Historic Structure Report (HSR)
for the Government Hill Wireless Station (ANC-00306)

July 25, 2024

Version 1.2

Prepared for the Municipality of Anchorage

Prepared by:

Robert Meinhardt, MA
Casey Woster, MA
Joan Bayles Burgett, MA, RPA
True North Sustainable Development Solutions, LLC

Michael Anderson, PE, SE, Structural Engineer

Municipality of Anchorage Historic Preservation Commission
Bryce Klug, Chair
Connor Scher, Vice-Chair

and

Municipality of Anchorage Planning Department

This project is supported by the Historic Preservation Fund administered by the National Park Service, Department of Interior, and the State of Alaska Office of History and Archaeology, and has benefited from the advice and assistance of the staff at the Alaska Office of History and Archaeology.

Table of Contents

Table of Figures

Figures B1 through B56 are provided in Appendix B.

Acronyms

ACS	Alaska Communications System
AEC	Alaska Engineering Commission
AHRS	Alaska Heritage Resource Survey
GHCC	Government Hill Community Council
GSA	General Services Administration
HPC	Municipality of Anchorage Historic Preservation Commission
HPO	Municipality of Anchorage Historic Preservation Officer
HUD	Department of Housing and Urban Development
MOA	Municipality of Anchorage
NRHP	National Register of Historic Places
OHA	Alaska Office of History and Archaeology
PVC	Polyvinyl chloride
RFP	Request for Proposals
SHPO	State Historic Preservation Officer
TNSDS	True North Sustainable Development Solutions, LLC
USGS	United States Geological Survey
WAMCATS	Washington-Alaska Military Cable and Telegraph Systems
Wireless Station	Government Hill Wireless Station

Land Acknowledgement

The Municipality of Anchorage and Historic Preservation Commission would like to acknowledge that the Wireless Station, Government Hill, and the Municipality of Anchorage are on the traditional lands of the Dena'ina Athabascans. For thousands of years the Dena'ina have been and continue to be the stewards of this land. It is with gratefulness and respect that we recognize the contributions, innovations, and contemporary perspectives of the upper Cook Inlet Dena'ina.

Figure 1: Government Hill Wireless Station viewed from the west, near the driveway from Manor Dr.

Introduction

The Government Hill Wireless Station (Wireless Station) is a cluster of three buildings located on Government Hill just to the north of Ship Creek and Downtown Anchorage, Alaska. The federal Alaska Engineering Commission (AEC) constructed the Wireless Station in 1917 in Anchorage for radio communications to facilitate construction of the government's Alaska Railroad[1]. The Wireless Station served as Anchorage's only communication link to the outside world during its initial years and played a critical role in the development of the town and the Territory of Alaska. It is listed in the Alaska Heritage Resources Survey (ANC-00306) and on the National Register of Historic Places.

The site of Anchorage had been selected in 1914 to be one of the AEC's major construction camps[2]. The Wireless Station's radio receiving and transmitting system initially had a 500-mile radius, but soon was upgraded to connect with Seattle and the rest of the world. The Anchorage Wireless Station could also communicate with ships at sea. In 1921, the government allowed private citizens access to the system to send messages[3].

In 1923, upon the completion of the Alaska Railroad, the AEC dissolved and the Wireless station was transferred to the federal government's Washington-Alaska Military Cable and Telegraph System

[1] (Alaska Engineering Commission 1917)
[2] (Alaskan Engineering Commission 1916)
[3] (Municipality of Anchorage Community Development Department, Planning Division 2013)

(WAMCATS). WAMCATS became the Alaska Communication System (ACS) in 1936[4]. In the late 1940s, the ACS made its last upgrades to the station's buildings. A few years later it closed the Wireless Station as a radio communications facility, ending its period of historical significance. The three buildings of the Wireless Station stand as an excellent example of a federal government complex that provided essential communication service for a major construction project and later for the residents of Anchorage from 1917 to 1939[5].

Government Hill is a mostly residential neighborhood that grew to surround the Wireless Station on the upland tableland north of Downtown Anchorage and Ship Creek. The three Wireless Station buildings range in dates of construction and alterations from 1917 to 1952. The residential neighborhood was platted ca. 1954 but most of it developed from the 1950s onward. Recent outreach and planning efforts within the neighborhood have renewed interest in rehabilitating the site and buildings to benefit the community.

