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Building 35 Exterior Conditions Assessment and Report (15% deliverable)

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TIMELINE OF KNOWN BUILDING ALTERATIONS

- 1948 Renovation
    - First Floor Bathrooms
    - Auditorium Seating
    - Fire Curtains
    - Stage Curtains
    - Window Draperies
- 1981 Renovation
    - North Façade Entrance
    - Entrance Staircase Removal
    - Fire Curtains
    - Stage Curtains
    - Window Draperies
    - Lobby Chandeliers
    - Auditorium Seating
- 2000s
    - Scenery Door
    - HVAC/Mechanical

1.0 INTRODUCTION

1.1 Project Overview

In June 2024, FFE, Inc of Cincinnati, Ohio, contracted with Gray & Pape, Inc. (Gray & Pape) to complete a conditions assessment and report for the Building 35 Historic Theatre building at the Mountain Home facility in Johnson City, TN. Building 35 is contributing to the Mountain Branch, National Home for Disabled Volunteer Soldiers National Historic Landmark District, which was designated in 2011.

Gray & Pape conducted historic research, a field survey of the exterior and interior of Building 35 (including drone photography) and reviewed the existing conditions related to recent repairs, and specific areas of active deterioration or concern. The project site visit was conducted in July 2024, by an architectural historian that meets the Secretary of Interior's professional qualifications standards.

1.2 Personnel

Fieldwork was conducted by Cooper Shields, Architectural Historian II, who also authored the report. Brandon McCuin, History/Architecture Practice Lead, served as project Manager and oversaw all aspects of fieldwork and report preparation. The report was edited and produced by Melissa Braunschweig.

2.0 Historical Context

2.1 Mountain Branch National Home for Disabled Volunteer Soldiers

Established in 1901, the Mountain Branch National Home for Disabled Volunteer Soldiers (NHDVS) officially opened in 1904. The facility was established through Tennessee Congressman Watler P. Bronlow, known for securing federal funding (Julin 2008). A small architectural competition was held for the complex's design and won by New York architect Joseph H. Freedlander.

The complex represents a network of veterans' benefits that began to rapidly expand in both importance and footprint following the end of the Civil War. Mountain Branch represents a series of changes in the veterans' home network following the Civil War, including the uniform design language and landscape design. The facility also clearly represents the goals of the NHDVS board who sought out to create attractive and well-designed institutions to give the residents disabled soldiers a dignified home (Julin 2008).

Brownlow is given much of the credit for the establishment of the Mountain Branch. His reports noted that only one NHDVS branch, located in Hampton, Virginia, was in the South. Brownlow stated that Southern veterans should be cared for in a Southern climate, referencing a U.S. Attorney General report saying that federal prisoners from the South should be incarcerated in the South, to not subject them to climate shock (Julin 2008) He was quoted as saying that veterans should be given at least as much consideration as federal prisoners. He also touted the area of Washington County, Tennessee as progressive, patriotic, and rich in history. Brownlow's report suggesting the Washington County location was passed by the House unanimously and signed into law in 1901.

Brownlow's influence in the facility continued past its construction. He was appointed to the Board of Managers in 1902 and designated the local manager of the Mountain Branch facility. Brownlow was also responsible for the construction of the Branch's library, for which he successfully petitioned Andrew Carnegie to donate funds for not only the construction, but the books, art, and musical instruments as well.

The prevailing styles of architecture of buildings at Mountain Branch is Beaux Arts. The style gained popularity in the United States in the late 19th century and was popular among architects who attended the Ecole des Beaux-Arts in France. The 1893 Columbian Exposition in Chicago was another factor in the proliferation of the style throughout the country, as many of the buildings built for the event were designed in the style (Chicago Architecture Center 2024)

Freedlander's original designs of the facility called for thirty-five buildings, most of which would be in the Beaux Arts style. Freedlander's general concept held true to the

completion of the facility which ended in an overall linear form that complements the highly ornamented architecture (Julin 2008).

The facility is still actively operating today as the James H. Quillen VA Medical Center in cooperation with East Tennessee State University (U.S. Department of Veterans Affairs 2024).

