it to service without incurring numerous water leaks and frequent maintenance.

The existing fire alarm panel has been exposed to heat and humidity over a significant duration of time. This exposure is harmful to the electronic components within the fire alarm panel and thus negatively affects its potential for reuse. The existing panel should be removed and replaced with an appropriate new fire alarm system.
BIBLIOGRAPHY


Correspondence and Promotional Literature Relating Primarily to the Selection of Hospital Sites by the Federal Board of Hospitalization, 1928–1943. Accessed at the National Archives Building, Washington, D.C.; Records of St. Elizabeths Hospital, Record Group 418.


*Hearings before Subcommittee of U.S. Congress, House Committee on Appropriations in Charge of Sundry Civil Appropriations Bill for 1901.* House Committee on Appropriations, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.


*Maps and Plans of the Government Hospital for the Insane (St. Elizabeths Hospital), 05/27/189–12/14/1938.* Department of the Interior, St. Elizabeths Hospital (1916-06/30/1940). Accessed at the National Archives at College Park, Maryland; Records of St. Elizabeths Hospital, Record Group 418.


*Photographs of Structures at St. Elizabeths Hospital, Washington, DC, 1968.* Department of Health, Education, and Welfare, Public Health Service, Health Services and Mental Health Administration, National Institute of Mental Health, St. Elizabeths Hospital,
Office of the Superintendent (04/01/1968–07/01/1973). Accessed at the National Archives at College Park, Maryland; Records of St. Elizabeths Hospital, Record Group 418.


*Specifications for the Erection and Completion of Building “A” for the Government Hospital for the Insane*, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

*Specifications for the Erection and Completion of Building “B” for the Government Hospital for the Insane*, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 5.
Specifications for the Erection and Completion of Building “C” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of Building “E” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of Building “J” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of Building “K” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of Building “L” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of Building “M” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of Building “Q” for the Government Hospital for the Insane, Shepley, Rutan, and Coolidge, June 17, 1901. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 4.

Specifications for the Erection and Completion of the Assembly Hall for the Government Hospital for the Insane, Sunderland Brothers, May 25, 1907. Accessed at the National Archives at College Park, Maryland; Records of the Secretary of the Interior, Record Group 48, Box 10.


*Topographical Map of the Site and Lands of the Government Hospital for the Insane near Washington, D.C.* Surveyed and Drawn by Frank S. Eastman, Civil Engineer. 1873. Accessed at the National Archives at College Park, Maryland, Cartographic and Architectural Drawings Division; Records of the Secretary of the Interior, Record Group 48.


The collection contains various topographical maps and site plans for the District of Columbia and St. Elizabeths campus from 1855–1985. Some of the maps are accessible online at [http://memory.loc.gov/cgi-bin/map_item.pl?data=/home/www/data/gmd/gmd385/g3852/g3852s/ct002086.jp2&style=gmd&itemLink=?ammem/gmd,klapmap,ww2map,:@field(NUMBER+@band(g3852s+ct002086))&title=[Maps%20of%20Saint%20Elizabeths%20Hospital,%20Washington%20D.C.]%20%20Nichols,%20sup't%20%20surveyed%20by%20John%20M.%20H.%20Walter,%20arch't%20%20ground%20plan%20designed%20by%20C.H.%20Nichols,%20sup't](accessed on February 16, 2010).

The collection houses the records of the Olmsted Associates (Series B, Job Files) as well as the Charles H. Nichols Papers. For the purposes of this study, a cursory review of archival material in this collection was performed to identify relevant documents.

The repository houses a large selection of annual reports from 1854–1866, 1871–1872, 1890–1903, 1915–1932, and 1946–1952. Additionally, the library has copies of the reports of the Special Committee on Investigation of the Government Hospital for the Insane from 1906 and 1926. Some of the resources have been digitized and are available for download. An extensive review of these materials was performed for this study.

National Archives Building, Washington, D.C.
Record Group 418: Records of St. Elizabeths Hospital. The repository provides a free publication entitled the Preliminary Inventory of the Records of St. Elizabeths Hospital which is a detailed inventory of documents contained within the National Archives of the United States as of August 21, 1978, Record Group 418: Records of St. Elizabeths Hospital. The National Archives Building in Washington, D.C. contains the Letters of Inspection from the Board of Visitors, historical data files relating to initial development of the campus, and detailed records from subordinate units relating to the preparation of the Superintendent’s annual report. Much of the material is handwritten and provides extensive information regarding maintenance and repair on the west campus. Record Group 418 is a large collection of materials from which WJE was able to review all of the available photographic and cartographic documents as well as the textual files deemed most relevant to the scope of the project (approximately one-third of the narrative documents in the collection).

Record Group 42: Records of the Office of Public Buildings and Public Parks of the National Capital. For purposes of this study, WJE completed a cursory survey of relevant entries in this record group. Significant references to St. Elizabeths Hospital were not identified in the materials reviewed.