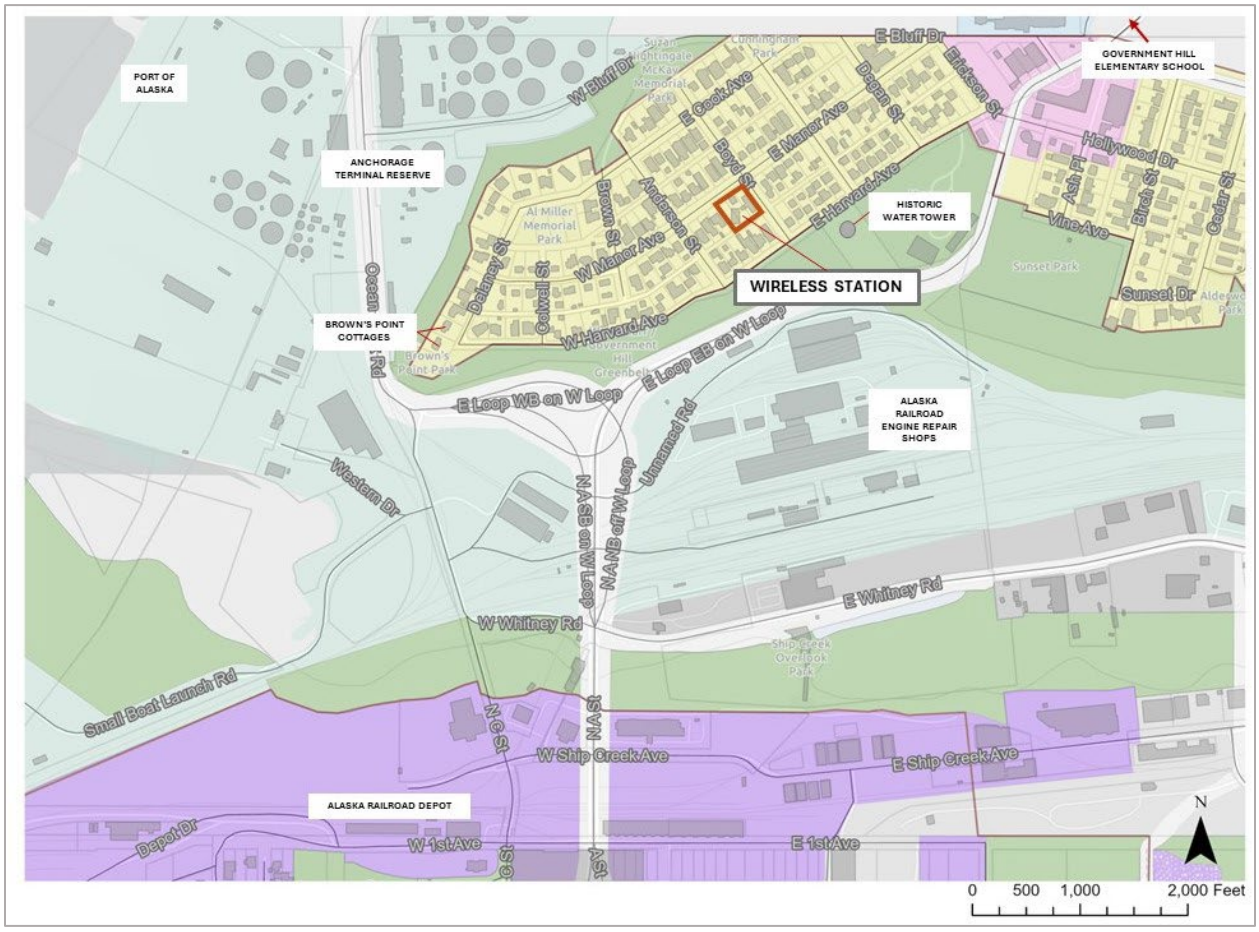

Figure 2: Western Government Hill Neighborhood Vicinity Map

[4] (Jessup 2007)
[5] The transmission operation moved the Federal Building in Downtown Anchorage in 1939 (McClain, NP).

Study Summary

Purpose of the Report

The aim of this Historic Structures Report (HSR) is to better understand the physical condition of the Wireless Station buildings and the historic preservation treatments that would be most appropriate for future development of the property that will comply with the recommended treatment standards from The Secretary of Interior's Standards for the Treatment of Historic Properties. The intent of an HSR is to provide documentary, graphic, and physical information about a property's history and existing condition. The HSR also serves as an important guide for all changes made to a historic property during a project.

Based on advice and assistance from the State of Alaska Office of History and Archeology (OHA), this report is arranged in the format suggested in the National Park Service Preservation Brief 43.[6] The Wireless Station HSR (including its appendices) is intended to be a "living document," updated and expanded as the Municipality collects additional information regarding the property and proceeds with the selection and pursuit of treatment options.

Due to the three buildings being unoccupied for over 20 years, and receiving minimal maintenance attention, there is considerable concern over their condition. The Government Hill Community Council (GHCC) has been involved with redevelopment discussions and has relayed uncertainty about the condition of the buildings. The buildings have been boarded up and appear to be unsafe to enter.

The Anchorage Historic Preservation Commission (HPC) undertook this report for two purposes. First, it was intended to determine if all or some of the buildings are structurally sound enough for rehabilitation, restoration, or relocation; second, based on this information, to clarify the preservation objectives and potential range of reuse options as a community asset.

Findings of the Study

A focus of this HSR is the condition of the structural system of the buildings. Beyond not meeting current building codes adopted by the Municipality, the buildings' structural framing has components that are not recognized by these building codes. As a result, standard capacity calculation methods result in a finding that many components have "zero" capacity. However, due to some mechanisms not recognized by the codes, the elements do have some limited capacity.

The structural systems of the buildings are in dire condition. Challenges include superstructure not being connected to the foundations, and the interior floor and wall foundations that are failing which is causing settlement and deformation of floor and roof framing.

The general architectural condition of the buildings is also poor. The roof covering is deteriorated and has debris present. The chimneys are deformed or deteriorated. Much of the exterior walls, doors,

[6] (Slaton and National Park Service 2004).

and windows need repair. Floors have collapsed inside all the buildings. Most of the interior finishes are in disrepair, including ceilings in poor condition.
The water, electrical, and gas services to the buildings have been disconnected. The condition of the wastewater system is unknown. The buildings do not have functioning heating or ventilation systems, and interior plumbing and electrical systems appear to be incomplete and damaged.

A 1997 environmental site assessment[7] found there are hazardous materials on the interior and exterior of each building, including lead-containing paints, fluorescent light ballasts containing chemical hazards, and asbestos-containing materials inside the buildings.

Key Issues

All three buildings are generally in very poor condition and exhibit various signs of deformation, decay, and failure. Without structural retrofit soon, Buildings A and B have a high likelihood of partial or total collapse in the near future. Extensive structural reinforcement is required prior to, or in conjunction with, any historical preservation activity. Building C appears stable, but structural reinforcement will be required before any historical preservation activities to preserve the remaining stability of the building.

Any rehabilitation and restoration work will require disturbance of hazardous materials. The 1997 environmental assessment recommended a more specific survey including destructive investigation for hazardous materials be performed as part of the design work for any future repair or treatment activity.[8]

Summary of Recommendations for Treatment and Use

Based on the structural engineering report and the HSR presented herein, it is recommended that the buildings be subjected to an intensive **rehabilitation** treatment. Rehabilitation may include preservation and restoration within the treatment. Some **restoration** (i.e., replacement) of deteriorated and unsafe components will be necessary. **Preservation**, as defined by the National Park Service (below), is not recommended at this time. **Reconstruction** is also not recommended or should be considered as a treatment option of last resort. The recommended treatments, as outlined in the historic structure report, are based upon guidance published by the National Park Service in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.[9] The recommendations were compiled by the project team and should be used as a starting point only. Unexpected discoveries as to the types and conditions of building materials and systems are always a factor when undertaking projects on historic structures.

Following is further discussion of the terms *rehabilitation*, *restoration*, *preservation*, and *reconstruction* as defined in the *Secretary of the Interior's Standards for Treatment of Historic Properties*:

[7] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)
[8] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)
[9] (Grimer 2017).