2.2 Joseph H. Freedlander

Joseph H. Freedlander was a New York City Native and graduate of both the Boston Institute of Technology as well as the prestigious Ecole des Beaux Arts in Paris, France. Freedlander was a finalist in design competitions for both the New York Public Library and the University of California (Julin 2008). When he won the Mountain Branch design competition, he was only thirty years old, continuing a bright future to his architectural career. Freedlander would eventually go on to design the Museum of the City of New York, the Bronx County Courthouse, and the Perry's Victory and International Peace Memorial on South Bass Island, Ohio, in Lake Erie.

Building 35 is one of thirty-seven buildings originally built on the Mountain Branch Property, completed in 1904, the building, along with the whole facility, represents the Veterans Administration's mission to give the resident disabled soldiers a comfortable, well designed, and attractive place to live out the rest of their lives. A detailed discussion of the building's history and existing conditions is presented below.

3.0 Timeline of Known Building Alterations

As the building has seen its ebbs-and-flows of usage in the past century, measures have been taken to modernize and rehabilitate the building to keep certain aspects up to date for the current uses. Most of the infrastructure changes to the building such as the Heating, Ventilation and Air Conditioning (HVAC)systems and electrical upgrades were completed at unknown times over the past several decades. For the last several years, the building has been home to the maintenance team for the Mountain Home facility, resulting in a series of un-sympathetic, but reversible, changes to the building, most notably the addition of a series of cubicles and prefabricated office spaces on the stage. Many of the larger changes, such as the sloped entrance, and non-historic entrance doors, were likely completed during the large-scale restoration in 1981.

Due to the changes in tenants and usage and to keep the infrastructure modern and performing as needed, the building has also undergone a series of HVAC and mechanical upgrades and changed throughout the last century. These changes are hard to date due to the continuous nature of the upgrades, but it appears most occurred in the 21st century.

The scenery door on the northeast corner of the eastern façade, appears to be modern in design and was likely changed from the original pair of single panel wood doors with matching recessed panel transoms, to the current aluminum and glass doors sometime in the last 10 to 15 years.

The building's interior has also seen a series of changes throughout the last century. The most notable addition was the installation of a projection booth on the second-floor lobby that was constructed c. 1946. New seats, fire curtains, stage curtains, and window draperies were replaced several times in 1948 and 1981. The chandeliers in the lobbies were installed in 1981 and constructed as replicas of the originals. The first-floor bathrooms seem to have been upgraded during the 1948 restoration.

Figure 1 C. 1981 Altered Entrance

Figure 2 21st Century replacement stage door

Figure 3 c. 1981 North facade replacement entryway

Figure 4 Original stairs on north facade entryway

4.0 Building Information

4.1 Building Description

The building is a three-story, Beaux-Arts style theater building clad in Flemish bond brick, and a combination flat-hipped and front-gabled roof clad in both slate-tile and rubber membrane. The roof eave extends over most of the building with pairs of wood brackets, corbels, and exposed rafter ends.

The main façade has a projected three-bay design with three sets of identical double-doors on the first floor each with hinged four-lite transom windows and brick sills with stone keystones. The three bays are nearly identical aside from the terra cotta cartouches on the east and west sides of the façade. The cartouches contain a series of musical motifs, lyres, and bearded figures. The bays also have a second floor set of double doors with elongated arch- topped windows with carved wood lyres, volutes, and corbels. The doors open to a second-floor stone balcony supported by a series of paired stone brackets, and corbels, with circular stone railing spindles. The exterior brick, mostly Flemish bond red brick, aside from a bottom band of white brick laid in a running bond, and two limestone belt courses, exists throughout the building's circumference.

The west façade of the theater is largely un-ornamented with the exception of a window on the SE corner identical to those above the south façade's balcony. Along the longest inset portion of the façade are a series of five inset faux window openings stylized like the window to the south. All the inset portions are filled with brick, aside from a single set of double doors that lead to the interior balcony, for the purposes of a fire escape. Present on the first floor of this façade is a series of three double doors that lead into the first-floor auditorium. On the north side of this façade sits a three-story portion of the building that contains the stage. Present near the top of this portion are three sets of twelve-over-twelve arched top double-hung wood windows, topped with a brick arch and stone keystones with a white brick belt course that extends throughout the rest of the building underneath the stone brackets.