National Archives at College Park, College Park, Maryland
Record Group 418: Records of St. Elizabeths Hospital. The repository provides a free publication entitled the Preliminary Inventory of the Records of St. Elizabeths Hospital, which is a detailed inventory of documents contained within the National Archives of the United States as of August 21, 1978, Record Group 418: Records of St. Elizabeths
Hospital. The National Archives at College Park contains hundreds of archival photographs of the west campus dating from the 1890s through the 1960s. The photographs are divided into three collections: 418-G, 418-H, and 418-P, which contain images of the campus, building exteriors, building interiors, and campus life. Some of the archival photographs have been digitized and are available for download. Many of the images are duplicates of those available through the General Services Administration archive. In the Cartographic and Architectural Division of the library there is a collection of site plans and drawings of the hospital dating from 1856 through 1939. Record Group 418 is a large collection of materials from which WJE was able to review all of the photographic and cartographic documents as well as the textual files deemed most relevant to the scope of the project (approximately one-third of the narrative documents in the collection).

Record Group 48: Records of the Secretary of the Interior. Extensive information on St. Elizabeths Hospital is available through Record Group 48, Entry 300, Boxes 1 through 15. The resource can be viewed at the Textual Documents Division of the library and provides detailed information pertaining to early twentieth-century development on the campus. This collection includes unique archival photographs, extensive specifications, and detailed correspondence with contractors relating to the construction of the lettered buildings and Hitchcock Hall. An extensive review of the materials was completed by WJE for purposes of this study.

St. Elizabeths Hospital Database
Compiled under the direction of the General Services Administration, the digital database contains more than 1,300 archival photographs, construction documents, and sketches of St. Elizabeths west campus structures, features, and landscapes. The collection is organized by building and includes plans and elevations signed by Charles Nichols and Thomas U. Walter from 1860, Civil War era photography, an extensive array of photographs from 1890 to 1905, documentation from the 1945 Public Building Administration survey, campus improvement plans from the 1950s, archival photographs from the 1960s, and a photographic survey of buildings done by Dr. Jogues Prandoni in 2002. All images are saved as TIF files. An extensive review of the materials was completed by WJE for purposes of this study.

St. Elizabeths Hospital Health Sciences Library
The Health Sciences Library is located on the St. Elizabeths Hospital east campus and houses a large scale model of the St. Elizabeths campus as it appeared in 1976. The library collection also contains a bound copy of the 1945 Public Building Administration survey, an extensive collection of annual reports, a full archive of the Sun Dial, the Elizabethan, and the St. Elizabeths Reporter—the St. Elizabeths Hospital newsletter—and hospital management plans from the 1970s and 1980s. Available photographs are of a candid nature and document campus events and ceremonies. The collection contains extensive documentation of the people who resided and worked at the St. Elizabeths Hospital during the late twentieth century. WJE completed a cursory survey of the archive with extensive review given to archival photographs and master plan documents.
American Institute of Architects/American Architecture Foundation Archive

The collection is currently temporarily being held at the American Institute of Architects headquarters building in Washington, D.C. The materials were recently transferred to the stewardship of the General Services Administration and are being catalogued and conserved for inclusion in an exhibit at the National Building Museum. The collection consists of drawing files and textual documents. The drawings are organized by building and include an assortment of plans and elevations, including some plans of the Center Building by Thomas U. Walter and renderings of other west campus buildings and additions from the 1860s to the 1930s. There are seven boxes of textual records dating from 1900 to the 1970s. The collection includes correspondence, news articles, scrapbooks, annual reports, specification books, and a small assortment of government documents. For purposes of this study, WJE reviewed the entirety of the textual files and approximately half of the drawing collection.
APPENDICES

Appendix A – Existing Conditions Drawings
Appendix B – Structural Framing Plans
Appendix C – Copies of Selected Archival Documentation
Appendix D – Materials Studies
APPENDIX A – COPIES OF SELECTED ARCHIVAL DOCUMENTATION
EAST LODGE
BUILDING NUMBER 30
NURSES' HOME
ERECTED 1861-1887

SOUTHWEST SIDE

Three Stories, Basement and Attic.
Two  "     "

<table>
<thead>
<tr>
<th>EXTERIOR</th>
<th>Material</th>
<th>Condition</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Walls</td>
<td>Brick</td>
<td>Good</td>
<td>No Change</td>
</tr>
<tr>
<td>Walls Above Grade</td>
<td>Wood</td>
<td>Poor</td>
<td>Major Repairs</td>
</tr>
<tr>
<td>Windows and Doors</td>
<td>Slate</td>
<td>Good</td>
<td>No Change</td>
</tr>
<tr>
<td>Roof</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTERIOR</th>
<th>Material</th>
<th>Condition</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floors Generally</td>
<td>Wood</td>
<td>Fair</td>
<td>Minor Repairs</td>
</tr>
<tr>
<td>Walls and Partitions</td>
<td>Plaster</td>
<td>Good</td>
<td>No Change</td>
</tr>
<tr>
<td>Ceilings</td>
<td>&quot;</td>
<td>&quot;</td>
<td>&quot;</td>
</tr>
<tr>
<td>Sash, Doors and Trim</td>
<td>Wood</td>
<td>Fair</td>
<td>Minor Repairs</td>
</tr>
</tbody>
</table>

MECHANICAL NOTES
Facilities fairly adequate and fairly appropriate.