- **Rehabilitation** of a historic structure means to make possible a compatible use for the property through repair, alterations, or additions while preserving those portions or features which convey its historical, cultural, or architectural values. The Secretary of the Interior's Rehabilitation Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character. Rehabilitation involves retaining as much of the historic material present in a given building as possible, while repairing those materials and systems that are deteriorating or at risk of failure.

- **Restoration** treatment is recommended for some building components in the Wireless Station, within the Rehabilitation framework. Some of the systems present in the buildings will need more intensive replacement work, which falls under the Secretary of the Interior's **Restoration** treatment heading. For those systems, replacing deteriorated and failing structural members and other components is recommended, but as directed by the Secretary of the Interior's Restoration Standards, should be replaced in such a way as to match or closely resemble the original elements being replaced.

- **Preservation** is not recommended for the Wireless Station buildings. Preservation means sustaining the existing form, integrity, and materials of an historic property. Work focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The Wireless Station buildings are deteriorating at such a rate that preserve-in-place treatment approaches are unlikely to ensure their continued survival. Preservation has been used to help protect the buildings in the past, including the installation of the polycarbonate or PVC roofing and the plexiglass window coverings on Buildings B and C. However, such measures will not enable the buildings to be put to any new uses, and will eventually lead to their collapse.

- **Reconstruction** is not recommended for the Wireless Station buildings at this time. Reconstruction under the Secretary of the Interior's Standards involves construction of a new building that depicts the form, features, and detailing of a non-surviving historic structure, for the purpose of replicating its appearance during its period of historical significance and in its historic location.

Reconstruction of the buildings should be considered a treatment option only as a last resort, if it is determined that demolition of the historic structures is necessary or preferred. Reconstruction can create confusion in visitors unaware of the reconstruction history of the site.

These provide the options for saving the Wireless Station under the *Secretary of the Interior's Standards for Treatment of Historic Properties*. With the buildings in such an advanced stage of deterioration, another option, discussed in the *Reuse and Rehabilitation Strategies* subsection near the end of Part 3 of this report, would be to consider the buildings as non-surviving. Part 3 discusses the implications of all alternative options for the future of the property.

Neighborhood Preferences for Future Rehabilitation and Use

The future use of the Wireless Station buildings has not been determined. Staff dialogue with the Government Hill Community Council, the municipally recognized neighborhood organization providing representation for residents and property owners on planning and development matters, is ongoing. In 2016, a Municipality of Anchorage (MOA) Historic Preservation Officer (HPO) outreach effort with the Government Hill Community Council (GHCC) developed a request for proposals (RFP) for rehabilitation of the site. The community meetings included brainstorming for future uses including a library, community center, art studio, and housing. The RFP expired without attracting any proposals and interest in the project waned. In 2018, Connor Scher (currently Vice-Chair of the Anchorage Historic Preservation Commission) completed a Thesis for his Master of Architecture degree that recommended converting the site into an elder care home and community archive.

During a Municipality of Anchorage (MOA) parks plan development project for Government Hill in 2022, community members voiced interest in relocating and incorporating the property and buildings into the neighborhood park master plan. Although the park plan does not make any specific recommendations for the site, it does have goals for highlighting Government Hill history through placards and signs. That same year the municipal HPO heard from some residents that they had interest in relocating the 1917 portion of one of the buildings to a different parcel in the neighborhood. One public comment included in the park plan expressed hope that the site could be a community center. In 2022 and early 2023 meetings of the HPC the HPO expressed a belief that the Municipality could leverage Department of Housing and Urban Development (HUD) funds to redevelop the site into housing while preserving the 1917 portion of one of the buildings.

With these myriad suggestions for rehabilitation of the property, the HPC desired this report to support the historic preservation objectives of the community, namely, to preserve the site, buildings, or portion thereof for community use.

Much is dependent on the proposed new uses for the Government Hill Wireless Station. Future research should address what reuses would suit the surrounding neighborhood. This will require direct input from Government Hill residents.

As discussed at the end of this report, further study needs to be conducted on the impact of a potential relocation, with regard to historical integrity. The effect of relocation on compliance with a deed restriction (historic easement) that exists for the property must also be clarified. Finally, the feasibility of the options for how to rehabilitate and relocate, or relocate and then rehabilitate, the structures needs to be further evaluated.

Project Data

Property Location

The site is in the West Government Hill subarea of the Government Hill neighborhood in Anchorage. This neighborhood is an upland tableland north of Ship Creek, the original townsite. The neighborhood is familiarly called the first neighborhood in Anchorage and began with housing on the

westernmost bluff for the Alaska Engineering Commission during the construction of the Alaska Railroad, and in 1917, a dedicated wireless station. The Wireless Station predates the rest of the residential neighborhood, which developed around it during the 1940s, 1950s, and 1960s.

The Wireless Station site comprises three 50-foot by 140-foot lots with primary frontage on East Manor Avenue with one parcel having secondary frontage on Boyd Street. The lots all have access off an alley that parallels East Manor Avenue. Surrounding the site are residential properties with single- or two-family dwellings. One parcel northeast across the intersection from the site is vacant but zoned residential. To the north of the site (across East Manor) are two blocks of residential properties and a neighborhood park, then the Port of Alaska beyond. To the south of the site is half a block of residential properties, then a park with the Alaska Railroad yard and Ship Creek in the lowland basin beyond. This park includes the Government Hill water tower, which although no longer in service is a characteristic feature of the neighborhood. A straight line extending along A Street north from Downtown Anchorage would pass through the site.

The parcels were platted after the site was developed (ca. 1954) and two of the buildings cross property lines. The addresses of the lots are 124, 132, and 140 East Manor Avenue. The legal description of the property is North Addition #4 Block K, Lots 1, 2, and 3. The property identifications are 002-04-222-000, 002-04-223-000, and 002-04-224-000.

Figure 3: Wireless Station Property Vicinity Map

Property Ownership and MOA Preservation Efforts

In 2012, the GSA transferred ownership of the property to the Municipality of Anchorage as mitigation for its disposal. The transfer of ownership came with the stipulation that the Municipality preserve the historic qualities of the site and that any alteration or remodeling of the property be approved by the Alaska State Historic Preservation Office (SHPO). Over the subsequent years, starting in earnest in 2017, Municipality-led efforts for rehabilitation have occurred.