The north façade of the building has a three-bay design with a central entry door covered by a non-historic aluminum awning below a set of arch topped wood-casement windows. The two exterior bays are identical with sets of four-lite wood casement windows above and below inset wood panels. A set of stairs sits on the NE corner of the north façade, leading to the building's basement. The building's east façade is identical to the west, aside from a non-historic set of double aluminum doors and awning on the NE corner.

4.2 Character Defining Features

Character defining features are architectural elements that include the overall shape of the building, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment. A majority of the character defining features on the building are related to its Beaux Arts architectural style which is relatively unique in the region. The style is influenced by classical Roman and Greek

building forms and emerged in the United States as one of the dominant styles between the late 19th and early 20th centuries. As these character defining features are important characteristics that define the building, its aesthetics, style, and usage over time, they should not be altered and, when necessary, the utmost care should be taken when restoring, repairing, or replacing them to ensure the continued preservation of the historic integrity of the building. Altering these elements can have drastic effects on the historic character, and material integrity. The elements listed in this section is not an exhaustive list of the character defining features and also serves as a baseline for future identification of features that lend themselves to the location, design, materials, workmanship, feeling, and association that are imperative features to the integrity of the building.

4.2.1 Interior

The character defining features in the building's interior revolve mostly around flat, detailed, plaster, and the wood trim and door surrounds. All the ornate details in the auditorium space should be retained or repaired in place if possible, including the engaged ionic columns (Figure 6), the dentilation and linework along the coved ceiling, the fruit details on the balcony projections (Figure 7), and the cherubs along the central part on the top of the proscenium (Figure 5). The interior also has a series of dark wood details including the more ornate door surrounds in the lobbies, and the simpler door trim along the exit doors in the auditorium space. The brass handrail that extends along the balcony railing, as well as any extant original light fixtures, such as those in the first and second floor lobbies, are also original character defining features.

The pair of wood staircases that flank the first-floor lobby are key defining features of the interior. Constructed of solid cherry wood, as well as their accompanying railings, and balusters these features are very defining to the Beaux Arts style and the use as a theater built in the early 20th century, and should be maintained and preserved (Figure 8)

4.2.2 Exterior

The building's exterior is highly ornamented, and the design lends itself as a prototypical example of an early 20th century Beaux Arts design. The terra cotta cartouches and figural keystones on the window arches, on the south façade, as well as the limestone balcony and associated railing, brackets, and corbeling, are all also characteristic features of the design. The slate tile roof is an distinct part of the building's design, and even if the extant tiles are not original to the building, the design is true to the building's design and represents an important character defining feature.

In addition to the stone features on the building, the carved wood window trim with volutes and lyres are not only characteristic of the architectural style but are icons to the original use of the building. The wood bracketing that projects under the roof eaves and sits in pairs throughout a majority of the circumference of the building are included as well.