RECOMMENDATION
Retention subject to possible development of comprehensive replacement plan for station.
# ST. ELIZABETHS INVENTORY - WEST CAMPUS

**Date of Survey:** October 1990  
**Record Created:** January 21, 1991  
**Record Updated:** January 14, 1992

**Historic Name:** East Lodge  
**St. Ex Bldg. No:** 30

**Other Names; Ward Names:** Detached Nurses

**Multiple Name:** Government Hospital for the Insane (Saint Elizabeth Hospital)

**Location:** 2700 Martin Luther King Jr., Avenue, S.E., Washington, D.C. 20032

**Acreage of Project Area:** 189 acres  
**Ownership Status:** Federal

**Contributing:** Yes  
**MOA Protection:** Yes  
**1985 Survey Status:** Long form

**Superintendent for Design:** Charles H. Nichols, William W. Godding  
**Year Built:** 1861, 1887

**Architect:** Thomas U. Walter  
**Engineer:** Not known  
**Cost:** Not known  
**Builder:** Not known

**Building Typology:** Kirkbride/Lodge

**Purpose Built Function:** Detached hospital ward for Black female insane

**Historic Uses:** Hospital ward for Black female insane, dormitory for male nurses (1907)

**Present Uses:** Offices  
**Square Footage:** 15,059

**Architectural Style:** Collegiate Gothic  
**Number of Stories:** 2; 3 story addition

**Foundation Material:** Brick  
**Wall Materials:** Brick

**Window Configuration:** 10/10, 6/6  
**Roof Type:** Hipped  
**Roof Material:** Slate

**Structural System:** Masonry bearing wall

**Porches or piazzas:** No  
**Visible Additions:** Yes  
**Tunnel:** Yes

**Part of Larger Building:** No  
**Other Components of Bldg:** N/A

**Alterations:** Plan of 1861 building has been substantially altered; three story addition constructed in 1887, linoleum flooring or carpeting installed throughout; acoustic tile ceiling installed in several locations in 1861 building

**Condition:** Good

---

*Source: 1993 Historic Resources Management Plan, Building Inventory*
Threat: Some deteriorated plaster, functional obsolescence, transfer of property

Distinguishing Architectural Features: The detailing of the East Lodge and its 1887 rear addition maintain the Collegiate Gothic style of the Center Building. The building features a brick water table, a molded belt course between the 1st and 2nd floors, rusticated sills with diagonal incising, label molds with decorative stops, and a full entablature with a plain frieze. The hipped roof is surmounted by rectangular vents with finials. There are side lights and transoms around the door. Comparison with early plans shows that the floor plan of the original portion of the East Lodge has been altered, probably in 1907 after the Richardson expansion; the plan of the 1887 addition is largely intact. Interior features include decorative ventilation grates, cast iron stairs, 4-panel doors below multiple light transoms, recessed bead mold, picture rails, crown molding, cove ceilings, baseboards, and simple wood door and window frames.

Areas of Significance: Health/medicine, architecture, ethnic heritage

Significant Persons: None known

Significant Events: None known

Comments: The East Lodge is one of the most significant buildings at St. Elizabeths and was designed as part of the original Charles H. Nichols/Thomas U. Walter scheme. The East and West Lodges were built so that St. Elizabeths could accommodate blacks. At the time the Lodges were designed, only Eastern State Hospital in Virginia made any provision for the black insane. The West Lodge (for black men) was demolished in the 20th century.

Previous Documentation on File at National Park Service: NR, NHL

Original Plans & Drawings: Plans - St. Es Museum; Misc. drawings - St. Es Collection; Alteration plans - National Archives

Old Photographs & Views: 418-P-303, 418-P-827, Glass Negatives - National Archives; 12359-10 F - LC

Archival Sources: 1860 AR, 1887 AR, 1889 AR

USGS: Alexandria Quadrangle, Anacostia Quadrangle Scale: 1:24000

UTM Coordinates of Project Area:

Zone/East/North: Southwest Corner: 18/325920/4302090
Zone/East/North: Northwest Corner: 18/326200/4302090
Zone/East/North: Northeast Corner: 18/326770/4302450
Zone/East/North: Southeast Corner: 18/326740/4301630


Photographs: Attached Roll Number/Frame Number 3/12, 15; 6/6-20; 18/18

30.DOC3/13/91

Source: 1993 Historic Resources Management Plan, Building Inventory
Source: GSA archives, image DC1338SE0105.

Source: GSA archives, image DC1338SE0P005.
SECRETARY OF THE INTERIOR.

The erection and occupancy of a lodge for colored insane is believed to be the first and only special provision for the suitable care of the African when afflicted with insanity which has yet been made in any part of the world.

Source: 1855 Annual Report, 885

GOVERNMENT HOSPITAL FOR THE INSANE.

The lodge for colored females will be completed before the close of the present building season, and the balance of appropriations for the eastern sections of the hospital edifice expended before the expiration of the present fiscal year.

Source: 1860 Annual Report, 530

SECRETARY OF THE INTERIOR.

The confident expectation is entertained that the interior of the lodge for colored females will be finished, the lighting, heating, bathing, and closet fixtures introduced complete, and the very desirable separation, in different buildings, of the colored men and women, who now occupy different stories of the same building, effected before the close of the present building season.

Source: 1860 Annual Report, 543

REPORT OF THE GOVERNMENT HOSPITAL FOR THE INSANE.

HOME FOR MALE NURSES.

The work of remodeling the old east lodge building for use as a nurses’ home for male nurses is now in progress. As the work proceeds it appears evident that this building is going to be very satisfactory for the purpose intended. It will accommodate in the neighborhood of 50 nurses, and the night nurses will have a good location in one-half of the building, which has been extended so that there is a third floor. There will be a general assembly room downstairs, and the building will be well equipped with closets and bathrooms.