National Register of Historic Places

The Wireless Station (AHRS Site No. ANC-00306) was listed on the National Register of Historic Places (NRHP) in 2015. The designated period of significance is 1917–1950 with significant dates of 1917 and 1936 for the entire site.

Property Encumbrances

The property is subject to municipal zoning regulations, a utility easement, and a deed restriction that is effectively a historic preservation easement, as follows.

Zoning Regulations

The applicable zoning district is the R-2D Two-Family Residential District which covers most of the residential areas of Government Hill neighborhood. This low-density residential zoning district is "intended for single-and two-family residential areas with gross densities between five and eight dwelling units per acre." Permitted residential uses of property include single- and two-family residences, and group living and assisted living residences. Community/institutional uses such as childcare, civic and community buildings, schools and instructional services are also permitted. Multifamily, commercial, and industrial uses are largely prohibited.

Utility Easement

There is a 10-foot-by-10-foot electric and telecommunications easement in the very northeast corner of Lot 1 at the corner of the East Manor Avenue and Boyd Street rights-of-way.

Deed Restriction

There is a quitclaim deed restriction on the property that originates from the transfer of ownership from the U.S. government to the Municipality and amounts to a historic preservation easement.[10] The deed requires that the Municipality maintain the property to preserve those qualities that make the property eligible for listing in the National Register of Historic Places (NRHP). To ensure such preservation, the Municipality must obtain the approval of the Alaska State Historic Preservation Office (SHPO) before undertaking any construction, alteration, or remodeling of the property. Any such work must conform to the U.S. Secretary of the Interior's Standards for the Rehabilitation of Historic Buildings (32 CRF Part 67) based on review and approval by SHPO. If the property including its historic elements ceases to be maintained or there is a breach of these conditions, the ownership of the property may revert to the U.S. government.

[10] Appendix D, *Summary of Agreements*, includes a copy of the quitclaim deed.

Report Methodology

The TNSDS and MOA team finalized the project scope and collected data on the site during the summer of 2023. The report analysis was compiled by the TNSDS team in August through October of 2023. Additional editing and research was conducted by MOA staff and HPC members in January through April 2024, with advice and assistance from the OHA staff.

The TNSDS inspection team visited the site on the following dates:

- July 14, 2023
- August 16, 2023

Additional site checks were conducted by municipal staff periodically during the project.

Photographs

The Government Hill Wireless Station buildings were photographed over two separate site visits. The first site visit, on July 14, 2023, documented the exteriors of all three buildings. The interiors of Buildings A and C were also photographed at that time as safety restrictions allowed. The second site visit, undertaken on August 16, 2023, documented the interior of Building B, which had not been accessible at the time of the first site visit. All photographs were taken digitally using a Samsung Galaxy Note20 with general photographic settings. Some of the photographs are integrated into the body of this report; a more comprehensive collection of photographs taken for this project to document the current condition of the property is included in Appendix F. In addition, this report incorporates historical photographs from several referenced sources.

Architectural Drawings

Measured drawings were created for all three Government Hill Wireless Station buildings. Measurements and notes were taken by TNSDS Cultural Resources Manager Joan Bayles Burgett, MA, and TNSDS Project Architectural Historian Casey Woster, MA, and overlaid digitally onto photographs while in the field. The measurements, photos, and notes were then transcribed into measured drawings completed in AutoCAD by TNSDS in an office setting. The drawings are included in Appendix C.

The drawings have been plotted at architectural scales sufficient to illustrate the details of the buildings without distorting the measurements. Included are all the facades for each building, sketch floor plans based on what was safely observable, and drawings that illustrate changes made to the buildings over time. Due to life and safety concerns related to the deteriorated state of each building, interior measurements were not possible. Building C does not have any additions to it and thus, no drawings were created to demonstrate changes to the building over time.

Structural Condition Assessment Method

A structural condition study of the three buildings was completed by a registered structural engineer[11] as part of this Historic Structure Report project. In the structural condition study, the various structural systems of the three buildings were identified and a condition assessment made of each system. The assessments include structural load capacity estimates and a structural stability evaluation for each building. The likelihood of collapse or compromise by preservation or rehabilitation efforts was then addressed.

The structural engineer performed two site visits. Each building was observed and a full walk around was made along each building exterior. The interior of each building was then accessed as safety concerns allowed, including crawl spaces and attics. No destructive testing was performed.

There were several constraints and limitations on the structural analysis for the Government Hill Wireless Station buildings. The existing construction does not conform to current municipal building codes for similar structure types, therefore based on current code, many components would have 'zero' structural capacity, and this would not give a helpful representation of the existing structural conditions. Some examples include roof rafters that are typically connected to a thin ridge member with only a few collar ties to develop an opposing tension force. Without collar ties at every set of rafters, and a weak ridge member that cannot carry vertical load, there is 'zero' roof capacity according to the code. However, due to membrane action and other mechanisms that cannot be considered per current building code for light-framed wood construction, the roof has some capacity that cannot be calculated with the current codes. Another constraint is that none of the buildings have connections to foundations. The building code requires some connection and anchorage to develop resistance against wind and seismic forces, but no foundation anchorage was observed. Yet the buildings have some capacity to resist wind and seismic forces, even though per code, no capacity could be calculated.

There are many areas of irregular roof framing that have a piecework of supplemental members and repairs that are supported by a random layout of interior walls. It is not feasible to catalog every deviation given the scope and time constraints. Therefore, structural capacities were determined based on comparing each building primary structural system construction to current light framed construction and then estimating a safe load carrying capacity by analogy comparing to the capacity developed per current code approved construction techniques. By estimating a safe load capacity in this way, relevant information can be obtained related to the main point of this study which is the feasibility of historical preservation.

Review of Previous Studies

This project draws from previous studies that provide historical and building assessment information, as cited throughout this report and in the bibliography.

[11] See Appendix A: *Structural Conditions Study*, Michael Anderson, PE, SE.

Project Team

The Municipality of Anchorage, on behalf of the HPC, retained True North Sustainable Development Solutions, LLC, (TNSDS) for professional services to prepare this condition report to assess the structural and physical condition of the buildings and recommend appropriate preservation actions and treatments.