Figure 5 Detailed plaster work on top of proscenium

Figure 6 Detailed plaster columns

Figure 7 Balcony faces with detailed plaster work

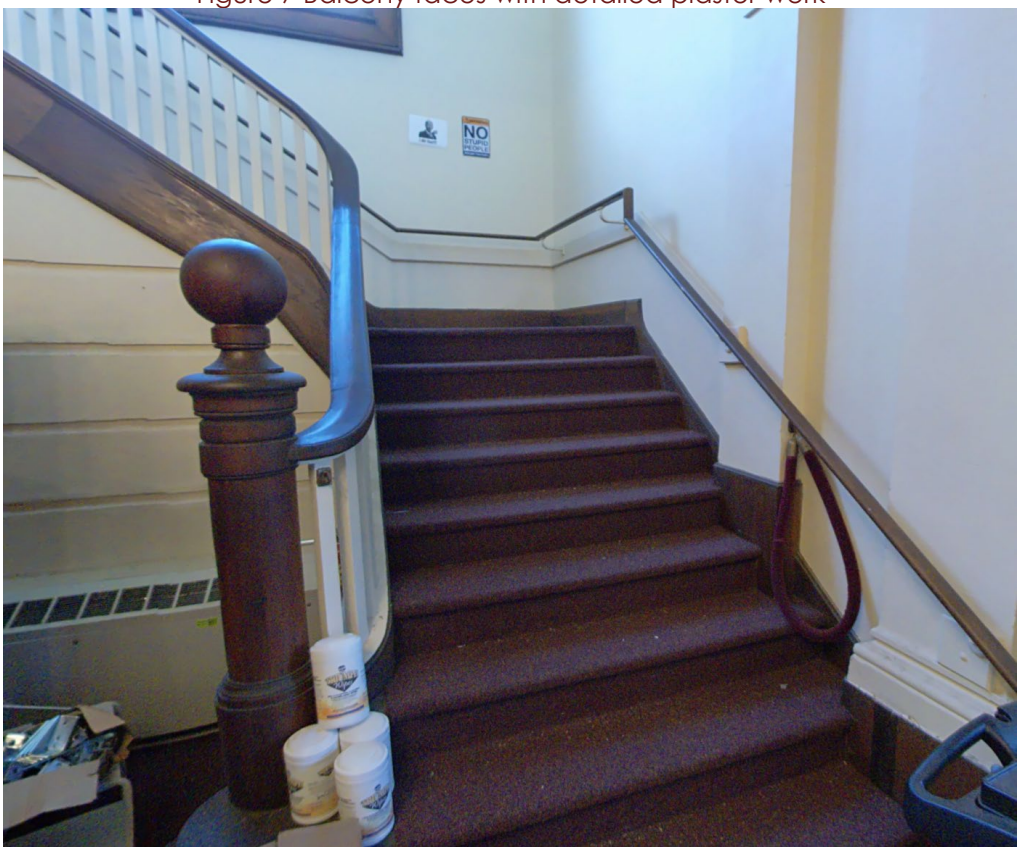

Figure 8 Cherry staircase and balusters

Figure 9 Terra cotta cartouche - South facade

Figure 10 Limestone bracket – South façade

Figure 11 Overview of south façade

5.0 Conditions Assessment and Recommendations

Future maintenance and repair projects at Building 35 should follow the Secretary of the Interior's Standards for the Treatment of Historic Properties, following the appropriate guidelines and standards for restoration. The National Park Service defines the four treatments as:

- **Preservation** – "the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property" (Grimmer 2017:2);
- **Rehabilitation** – "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" (Grimmer 2017:2);
- **Restoration** – "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" (Grimmer 2017:3);
- **Reconstruction** – "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" (Grimmer 2017:3).

The treatment of preservation is based on the degree of deterioration. Preservation remedies are often minimally invasive and consist of preliminary measures and routine maintenance and repair of historic materials and features to ensure that the historic fabric is not compromised. The treatment of rehabilitation refers to the necessity of updating buildings to meet new uses and remain up to code while retaining the building's historic character and integrity. Restoration allows the recreation of period-specific, through thorough documentation, historic detailing as well as the removal of non-historic features to convey a specific period. Lastly, reconstruction refers to the total recreation of a resource that is no longer extant. While some projects at Building 35 could singularly fall within a separate treatment category, such as preservation for something as simple as repointing masonry, the regulations (36 CFR Part 68) indicate that one set of standards will apply to each property undergoing treatment. Thus, the Secretary of the Interior's Standards for Restoration apply to Building 35 due to the overall nature of the proposed projects and the ultimate goals of the building. While the restoration standards allow for the reconstruction of historic features that are no longer present, they first and foremost encourage retaining, preserving, and rehabilitating features from the restoration period before drastic recreations or reconstructions are considered.

Restoration as a treatment includes several necessary steps that must be taken to ensure that a building is restored properly. Restoration guidance above all "focuses on the

preservation of the materials and features that are significant to the period" (Grimmer 2017:165). As such, the following steps are provided as guidance for restoration projects:

- "Identify, retain, and preserve materials and features from the restoration period.
- Protect and maintain materials and features from the restoration period.
- Repair (stabilize, consolidate, and conserve) materials and features from the restoration period.
- Replace extensively deteriorated features from the restoration period.
- Remove existing features from other historic periods;
- Recreate missing features from the restoration period." (Grimmer 2017:165-166).