Source: 1907 Annual Report, 429
APPENDIX B – EXISTING CONDITIONS DRAWINGS
APPENDIX C – STRUCTURAL FRAMING PLANS
LEGEND FOR STRUCTURAL DISTRESS

- **Temporary Level 1 Joist Replacement**
- **CMU Infill and Backup**
- **Evidence of Water Damage to Plaster Ceiling**
- **Iron Beams with Concrete Slabs**
- **Level 1 Joist Span Direction**
- **Crack in Masonry/Concrete**
- **Internal Downspout**
Building 30- Roof Framing Section Above Third Floor

2X8 HIP RAFTERS SPACED AT 24" O.C. WITH 25 DEGREE SLOPE (TYP.)

2X4 KNEEWALL ASSEMBLY (TYP.)

2X8 RAFTERS SPACED AT 24" O.C. WITH 25 DEGREE SLOPE (TYP.)

STAIR ACCESS TO LEVEL 3

SECONDARY KNEE WALL AT QUARTER POINT OF RAFTER, CONSISTS OF 2X4 CAP MEMBER, SET ATOP 3X3 POSTS WITH IRREGULAR SPACING (ROUGHLY 4'-0" O.C.) RAFTERS NOTCHED TO ENGAGE CAP MEMBER.

KNEEWALL (2X4 STUDS SPACED AT 24" O.C. ALIGNING WITH RAFTERS WITH CONT. 2X4 SILL AND CAP PLATES.) RAFTERS CUT AT END TO ENGAGE CAP PLATE OF KNEEWALL. DIAGONAL 1X4 BRACES ARE FACE NAILED TO STUDS AND CEILING JOISTS AT 4'-0" O.C. (TYP.)

Building 30-Roof Framing Above Third Floor Level

N
APPENDIX D – MATERIALS STUDIES
APPENDIX D: MATERIALS STUDIES

Methodology

The buildings were reviewed in situ using field magnification up to 25x. Representative and unique conditions were documented with photographs. Select samples were extracted from typical masonry materials including brick, mortar, and stone. Samples were typically extracted as 0.75 inch diameter cores. The cores were removed using a diamond impregnated core drill bit.

The samples were initially analyzed under a stereomicroscope using reflected light up to 125x magnification. Low angle light was used to enhance specific textural features within the sample. Based on the initial examination, select cores were prepared as thin sections.

For thin sections, a small block of material (typically 27mm by 46 mm) was embedded in epoxy resin. The embedded sample was bonded to a glass slide. The bulk of the sample was removed using a low-speed saw and ground to a thickness of 15 to 25 micrometers. The thin sections were prepared using vacuum impregnation of the sample with blue dyed epoxy to facilitate observation.

The thin section was then examined using a polarized light microscope (petrographic microscope) under reflected and transmitted light up to 400x magnification. Transmitted light was used both as plane polarized and cross-polarized light. Under examination with a polarized light microscope, specific minerals can be identified and the microtexture of the building samples can be evaluated. Microscopic examination typically provides qualitative data regarding building materials rather than quantitative data such as is obtained through chemical testing. (Chemical analysis, although outside of the scope of this study, could be performed to provide further information about specific material components if required in the future.)

Under reflected light, materials appear closest to their actual colors; for example, red brick will appear red. Since a blue dyed epoxy was used for thin section preparation, blue areas represent voids or air space (porosity) within the samples. Under transmitted light, opaque minerals appear dark. The areas with blue dyed epoxy will still appear blue. Under cross-polarized transmitted light, the blue dyed epoxy appears dark when viewed in all orientations because it is not crystalline and is therefore optically isotropic (i.e., the speed of light passing through it is equal in all directions).

Field Studies

Brick – Original Building

No systemic material distress in the brick masonry was observed (Figure D-1). Spot repointing mortar was detected in a few areas (Figure D-2). Brick were commonly seen to contain randomly oriented parting planes (Figure D-3). Significant erosion of the mortar matrix has occurred, exposing coarse sand particles. Preferential erosion of the mortar matrix along the interface with adjacent brick bonding surfaces is common (Figures D-4 and D-5). The action of biological growth appears to have accelerated mortar erosion in some areas. Sand-sized lime lumps (now carbonated) were detected.
Figure D-1. The typical appearance of the masonry. Two small areas where gray repointing mortar is present are marked with arrows.

Figure D-2. In this close-up view, the repointing mortar is marked with a yellow arrow. Irregularly-oriented parting planes are marked with red arrows. The highly eroded nature of the mortar and coarse aggregate is apparent. White lime lumps are visible in the mortar.

Figure D-3. Irregularly-oriented parting planes are common on the brick surfaces. Coarse sand particles and white lime lumps are visible on the exposed surface of all mortar joints.

Figure D-4. Preferential dissolution of the mortar along the brick interface is marked with arrows. A region where the presence of biological growth is associated with the most significant erosion is outlined by the ellipse. The width of the field of view is 3 cm.
Figure D-5. Preferential dissolution of the mortar along the brick interface is marked with yellow arrows. The red arrow marks a fractured lime lump. The width of the field of view is 3 cm.

**Brick – East Addition**

No systemic material distress in the brick masonry was observed (Figure D-6). Brick were commonly seen to contain parting planes oriented approximately perpendicular to the surface (Figure D-7). Significant erosion of the mortar matrix has occurred. Sand sized lime lumps were detected (Figure 8). Preferential dissolution of the mortar matrix along the brick interface was detected (Figure D-9).