The TNSDS team included:

- Rob Meinhardt, Principal, TNSDS
- Joan Bayles Burgett, MA, Cultural Resources Manager, TNSDS
- Casey Woster, MA, Architectural Historian, TNSDS
- Michael N. Anderson, PE, SE, Structural Engineer

The municipal team included:

- Bryce Klug, Architect, and Chair of the Historic Preservation Commission
- Connor Scher, Historic Architect, and Vice-Chair of the Historic Preservation Commission
- Other members of the Historic Preservation Commission
- Kristine Bunnell, Historic Preservation Officer, Planning Department (through July 2023)
- Tom Davis, Historic Preservation Officer, Planning Department (beginning August 2023)
- Karlie Lamothe, Senior Planner, Planning Department (editing assistance)
- Daniel McKenna-Foster, Senior Planner, Planning Department (cartography)
- Ryan Yelle, Long-Range Planning Division Manager, Planning Department
- Bill Lyle, Facilities Maintenance Department Manager

This report benefited from the editorial advice and assistance of Maria Lewis, State Architectural Historian / CLG Program Coordinator with the State of Alaska Office of History and Archaeology.

Part 1. Developmental History

1.1. Historical Background and Context[12]

The story of the Wireless Station begins as with most U.S. federal government development in Southcentral Alaska with the arrival of the Alaska Engineering Commission (AEC), charged with building a rail route from Seward to the natural resources of the Interior. However, the history of the site stretches back far earlier as Dena'ina peoples travelled between Dgheyaytnu (Ship Creek) and Dgheyay Kaq' and Tak'at (Cairn Point), as well as area villages over Government Hill. This route became a branch of the Iditarod Trail as prospectors during the 1890s traveled north from Cook Inlet. In 1914, the steamer Digiro out of Seattle landed at the muddy, marshy mouth of Ship Creek and the AEC began surveying prospective rail routes[13]. They decided that this "anchorage" was the best place out of which to center the construction of the railroad and started building a work center below the bluffs of "Ship Creek Summit," later called Government Hill.

[12] This history is excerpted from the thesis *Unsung: An Architectural Allegory on the Government Hill Wireless Station*, written by Connor Scher in partial fulfillment of a Master of Architecture degree in 2018.
[13] (Alaskan Engineering Commission 1916)

The AEC needed radio communication between their sections to facilitate the construction. Originally, there was a small communications room in the Power Plant on the shore of Ship Creek but the noise from the generators made communication very difficult. Additionally, America's entrance into World War I in 1917 limited ground to ship communication. As a result, the AEC moved the radio operators to the steamer Omineca, anchored off-shore and plying to Kroto Creek, up the Susitna River. However, this was only a temporary solution and ground clearing for a wireless station on Government Hill began in July[14].

1.2. Chronology of Development and Use

A Station is Born

The first building constructed at the Wireless Station site, referred to as Building A in this report, originally consisted of a square plan with short walls and low-slung, deep-eaved roof. The appearance makes the building one of the few Italianate style buildings in Alaska. The AEC was less concerned with appearance, however, and finished it with standard windows and board-and-batten siding. The building was painted green with white trim, the available and inexpensive colors at the time. There was only one door, which faced west toward the officer residential cottages near the site.

Figure 4: Construction photo from fall 1917, looking north across the grounding field. (Anon 1917).

The building sat at the center of a dipole array, with large masts north and south of the building holding the aerial antennae. A construction photo from 1917 shows the installation of the copper wires stretching north and south from the building that served as the grounding field. In October 1917, the radio set moved from the steamer Omineca to the building, and the following month the control panels moved from the Power Plant. By December 11, 1917, the station was "practically completed, with the exception of a few minor details."

The square building had only a few rooms. The plan generally was divided into four sections and included a waiting room for residents and small toilet room for operators. The doors were stile and rail wood. The windows were wood framed with one large bottom light under three small lights separated with wood muntins; they originally had storm windows to match. The windows were grouped in two- or

[14] (Alaska Engineering Commission 1917)

three-wide arrangements. Roofing may have been only tar paper, as seen in the December 1917 photograph shown below[15], possibly because the winter weather may have prevented installation of a different roofing material. The main roof had a finished soffit whereas the cupula had exposed rafters. The tall mast extending from the top of the cupola could have been a flagpole, but there are no photographs showing anything attached to it. The site included tents and assortments of gear but was a large, cleared field. It is interesting that the arrangement of the building is square to the cardinal directions.

Figure 5: Wireless Station as viewed from the south in this December 1917 photograph (Kaiser 1917)

[15] Figure 5. (Kaiser 1917)

Figure 6: Section of communications cable line between the Wireless Station building in Anchorage, on present-day Government Hill, and the transmitting station at Whitney. Photograph from May 24, 1931 (Signal Officer (Anon) May 24, 1931).

Growth and Change

The Wireless Station was a significant feature of early Anchorage. In 1921, the AEC started to allow local residents to send and receive messages and for ten years it remained the only radiotelephonic and telegraphic hub to the outside world, until 1931. Until the railroad was completed in 1923, the operators coordinated the construction efforts and communicated with the world. When WAMCATS acquired the station in 1924 it already operated an extensive network of stations across the state. The station's operators played a major role in organizing the response to the diphtheria outbreak in Nome in 1925. By 1933, the Anchorage station's volume of communications outpaced its Southcentral rival of Cordova[16], helping set the stage for the growth and dominance of a young town.

[16] (Jessup 2007)

Figure 7: Interior of the receiving and keying station of the Wireless Station, facing east. (Signal Officer (Anon) September 14, 1931)

The WAMCATS constructed Building C in 1934, originally to the east of the original building[17]. Building C had a simple gable over a small rectangular plan. The WAMCATS also expanded the original building with a room over a basement on the south side. This addition included removing most of the south wall and expanding the entry room. This expansion also added a door on the east side of the building. Similarly, the addition of the current south-facing door likely occurred as part of this expansion. The roof was extended southward with a hip roof. By this time the aerial array had been taken down and a new larger one was built to the east of Anchorage.[18] Other buildings in Downtown Anchorage housed additional operators, although most of the main communication apparatus remained. The addition corresponded with the installation of new siding as well. WAMCATS evolved into the ACS in 1936[19].