Additionally, the guidelines recognize the necessary additions to historic building to meet modern safety and accessibility codes. While this work is permitted in a restoration project, the potential impact to the historic building must still be taken into account and minimized.

To determine the maintenance needs of Building 35, a conditions assessment was conducted that identified the physical state of the building. This assessment noted any active deterioration or degradation in the elements that were assessed. The condition ratings are excellent, good, fair, and poor. A rating of "excellent" denotes that the section of the building is in the best possible condition and sustains no threats. The "good" rating signifies that it is strong, but some elements may display moderate signs of wear. An area described as "fair" will have some deterioration apparent to the whole and acute degradation to a few or all elements. An element of the building rated as "poor" needs immediate intervention to mitigate the severe deterioration to the building as a whole and as individual elements.

Architectural features either contribute to a resource's significance or fail to have a significant association. These features are considered contributing or non-contributing elements. An architectural detail or object that defines a building's historic or architectural significance as it pertains to the period of significance is considered a contributing element. Contributing elements range from a specific architectural detail or material, such as tiles or floor materials, to a grouping of elements that allow the resource to retain its integrity. A non-contributing element fails to represent the historic or architectural significance of a resource and can include the damage and/or removal of a feature, new construction, or unsympathetic repairs to the existing structure.

5.1 Areas of Concern

5.1.1 Exterior

5.1.1.1 Exterior Masonry

All elements of the building's exterior masonry, including brick, stone, mortar, etc. appear to range in condition from poor to good, with areas of severe deterioration, neglect, and inappropriate maintenance. To ensure that the appropriate methods of continued preservation of the exterior masonry of the building are employed, the Secretary of the Interior's Standards for Restoration should be met and the appropriate NPS Preservation Briefs, namely NPS Preservation Brief No. 1: *Assessing Cleaning and Water-Repellent Treatments for Historic Masonry Buildings* (Mack and Grimmer 2000), NPS Preservation Brief No. 2: *Repointing Mortar Joints in Historic Masonry Buildings* (Mack and Speweik 1998), and NPS Preservation Brief No. 6: *Dangers of Abrasive Cleaning to Historic Buildings* (Grimmer 1979), should be followed.

The mortar joints on first floor limestone belt course were observed to be filled with a synthetic caulking sitting on top of a foam backer. Gray & Pape Architectural Historians observed several places where the caulking was already failing and was accompanied with discoloration on the surrounding masonry. Caulking like this should be avoided as a substitute for mortar on historic masonry buildings. Mortar is a near-sacrificial material meant to not only adhere the masonry to the rest of the building, but also assist in diverting the moisture from moving through the masonry, thus lengthening the life of the building's masonry.

Aside from limestone, there is evidence of improper mortar application in brick too. The most apparent issues are visible on the fire escape located on the building's western façade. Cracking, and spalling of bricks, missing mortar, and the inappropriate replacement of a missing brick with red-colored mortar.

When inappropriate mortar is used, usually the result of a mortar that is stronger than the surrounding masonry, the bricks can crack due to the mortar not allowing for the movement of the stone. This makes itself evident primarily through the spalling of the brick face and hairline cracks throughout the stone. On the opposite end, mortar that is too soft will lead to the failure of the mortar itself.

The caulking on these mortar joints should be removed and replaced with a period appropriate mortar compatible with the surrounding limestone. If any original material remains, masons are able to conduct simple analysis to determine the original makeup of the mortar, which can make for easy replication. If original material does not exist to be replicated, a Type N mortar should be used to ensure overall compatibility. In either case, the mortar chosen must have greater vapor permeability and be softer than the masonry it is adhered to, to help preserve the longevity of the masonry.

A series of bricks are missing around the building on the cornice and have been replaced with what appears to be piles of mortar. These spots should be cleared of the mortar and

replaced with bricks that are of similar age and density of the adjacent bricks. This is done to preserve the masonry structure and wall cavity behind.