Figure D-6. The typical appearance of the masonry.

Figure D-7. Parting planes in the brick are marked.

Figure D-8. Two sand-sized lime lumps embedded in the mortar are marked with yellow arrows. A large quartzite pebble embedded in the mortar is visible. The width of the field of view is 3 cm.
Figure D-9. Preferential dissolution of the mortar along the bricks interface is marked with arrows. The width of the field of view is 3 cm.

**Cast Iron Coating**

A deteriorated multilayer coating was observed on the cast iron sill (Figure D-10). The coating has a nominal thickness of about 1/8 inch and the base layer contains coarse siliceous sand (Figure D-11).

Figure D-10. The deteriorated coating observed on the cast iron sill.

Figure D-11. Detail of the coating observed on the cast iron sill.

**Stone – East Addition**

On painted sandstone lintels, the coating was observed to be chalked (Figure D-12). No distress of the stone was observed as a result of the presence of the coating (as far as could be observed with the coating in place). The stone on the original building is a fine-grained grey sandstone. The stone on the east addition is a red sandstone.

Figure D-12. A red painted sandstone lintel.
Laboratory Studies

Brick – Original Building

A brick was removed for analysis (Figure D-13). A thin section was prepared for analysis (Figure D-14). The siliceous filler of the brick is not uniformly distributed (Figure D-15). Numerous irregular lump-shaped bodies are present that represent clay that was not thoroughly intermixed with the aggregate prior to firing of the brick (Figure D-16).

The mortar debonded from the brick during sample extraction (Figure 17). A thin section of the mortar was prepared for analysis (Figure D-18). The mortar is friable and could be disintegrated between two fingers. The sand is well distributed in the mortar and contains coarse particles. Particles that had textural features consistent with either hydraulic lime or natural cement were detected (Figures D-19 through D-21). Also present are white lime lumps with textural features consistent with ordinary hydrated lime (Figures D-22 and D-23). Only a few tear-like fractures characteristic of early drying were detected in the mortar (Figure D-24). A concentration of brick dust was detected in the mortar near the presumed interface with the adjacent brick.

Figure D-13. The brick core.

Figure D-14. The brick thin section. The width of the field of view is 3 cm

Figure D-15. The brick body viewed using reflected light. Separations are visible around ceramic bodies that originally consisted of incompletely blended clay and siliceous filler. The width of the field of view is 2.3 mm.
When viewed at higher magnification, regions of the brick body that are deficient in siliceous filler can be seen to contain numerous closely spaced separations. The width of the field of view is 0.56 mm.

The brick and mortar sample.

The thin section of the mortar. The width of the field of view is 3 cm.

A particle with textural features consistent with either hydraulic lime or natural cement is marked with an arrow. The photograph was taken using reflected light. The width of the field of view is 0.56 mm.
Figure D-20. The same area shown in the previous photo, as viewed using transmitted light. The width of the field of view is 0.56 mm.

Figure D-21. The same area as shown in the previous photo, as viewed using cross-polarized light. The width of the field of view is 0.56 mm.

Figure D-22. A particle of hydrated lime is marked with a red arrow. The yellow arrow marks a particle with textural features consistent with either hydraulic lime or natural cement. The red and white particle is an aggregate particle likely a quartz particle with other mineral inclusions. The width of the field of view is 0.56 mm.

Figure D-23. The same area as shown in the previous photo, as viewed using cross-polarized light.
Brick – East Addition

A thin section of brick was prepared for analysis (Figures D-25 and D-26). Very fine parting planes that were oriented generally parallel to each other are present in the brick (Figure D-27). The siliceous filler of the brick is generally uniformly distributed (Figure D-28). A few relatively large irregular lump-shaped bodies were observed that represent clay that was not thoroughly intermixed with the aggregate prior to firing of the brick (Figure D-29). A concentration of siliceous filler that is not well encased in the brick matrix was also detected (Figure D-30).

The mortar is friable and could be disintegrated between two fingers (Figure 31). The sand is uniformly graded and well distributed in the mortar (Figure D-32). White lime lumps were detected in the mortar and occasionally were seen to be internally fractured (Figures D-33 and D-34). The tear-like fractures within the lime lumps suggests that they represent thoroughly slaked lime that was not uniformly distributed during mixing of the mortar. Interconnected tear-like cracks common in lime-sand mortars were also detected.

Figure D-24. Red brick dust that was worked into the mortar during installation of the masonry.
The width of the field of view is 1.4 mm.

Figure D-25. The brick core.

Figure D-26. The brick thin section. The width of the field of view is 3 cm.
Figure D-27. Parting planes that are typically oriented parallel to one another are visible throughout the brick body, as viewed using reflected light. The width of the field of view is 2.3 cm.

Figure D-28. The same area as in the previous photo, as viewed using cross-polarized light. The uniform distribution of the siliceous filler is apparent. The width of the field of view is 2.3 cm.

Figure D-29. A region that is deficient in sand filler and that shrank away from the surrounding brick body during firing is marked with an arrow. The width of the field of view is 2.3 cm.

Figure D-30. A region within the brick that contains closely spaced siliceous filler that is not well encased in brick matrix is outlined by the ellipse. The width of the field of view is 2.3 cm.
Figure D-31. The brick and mortar sample.

Figure D-32. The mortar thin section showing the uniform fine-grained aggregate. The width of the field of view is 3 cm.