[17] Visible in ca. 1935 photograph courtesy of Steve Gerlek (Figure 8), and in 1939 aerial image (Figure 9).
[18] Figure 6 shows the road to this new transmission array.
[19] (Jessup 2007)

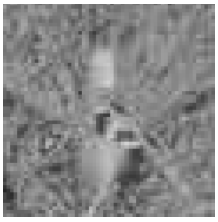

Figure 8: 1939 aerial image excerpt (Municipality of Anchorage)

Figure 9: 1935 aerial photograph taken from the west, with the government housing on the bluffs above Cook Inlet in the foreground and the Wireless Station facilities in the background. (Source: Courtesy of Steve Gerlek)

Military Repurpose, USGS Usage, and Decommissioning

In 1939, the federal government established Elmendorf Airfield and Fort Richardson to the north of Government Hill. Development of the urban street block pattern on Government Hill forced the relocation of Building C to the north of the original building. By this time, ACS had moved its communications hub to Point Campbell, southwest of Downtown, and the Wireless Station was only a supporting facility. The move away had started in the 1940s, with the construction of the T-Shaped building, Building B, to the east along Boyd Street in 1943[20]. Not characterizing a particular style, Building B had a repair garage, accessory rooms, and possibly a bunkroom. It was a long, wood-framed gabled building with a short stem of an entry perpendicular to the main axis.

During the 1940s, the site became the ACS Storage Annex. Two Quonset huts were built on the site (and removed in 1949). 1950 marks the end of the period of historical significance for the Wireless Station. During the early 1950s, the ACS added to the north end of Building A and closed access to its original, west-facing door. The addition included two rooms and extended the roof north, causing the cupola to again be centered. The ACS also extended the stem of Building B closer to Building A[21].

After 1952, the site changed hands between military branches for the next two decades and it hosted a variety of uses including a repair shop and health clinic. The US Geological Survey (USGS) used the site for nine years starting in 1976 before converting it to rock core storage. The rechristened Alaska Core Library was at the site until 1994 when the lack of space and degrading building materials caused the USGS to relocate the Core Library. It has remained unused and vacant since and the USGS and the U.S. General Services Administration (GSA) (who took over ownership) conducted site cleanup during the late 1990s and early 2000s[22]. In 2012, the GSA transferred ownership of the property to the Municipality of Anchorage as mitigation for its disposal.

[20] (Black-Smith and Mies 1992)
[21] (Wilson and Rickman 2015)
[22] (Municipality of Anchorage Real Estate Department 2017)

Part 2. Historic Structure Description and Conditions[23]

2.1. Physical Description[24]

Building A – Wireless Station Building

The original building constructed in 1917, referred to as Building A, was one story with dimensions of 28-by-28-feet and a pyramidal roof crowned by a central cupola supporting a mast. The building had an operating room, generating room, and living quarters for two operators. A six-wire aerial with a spread of 30-feet by 400-feet was above the building set on two, three-section 200-foot fir masts. The aerial provided a normal operating radius of 300 miles, and an extended operating radius of 500 miles under specific conditions.

The original building was clad in board-and-batten siding and painted a dark green. White corner boards, window frames and sashes provided contrast. The casement windows were set in pairs or triples. Each window had a narrow row of three panes over one large pane. The cupola had three-pane fixed windows on each side. The roof had a deep three-foot boxed eave and had built-up bituminous roofing.

Additions to Building A

The original portion of the building is sandwiched between two additions of equal size, on its north and south ends. The first addition to the original building was added in 1934, on the south end. The south addition included a full-height concrete basement underneath part of the main floor. On the east elevation, a portion of the boxed eave was enclosed to provide access to the basement. The addition was clad in shiplap siding and the roof was extended to make a hipped roof to cover the addition. The ridge of the roof rose slightly from the height of the cupola.

Soon after the period of historic significance ended for the property, a second addition to Building A was constructed in 1952, on the north end. The north addition added two rooms and a new entrance vestibule, expanding Building A to an overall plan dimension of 28 feet by 60 feet. The enclosed entrance vestibule, like the basement stairs was fit under the east eave of the roof. The north addition had a foundation with a shallow crawl space similar to the original, central portion of the building. The hipped roof was continued over the addition with the ridge line continuing from the height of the cupola and the roof inset slightly from the original roof. Both additions to the 1917 building maintained the hip-roof with deep eaves and the walls were at the same height as the original, central portion.

Building B – T-shaped Garage Building

The building constructed in 1943, referred to as Building B, was a long, rectangular building with a single gable and a short entry vestibule perpendicular to the main axis. The main section of the building is 82 feet by 21 feet. The foundation was cast-in-place concrete and wood-framed walls with

[23] See Appendix F for photographs of the site.
[24] (Wilson and Rickman 2015)

shiplap siding above. The windows were paired single-pane casement windows and two fixed nine-light windows. The roofing was corrugated metal. A portion of the building was used for vehicle repair and the building had 10-foot-wide doors at each end. The long north-south portion of building may have originally had a slab-on-grade floor and portions of the building had a raised "sleeper" floor. The 1997 environmental assessment report[25] suggests the eastern portion of the "stem" of the "T", the entry vestibule, was the first portion constructed (in 1943). The north-south office/garage portion came later in the 1940s. Extension of the "stem" west, increasing the size of the entry vestibule, occurred in the late 1950s.[26]

Building C – Small Shop/Radio Building

The building constructed in 1934, referred to as Building C, was a one-story, 34-foot-5-inch by 24-foot-3-inch gabled building with open eaves. Building C was originally built to the east of the 1917 building (Building A) and was relocated to its present location to the north of Building A and rotated roughly 90 degrees. It had a wood foundation and 7-inch-wide shiplap siding. The roofing was corrugated metal. It had small fixed three-light windows with a two-light storm windows. The other windows were six-light fixed windows or three-over-one-light casement windows. The building had metal doors, one on the short-gabled end and the other on the north (now west) elevation.

See the *Chronology and Development of Use* subsection in Part 1 above for more details regarding the architectural appearance of the buildings as they evolved during the period of significance from 1917 through 1950.

2.2. Condition Assessment

Condition Assessment Summary

Currently, the three buildings appear as they did in the 1950s. Many of the doors and windows are blocked or damaged. Most of the windows on Building A are wood framed, double-hung sash windows and were replaced at some point. They likely are contemporary to the additions and have a three-by-three muntin pattern.