Figure 12 Example of inappropriate caulking used as mortar replacement

Figure 13 Example of poor condition mortar – Eastern façade above fire escape

Figure 14 Example of inappropriate brick replacement - Eastern facade above fire escape

Figure 15 Example of brick cracking - Eastern facade above fire escape

Figure 16 Example of poor brick replacement - SE corner of southern facade

5.1.1.2 Staining/Discoloration

Large portions of the exterior of the building have staining, and biological growth in various portions due to a variety of reasons. The cleaning of this staining and growth should be done in accordance with the Secretary of the Interior's Standards for Rehabilitation, and using methods laid out in Preservation Brief 1, "*Assessing Cleaning and Water-Repellant Treatments for Historic Masonry Buildings*". The brief lays the groundwork and gives best-practices for the cleaning of many types of issues on masonry surfaces.

Prior to cleaning, the stains, and their causes, must be identified to ensure no continued damage or discoloration occurs. The identification will also help to identify the best method for removal. As a general rule, the removal should be done in the gentlest means possible, in the most effective, yet least harmful manner, to ensure the protection of the material integrity of the building. Some materials can be damaged by certain methods of removal, exampled by the fact that stones, such as marble and limestone are damaged by high acidity cleaners, which is why further identifying the materials and the best means for removal is imperative.

The gentlest method for cleaning stone and masonry generally involves water cleaning, and further includes four sub-types of soaking, water washing, waster washing with detergents, and steam/hot-pressurized water cleaning. Soaking is the gentlest method and usually involves the soaking of stones over a period of time, to try and remove contaminants. Washing with low or medium-pressure water is one of the most used methods. A very low pressure should be used at first (100 psi or below) and progressing as needed to slightly higher pressures. Pressures should generally be kept under 300-400 psi. If needed, pressurized water can be combined with scrubbing using synthetic or natural bristle brushes – never metal, which can cause further damage. For acid-sensitive stones, steam/hot-pressurized water cleaning is a gentle and effective cleaning method for plant materials, and soil deposits. Chemical cleaners can also be used on masonry, from acidic cleaners, for use on nonacid-sensitive stones, to alkaline cleaners, for those more sensitive types of masonry. Abrasive cleaning methods are not appropriate to use on masonry buildings.

The cleaning methods chosen should always be tested and may require the switching of chosen methods in order to pick the most effective, and safest cleaning solution. To further ensure that the methods used are done with respect to the building, a contractor should be chosen that is trained in safe, responsible cleaning methods of historic buildings.

Figure 17 Example of copper staining from grounding wire - NW corner of western facade

Figure 18 Example of moisture and copper staining from downspout - East facade

Figure 19 Example of rust staining from improperly connected hose bib - SW corner of southern facade

Figure 20 Example of limestone staining - NW corner of western facade

5.1.1.3 Fenestration

All elements of the building's fenestration including functional and decorative windows, and entryways are in poor-to-fair condition All windows on the exterior of the building show evidence of moisture ingress through peeling/cracking paint, visual rotting of window components, and failed glazing. The windows appear original and must be restored, and the moisture ingress issues corrected in order to ensure the preservation of these character defining features. The windows on the north façade of the building in the dressing rooms are missing panels, exposing the buildings plaster and lathe coating, further subjecting the interior of the building to water ingress.

In order to ensure the continued life of these historic windows, the windows must be removed and fully restored. Restoration of the windows should take place in accordance with the guidelines laid out in National Park Service Preservation Brief 9 "*The Repair of Historic Wooden Windows*", which ensures conformance to the Secretary of the Interior's Standards for Rehabilitation (National Park Service 1981) . The windows must be removed, fully stripped of all paint, and existing glazing should be removed. Once paint and glazing are removed, sections with visible rot should be stabilized using strengthening and stabilizing semi-rigid epoxies. These epoxies saturate the decayed wood and then harden, allowing for the addition of semi-rigid patching compounds which can then be sanded, and painted. If parts of the window are not repairable and cannot be stabilized, new matching pieces of wood should be spliced in to blend seamlessly with the existing wood. Following the repair of all deteriorated portions of the window, the entire window should be primed and glazed with an appropriate glazing compound and painted to ensure future protection. Should any of the non-historic fenestration elements need to be replaced, windows and doors that closely match the originals should be used.