Figure D-33. The typical spacing of siliceous sand in the mortar. Two lime lumps are marked with arrows. Tear-like cracks in the matrix are visible. The width of the field of view is 2.3 mm.

Figure D-34. The area as above viewed using transmitted light.
**Cast Iron Coating**

Fragments of the coating were prepared as a thin section for analysis (Figures D-35 and D-36). At least eight separate layers were detected in the coating sample. The matrices of the various layers that were present in the coating system were opaque to transmitted light. The first layer (adjacent to the stone) is a white pigmented layer with sand filler. The subsequent layer is a red pigmented layer with a sand filler. Several subsequent paint layers were also observed. (Further analysis outside the scope of this study could be performed to characterize all of the paint layers present.)

![Figure D-35. The coating fragments.](image1)

![Figure D-36. The thin section prepared for the parge coat. The relatively coarse size of the sand particles is visible. The width of the field of view is 3 cm.](image2)

**Stone – East Addition**

The stone core from the sandstone lintel was removed for analysis and a thin section prepared (Figures D-37 and D-38). The grey sandstone is very fine-grained and similar to that described for Holly (Building 29). The stone is composed primarily of angular interlocked quartz and feldspar grains. However, on a microscopic scale, horizontal bedding can be detected due to slight variations in grain size and the presence of concentrations if fine-grained mica (Figures D-39 through D-41). When viewed at higher magnification, secondary calcite was also detected.
Figure D-37. The sandstone core. A thin layer of stone adjacent to the painted (outer) surface delaminated during coring.

Figure D-38. The fine-grained nature of the sandstone is apparent. The width of the field of view is 3 cm.

Figure D-39. The sandstone as viewed using reflected light. The width of the field of view is 2.3 mm.

Figure D-40. The same area shown in the previous photo, as viewed using cross-polarized light. Natural bedding (originally horizontal during rock formation) is oriented parallel to the two yellow lines. The width of the field of view is 2.3 mm.
Figure D-41. A portion of the zone located between the two lines in Figure D-b7315 is shown at higher magnification, as viewed using cross-polarized light. Fine-grained mica is common and visible as brightly colored extremely fine-grained regions marked with yellow arrows. The red arrow marks a concentration of calcite. The width of field of view is 0.56 mm.

**Stone – Original Building**

The stone core was extracted intact and a thin section was prepared (Figures D-42 through D-44). The grain size and general composition of the stone is similar to that for the stone sample extracted from the north facade of the Center Building (Building 1). When viewed at higher magnification, epitaxial growth (growth of a thin mineral layer) of secondary feldspar was observed as well as secondary infilling of calcite in pores between siliceous sand grains (Figures D-45 and D-46). Iron oxide cement was observed coating siliceous sand grains. A possible source for the iron oxide is alteration of biotite mica during formation of the stone (Figures D-47 and D-48). The red sandstone is an arkosic sandstone that contains iron oxide cement with secondary formation of feldspar, quartz, and calcite that occurred during diagenesis (rock formation.
Figure D-44. The thin section. The width of the field of view is 3 cm.

Figure D-45. Epitaxial (secondary) growth of feldspar on a pre-existing feldspar grain is marked with a red arrow. Secondary calcite infilling between quartz grains is marked with a yellow arrow. The width of the field of view is 1.4 mm.

Figure D-46. The same area shown in the previous photo, as viewed using cross-polarized light. The width of the field of view is 1.4 mm.

Figure D-47. A biotite mica grain that has largely been altered to iron oxide is marked with an arrow. Iron oxide cement can be seen in thin bands surrounding siliceous mineral grains. The width of the field of view is 1.4 mm.
Conclusions and Recommendations

Repair materials (mortar, brick, stone, etc.) should be compatible with the existing masonry materials. Compatible materials should have a similar appearance in addition to similar material properties, such as porosity and compressive strength. If incompatible materials are used for repair, the weathering and deterioration of the historic materials may accelerate. This deterioration is often a result of changes in water migration in a mass masonry wall.

Selecting the appropriate mortar for repointing and masonry repair requires an understanding of both the existing historic mortar and the masonry units. While it is desirable to have a durable mortar, use of repointing mortars that are less porous than the back-up mortar or masonry units may lead to accelerated deterioration of the masonry units as water preferentially exits the wall through the masonry units rather than through the mortar, which may contribute to accelerated damage from cyclic wetting and drying, or freezing and thawing. Using a mortar with significantly higher strength than the original mortar may lead to spalling of the adjacent masonry. Mortar (rather than masonry) is intended to weather and routine maintenance is anticipated to include periodic repointing. The buildings on the west campus are currently in need of repair as part of the overall rehabilitation program. Subsequent to the envelope repairs, regular ongoing maintenance will be required.

Brick

The scope of this study was limited to visual and microscopic examination of the brick and did not include physical testing. It may be desirable to perform physical testing if brick replacement is necessary, to confirm the specific properties to be matched and to assist in selecting a repointing mortar. For example, information about compressive strength would be helpful in assessing the appropriate strength of replacement units, and information about absorption would be useful in understanding the relative characteristics of the existing brick, new brick, and repointing mortar. If the brick is highly absorptive or has a low compressive strength, a mortar with a lower proportion of portland cement could be considered for repointing. It may be possible to perform physical testing of the brick on representative buildings rather than on all buildings to obtain relevant information. The subject building does not exhibit significant materials-related deterioration of the brick masonry, therefore the purpose of this testing would be to inform the repair design rather than for diagnostic purposes.