All three buildings have poured-in-place concrete exterior wall foundations. The concrete that is visible still bears the imprints of the wood boards that made up the forms. The concrete material is uniform, with medium-sized aggregate. The south end of Building A has a full-height basement, and the main wing of building B has a concrete slab floor. The interior foundations of most of Building A, part of building B, and all of Building C are post-on-pad type foundations supporting wood floor joists. The floor joist structure has failed in portions of all three buildings with advanced deterioration of the joist members.

Ground settlement below and around the buildings has resulted in Building A appearing to be very low to the ground. Years of no maintenance, earthquakes, and heavy snows have resulted in a

[25] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)
[26] (Scher 2018)

significant slumping of the west wall and floors have collapsed inside all the buildings. Buildings B and C appear to retain their original windows and doors but have sustained similar damage to the Building A. The roofing material, which is a type of polycarbonate or polyvinyl chloride (PVC) plastic that resembles corrugated metal except on close inspection, is installed on all the buildings and may have contributed to their continued survival through the past half-century.

The buildings are generally in very poor condition and exhibit various signs of deformation, decay, and failure. Buildings A and B have a high likelihood of partial or total collapse in the near future if structural retrofits are not completed. These buildings are not safe for human occupancy and access should be restricted. The buildings require extensive structural reinforcement prior to any historical preservation effort. Building C appears stable, but structural reinforcement will be required before any historical preservation activities to preserve the remaining stability of the building. The full engineering assessment can be found in *Appendix A: Government Hill Wireless Station Structural Study*.

Site Plan, Walkways, Landscaping, Parking, and Utilities Assessment

Site Plan

The building layout plan of the Government Hill Wireless Station is organic in nature as buildings were added to the site, altered, or moved over time. The original layout of the site consisted of the original 28-foot-by-28-foot portion of Building A connected to a six-wire aerial array set on two 200-foot fir masts. The array had a physical spread of 30-by-400-feet and could reach an operating radius of 500 miles. Building C was added to the east of Building A in 1934, then moved to the north of Building A and rotated. Building B was constructed to the east of Building A in 1949.[27]

At present, the site is anchored on the south by Building A, oriented north to south along its hipped gable peak. Buildings B and C are both oriented northwest to southeast; Building B is located to the northeast of Building A with its longest façade (northeast façade) parallel to Boyd Street. Building C is located due north of Building A, with its entrance facing the interior courtyard formed by the three buildings.

Walkways

All three buildings are connected by walkways, as well as soil and gravel driveways and parking areas. Building B creates a long barrier on the northeast along Boyd Street with a path connecting the stem to the main building. There are several walkways that connect the three buildings to one another and the surrounding roadways. Like the site plan, the walkway grew organically as the buildings were constructed and added on to over time. At present, the walkway leading from the entrance in the southeast façade of Building C leads southeast to the entrances in the east façade of Building A and the entrance in the southwest façade of the T-stem addition in Building B. Another walkway leads from the east façade of Building A to the east-northeast, connecting with the now in-filled southeast façade of Building B.

[27] (Wilson and Rickman 2015)

The concrete paths on the site are mostly overgrown but generally connect the entrances of all the buildings. There is one path that juts out east from Building A and ends in the grass. There is a small parking area off East Manor Avenue on the north side of Building B; this has room to accommodate one vehicle. The area west of Building A is unimproved and functions as a driveway and parking area for the neighboring property and for the site.

The walkways are in poor shape. Disuse has led to vegetation overgrowth, causing the concrete to break down over time. Because of this, the walkways are visibly obscured or no longer existent in most areas (Figure B11 in Appendix B).