In addition to windows, the original doors on the east and west facades are in need of restoration and repair. Special attention should be paid to the detailed doors present on both fire escapes. All wood doors on these facades show evidence of moisture damage, wood rot, and areas where structural repairs are needed. The exterior steps and doors on the second floor balcony on the south façade are also in need of restoration, or replacement due to moisture damage. The stair treads are heavily degraded and structurally unsound.

Figure 21 Example of window damage - SE corner of western facade

Figure 22 Example of window paint damage - SE corner of western facade

Figure 23 Example of window damage - North facade

Figure 24 Example of door damage - Second floor balcony, south facade

Figure 25 Example of poor condition steps - Second floor balcony south façade

5.1.1.4 Roof

The roof appears to be in good condition overall. Drone analysis of the slate roof shows a series of missing, and broken tiles, as well as evidence of rust damage from oxidized nails. Holes are also visible in a number of spots, leading to water ingress. The damaged tiles represent a very small percentage of the overall number of roof slates. Due to evidence of damaged tiles, it is recommended that the broken or missing tiles be put back in place where possible or replaced individually rather than replacing the entire roof. However, a thorough investigation of the entire roof structure should be undertaken from below, to inspect for potential unseen problems and interior leaks. Damage to the interior ceiling and plaster detailing could be due to undiscovered roof leaks, these should be addressed before interior repairs are undertaken.

Figure 26 Example of missing roof tile

Figure 27 Example of missing and damaged roof tiles

Figure 28 Example of missing roof tiles and mis-aligned gutter – East façade

5.1.1.5 Water Drainage

Inspection of the building shows that many aspects of stormwater drainage on the building are in poor to fair condition due to evidence of previous leaks, and a lack of maintenance. Several gutters and downspouts were observed to have been compromised throughout the building. The issues range from poorly sealed joints between angled, and straight downspouts, and poorly pitched gutters. This has led to a series of moisture related concerns with the masonry and surrounding mortar joints, as well as potential interior water ingress. The most egregious of these problems is seen on the NW corner of the western façade directly underneath a joint connecting a straight downspout to an angled piece. The brick and mortar located directly under this joint, leading down to ground level, has discoloration and mortar degradation as a direct result of this moisture damage. Damaged and missing mortar can lead to further problems within the wall cavity including interior moisture ingress and masonry tie corrosion, which can lead to potential structural issues on the effected wall. Furthermore, this moisture has led to lichen and moss growth on the belt course of white brick at ground level. Evidence of further growth can be seen in the basement window directly below the affected area. The joints on all downspouts where they connect either to each other, or to gutters, should be checked for water tightness and re-crimped/sealed where necessary. Gutters where the pitch is leading away from the water outlet should be removed and straightened in place. In places where repair is not feasible, in-kind replacements should be used.

Further moisture related issues can be seen on downspout collection boxes on the NW and NE corners of the building on the northern facades. The displayed boxes have rust and corrosion issues which allow water to leave the collection vessel. The water escaping from these containers is a likely cause for moisture ingress seen in the corners of the basement.

Figure 29 Detail of collection box with rust hole - NW corner of Western facade

Figure 30 Detail of collection box with rust hole - NE corner of Western facade

Figure 31 View of moisture damage due to badly connected downspout joint - NW corner of western facade

Figure 32 View of poorly pitched gutter - SW corner of western façade

5.1.1.6 General Moisture Issues

Moisture problems are one of the most common causes of maintenance related degradation and damage in buildings. In general, most moisture issues can be better understood and, in many cased solved, by using the investigative and repair methods laid out in National Park Service Preservation Brief No. 39 "*Holding the Line: Controlling Unwanted Moisture in Historic Buildings*" which lays out common issues and their solutions.

Evidence of moisture damage from poorly pitched and drained fire escape was observed on the western façade. The masonry directly below the fire escape platform shows staining and environmental growth from continued saturation.

The parapet wall on the northern façade exhibits discoloration and environmental growth from moisture. This is likely due to a lack of pitch or drip-edge on the leading surface. It is recommended an appropriate material be included that blends in with the surrounding masonry and allows for the release of moisture over the edge of the brick, keeping water from seeping into the porous bricks. This environmental growth should be cleaned off with a soft bristle brush and a mix of equal parts vinegar and water. Several walls in the basement of the building show evidence of moisture ingress and efflorescence which has affected the mortar of the brick foundation as well as the paint. Most of the basement water damage can be seen directly underneath or near basement level windows Once the cause of the exterior moisture ingress has been solved, the efflorescence should be removed with a stiff bristle brush, or a solution of diluted vinegar for more stubborn cases. When feasible, lost or compromised mortar should be removed and replaced with a Type N.