If brick replacement is required, the new brick should match the size and appearance of the original brick, as well as its physical properties such as compression and absorption. It may be possible to salvage a closely matching brick from another building on campus or a minimally visible area on the same building.

Finally, the use of clear, penetrating sealers is generally not appropriate for older brick and stone masonry as such sealers are not
appropriate for use in place of proper repair and repointing, and are not reversible once applied.

**Mortar**

In modern construction, mortar is typically composed of portland cement, hydrated lime, and aggregate (i.e., sand). Water is used to create a workable mix and aid in curing. The portland cement and hydrated lime together compose the matrix of mortar. The aggregate is typically composed of sand and other siliceous minerals. Portland cement is a manufactured product that cures (hardens) through a chemical reaction between anhydrous calcium silicate and calcium aluminate components, and through subsequent reactions that occur in the presence of atmospheric carbon dioxide. During the construction of St. Elizabeths west campus, the production of hydraulic limes, natural cements, and manufactured cements was plentiful and varied. Joseph Aspdin patented artificial cement designated as portland cement in 1824 in England, although other patents for hydraulic cements predate Aspdin’s patent. In 1818, a naturally hydraulic cement was discovered and patented near Fayetteville, New York. In the 1830s natural cement was being produced in both Cumberland and Hancock, Maryland. By the 1860s, natural cement was being produced in many states including New York, Maryland, Illinois, Kentucky, Pennsylvania, and Georgia.*

Portland cements were imported into the United States during the last quarter of the nineteenth century and were used on United States government buildings in the United States. For instance, the State, War, Navy Department Building (1872–1888), now the Eisenhower Executive Office Building, used natural and manufactured cements for its construction including portland cements imported from Europe and manufactured in the United States.†

Prior to the use of portland cement, mortar was composed of hydrated lime (often in the form of lime putty) and aggregate. During the manufacturing of lime, the source limestone is burned and then slaked (hydrated). Historically, during the slaking process excess water was added to the mix to ensure thorough slaking, which created lime in a putty consistency. Typically, modern mortars use powdered hydrated lime rather than lime putty; however, lime putty is often used for repointing mortars in the restoration of historic buildings. Lime cures (hardens) through carbonation, a chemical reaction with atmospheric carbon dioxide.

Hydraulic limes or natural cements appear to have been used on many of the buildings at the west campus. Limestones used to produce hydraulic limes and natural cements contain significant proportions siliceous components. During the manufacturing process for hydraulic lime or natural cement, limestone is burned in a kiln. During the firing process, the siliceous components within the limestone combine with some of the lime to create materials that cure through a chemical reaction similar to portland cement. These hydraulic materials may be similar in chemical composition to portland cement and as a result may be difficult to distinguish using microscopic examination and/or chemical analysis. Alternatively, some hydraulic limes or natural cements may have significantly different chemical compositions than portland cements, which further adds to the difficulty in analysis.

---

* Uriah Cummings, *American Cements* (Boston: Rogers & Manson, 1898). Cummings describes the chemical and physical properties of many of the cements available in the United States in the nineteenth century. This source offers a review of the cement industry up to 1898.

† National Archives, Records Group 42, Records of the Office of Public Buildings and Public Parks of the National Capital, Entry 255 Correspondence, 1875–1881. This entry includes numerous letters regarding the use, testing and supplying of domestic and imported cements for construction of the building.
Dozens of natural cements and hydraulic limes as well as various portland cements were available in the United States during the construction of the St. Elizabeths west campus. As a result, it was not always possible during this limited analysis to make a clear distinction between different hydraulic mortars (mortars that contain portland cement, natural cement, or hydraulic lime) in the samples examined.

Further, during the late nineteenth and early twentieth centuries masons used mortar mixes with a range of proportions of portland cement, lime, and sand. These mortar mixes often contained only a small amount of portland cement as compared to current standards. In addition, the hydraulic components in historic mortars are often coarser (with larger particle sizes) than modern materials and also often have lower strength characteristics as compared to modern mortars of equal proportions. The presence of these coarse particles sometimes allow for the identification of the materials using microscopic techniques.

The ASTM International published standard ASTM C270, Standard Specification for Mortar for Unit Masonry, provides guidelines for mortar based on strength or composition. Typically, mortar mixes based on composition are preferable to those based on strength, since the exact materials and proportions contained in mortars specified by strength are unknown. Mortars specified by strength are typically proprietary mortars whose constituents and proportions are kept secret.

ASTM C270 identifies the following mortar mixes based on proportions:

<table>
<thead>
<tr>
<th>Mortar Type</th>
<th>Matrix Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>1 portland cement  &lt;1/4 lime</td>
</tr>
<tr>
<td>S</td>
<td>1 portland cement  1/4 to 1/2 lime</td>
</tr>
<tr>
<td>N</td>
<td>1 portland cement  1/2 to 1-1/4 lime</td>
</tr>
<tr>
<td>O</td>
<td>1 portland cement  1-1/4 to 1-1/2 lime</td>
</tr>
<tr>
<td>K</td>
<td>1 portland cement  2-1/2 to 4 lime</td>
</tr>
</tbody>
</table>

(Note: The current version of ASTM C270, published in 2008, does not include Type K mortar among the standard mortar mixes identified. Type K mortar is discussed only in Appendix 3 of the current version of this standard, but is included in the table above for reference. A mortar mixed to proportions of Type K is often appropriate for consideration for repointing of older historic buildings.)