Figure 33 Example of moisture damage on exterior basement wall - NE corner of basement

Figure 34 Detail of moisture damage underneath fire escape - West facade

Figure 35 Detail of moisture damage and environmental growth on parapet wall - North facade

Figure 36 Detail of moisture damaged parapet wall - North facade

5.1.1.7 Wood Details

The exterior of the building has a series of carved wood details including the pairs of brackets underneath the eaves, and their supporting structure. The exterior wood details range in condition from fair to good.

Many of the large wood brackets, positioned in pairs underneath the roof eaves show evidence of moisture and paint issues. Crazing, cracking, and peeling of paint is present on several brackets, typically caused by natural temperature shifts through the freeze-thaw cycle. However, in some cases, these issues can be caused by more severe moisture ingress. National Park Service Preservation Brief 10 "*Exterior Paint Problems on Historic Woodwork*" displays the most common problems, their causes, and recommended treatments for these issues.

If parts of these brackets are damaged beyond repair, in-kind replacement must take place, similar in method to the repair and replacement principles laid out in the window restoration portion of this document. In many cases, the issues should be repaired through mechanical methods like scraping, and sanding of the damaged paint, and application of new paint.

Figure 37 Example of damaged wood bracket - SE corner of eastern facade

Figure 38 Example of damaged wood detail - SE corner of eastern facade

5.1.2 Interior

5.1.2.1 Flat Plaster

The flat plaster in the building's interior is in generally fair condition with a series of small issues observed throughout the interior.

Cracks are seen throughout the building in the flat plaster walls and ceilings. There are several potential causes for these cracks ranging from settlement of the building, lath movement, improper installation, and moisture issues. Any repair work attempted should be done in accordance with the best practices and methods set in National Park Service Preservation Brief 21 "*Repairing Historic Flat Plaster*".

Cosmetic damage to flat plaster can be repaired through a series of methods. Cracks should be filled with an appropriate patching material like a gypsum/sand-based plaster. Small cracks should be slightly enlarged to ensure for better adherence of additional plaster to the substrate, larger cracks will likely require the complete removal of the plaster on either side of the crack down to the lath followed by the addition of replacement plaster.

There are several areas where the finish coat of plaster is seen delaminated with mold and other moisture damage underneath. Once the cause is addressed, the finish coat should be replaced using a lime putty or gauging plaster.

Figure 39 Example of flat plaster finish coat failure and mold - House left box seat

Figure 40 Example of flat plaster moisture damage - Rear of house right, second floor

Figure 41 Example of flat plaster water damage - House left staircase to stage

5.1.2.2 Decorative Plaster

Much of the decorative plaster work in the building is in fair to good condition with the largest issue being the failure of the cover material.

The intricate ornamental plaster detailing the building's auditorium has evidence of water damage. The water damage has led to failure of the cover material, and in some cases, such as in Figure 42, damage to the substrate material underneath the covering. This ornamental plaster is considered a Character Defining Features of the architecture of Building 35 and should be repaired, when possible, in accordance with the methods and best practices laid out in National Park Service Preservation Brief 23 "*Preserving Historic Ornamental Plaster*".

The cover material should be stripped away of loose debris and replaced in-kind. More invasive moisture damage will need to be repaired using more intrusive methods with the potential for partial replacement included. Once a thorough investigation has taken place to determine the cause of the plaster damage, and subsequently addressed. The plaster should be repaired by the simplest means possible. In most cases, it appears that the damage has just caused the covering material to crack and break away. If no further damage is seen to the plaster underneath, the covering should be replicated and replaced.

Figure 42 Example of damage to detailed plaster cover material - Ceiling in auditorium

Figure 43 Example of moisture damage to detailed plaster ceiling - Back of house left

Figure 44 Example of damage to flat plaster cover material - Stage right proscenium

5.2 Conclusion

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