All ASTM defined mortar mixes have 2-1/4 to 3 parts aggregate for each one part of matrix (portland cement and lime combined). ASTM C144, Specifications for Aggregate for Masonry Mortar, provides the diameter size gradient for current mortars. Mortars prepared using the aggregates described in this standard typically have a greater amount of fines and lesser amount of coarse aggregates than historic mortar.

Typically, if the original mortar contains hydraulic components (portland cement, natural cement, or hydraulic lime), then a hydraulic mortar should be selected for repointing and rebuilding masonry. If the mortar does not contain any hydraulic components, a lime putty/sand mortar should typically be used. Based on the limited analysis, the original mortar on the original building is likely a hydraulic lime (or possibly natural cement) sand.
mortar. A Type K mortar (specified by proportions, typically 1 part cement to 3 parts lime to 12 parts sand) should be considered for repointing and repair of the brick masonry on the original building. Based on the limited analysis, the original mortar on the east addition is likely a hydrated lime sand mortar. A lime putty sand mortar (typically 1 part lime to 2.5 parts sand) should be considered for repointing and repair of the brick masonry on the east addition. Care should be taken to match the historic gradation and appearance of the aggregate as closely as possible. Research into locally available aggregates that may have been used at the time of construction of the various buildings can be performed for reference in developing repointing mortar mix designs. The results of the recommended physical testing of the brick should also be taken into account in developing a recommended mortar mix for the subject buildings. The mortar mix recommendations provided herein should be considered preliminary and may require modification based on results of physical testing and other analysis that may be undertaken. Chemical analysis of mortar samples to supplement the completed petrographic analysis may also be considered to characterize the mortar further.

Although in some cases a color match to the original mortar may be obtained by careful selection of aggregates, pigments may also be used to match the appearance of the original mortar. In addition, at St. Elizabeth’s west campus, pigments including carbon black and brick dust were used for tinting the mortar on many of the buildings. A wide variety of mineral pigments is available today for coloring mortar. Further analysis and mock-ups outside the scope of this study is required to determine the appropriate colorants to match specific colored mortars on these buildings.

Stone

There are various approaches to repairing stone elements on historic building, including redressing the stone, mortar patching, dutchman repair, and stone unit replacement. Redressing involves retouching of a stone surface to remove deteriorated material back to a sound substrate. Redressing can be used when deterioration is relatively minor or shallow, and is primarily an aesthetic concern related to the loss of uniform surface or decorative tooling marks. There must be sufficient depth of intact stone available to make redressing a viable alternative. Depending upon the architectural configuration of the area, it may be challenging to redress localized areas of deterioration without giving an uneven or irregular appearance to the stone.

Mortar patches typically use portland cement or other components such as hydraulic lime or hydrated lime mixed with aggregate and pigments to closely match the appearance of the historic stone work. Many mortar patch materials are proprietary products and in some cases the manufacturer may not provide complete information on components of the repair material. Mortar patches often weather differently than the stone material, especially if the stone material is not calcareous, such as sandstone. The color of patches may change differently than that of the natural stone over time, so that patches that originally matched in appearance may no longer match after a few years in service. Further, patches often become debonded from the substrate and may present a safety hazard if installed in an overhead location. Patches also have a more limited service life than the adjacent stone and may require replacement as a maintenance measure. Patch installation requires removal of unsound stone so that the patch is installed with a mechanical key to sound material; stainless steel pins or other anchors are also required. Although typically less expensive than dutchman repairs, patches require a high level of skill to
successfully install and are generally less durable than dutchman repairs over time.

If incompatible patch materials are used for repair, the weathering and deterioration of the adjacent original stone may accelerate. This deterioration is often a result of changes in water migration through the stone. A patch material that is less porous than the stone may lead to accelerated deterioration of the stone as water may become trapped behind the patch and accelerate damage from cyclic wetting and drying or freezing and thawing.

Dutchman repairs involve removing unsound stone and replacing it with newly quarried stone or stone salvaged from other buildings to match the original substrate being repaired. Historically, dutchman repairs were frequently used to repair decoratively carved units damaged during installation and many dutchman have been successful in service with track records of over a hundred years. The same original source material or a very similar stone should be used so that the dutchman will blend well with the historic fabric and have similar material properties. Dutchman repairs typically weather similarly to the adjacent original stone, retain their visual match over time, and require minimal maintenance. Similar to a mortar patch, the sound historic fabric is retained. Dutchman repairs are typically attached using stainless steel anchors. They require a high level of skill to install inconspicuously and are typically more expensive than mortar patch repairs.

Replacement of entire stone units is typically not recommended on historic buildings unless required to replace missing units, or where the stone is so severely deteriorated that no sound substrate remains for installation of a patch or dutchman. Stone unit replacement is typically expensive and often requires temporary shoring and hoisting equipment if the units are large. If the original source material or closely matching stone is found, stone replacement units will weather similar to the historic stone and retain their visual match over time. Other considerations are similar to those involved with dutchman repairs, as discussed above.

Limited analysis of the stone did not identify the specific source of the grey sandstone or red sandstone. Further materials analysis and historical research are recommended to select a compatible repair or replacement stone, if required for use. Even if the stone is quarried from the same geological deposit, care should be taken to ensure a match in the appearance of the dutchman unit and the adjacent stone.