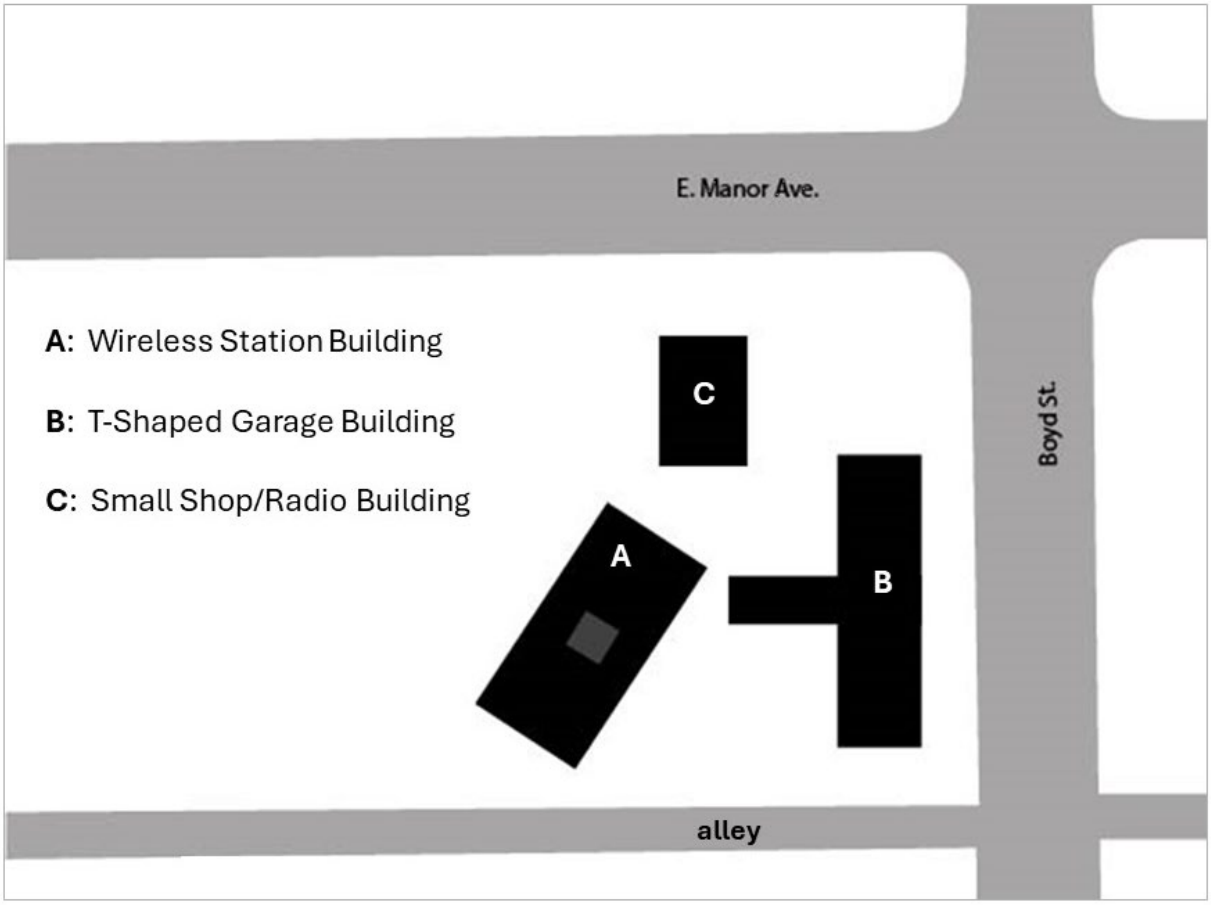

Figure 10: Wireless Station Basic Site Plan

Landscaping

There is no planned landscaping at the site. Clusters of trees native to the area have grown against all three buildings, in some places threatening the integrity of the structure (Figures B9-B13 in Appendix B). There is a small rail fence along the west property line, and a small concrete curb and bollards at the north end of Building B. There is a post at the southwest corner of the main building, seemingly to prevent impacts from a snowplow. There are no other significant site features.

Parking

There is no formally designated parking lot for the Wireless Station. There are two vehicular driveways present on the site, although one driveway has been overgrown from disuse. The main driveway at the site runs roughly north to south from East Manor Avenue to the alley between Boyd and Anderson Streets, running along the west façade of Building A. The driveway is a shared access route for both the Wireless Station and the neighboring property at 116 East Manor Avenue.

The second driveway is overgrown and leads from East Manor Avenue at the intersection with Boyd Street to the northwest façade of Building B. The driveway once provided access to Building B, which served as a vehicular repair shop. The vehicular overhead door in the northwest façade of Building B has been infilled and now only contains a double metal man door.

Utilities

All the utility services for the Wireless Station have been disconnected for an unknown period of time. The condition of these services is unknown and could not be discovered during the site visits. It is likely that the utilities at the site will all need to be replaced.

The buildings do not have functioning heating or air delivery systems. Gas and electric services were disconnected in the 1980s. The buildings relied on hydronic base board or wood- or coal-burning stoves for heat. There were no mechanical air delivery or ventilation systems in the buildings.

Water service to the buildings has been disconnected since 1985. Some of the buildings have retained plumbing fixtures, but most are missing. Pipe condition is unknown. The condition of the wastewater system is unknown.

Electrical service to the buildings has been disconnected since 1985. Some fixtures and receptacles remain, but there is significant damage to many others throughout. Conditions of wiring and circuit breakers are unknown.

Building A – Specific Conditions Assessment

Foundation and Floor

Figure 11: Wireless Station Building A, viewed from west-southwest (2023)

The foundation of Building A reflects the original building and two additions. The original building has a continuous perimeter concrete foundation supporting exterior walls. This concrete perimeter foundation is approximately 8 inches wide and extends approximately 2 feet below grade.

The interior foundation of the original portion of the building is a type of post-on-pad construction consisting of pyramid shaped, concrete pier blocks resting on a gravel pad. The pier footings support the floor framing (Figure 14; Figure B14 in Appendix B). Aside from the floor joists, the foundation appears in fair condition with no noticeable signs of distress or settling, according to the structural report in Appendix A. However, Municipal staff finds that further clarification of this statement and the source of the slumping of the east and west walls may be necessary (see footnote).[28]

[28] Note: Municipal staff editors find what appears to be a discrepancy between the statement here that there are no noticeable signs of settling, versus the structural treatment recommendations in Part 3 which discuss increased settling of the foundation piers in the original portion of the building which creates the saddle-bow appearance to the building. Clarification appears needed. Additionally, staff is unclear regarding the nature of the exterior wall foundation of the original portion of the building—how are the east and west walls of the building subsiding if they rest on a concrete perimeter foundation? Could the settling of interior pier blocks or deterioration of floor joists account for the saddle-bow appearance of the west exterior wall and eave? Resolution of these questions was difficult due to the unstable and inaccessible state of the building, which discouraged the project teams from intrusive investigations.

The southern end of the building, added to the original building in 1934, has a full concrete basement. The basement area includes a boiler room with an approximate 20-foot-by-20-foot area. The basement walls are poured-in-place concrete, and the floor is a concrete slab. The slab appears level, but not troweled smooth, and no sections appear to be settling. The 1997 environmental site assessment report observed that an unusual 15-inch-wide concrete wall in the southwest corner of this basement extends through the first-floor joist space to the wood flooring above, possibly as support for equipment that was later removed.[29] The walls and slab appear to be in fair condition with some cracks. The framing for the floor above consists of 2-by-10-foot joists clad with a subfloor of decking. The framing is sagging and showed significant signs of decay at the time of inspection.

The concrete walls in the south addition appear plumb with no bowing or distress observed, except there is a large crack in the concrete stairwell on the east façade (Figure 15; Figure B56, Appendix B). A set of poured-in-place concrete stairs leads from the interior of Building A into the full basement in the south addition of the building. The stairs were constructed on the exterior of the building, adjacent to the exterior side of the concrete perimeter foundation wall, and enclosed with timber framing to create an interior stairwell. As mentioned above, a large crack in the exterior concrete wall of the stairwell extends from the top of the stairs to the bottom, paralleling the stairs before extending horizontally away from the stairs. The crack shows signs of water seepage and green mold is growing in the crack and down the wall in areas where water has seeped into the wall. The stairs appear to be in stable structural condition, with no cracking or spalling on the stairs themselves.

The north portion of the building, constructed in 1952, has a poured-in-place concrete exterior foundation and an interior post-on-pad foundation supporting the floor joists. The crawlspace of the interior foundation is shallow, approximately 12 to 16 inches deep, leaving little space between the floor and the ground. Aside from the floor joists, the foundation in the north addition appears to be in fair condition with no noticeable signs of distress or settling. The site soils are generally good and are a granular gravel material.

The floor of Building A is framed with 2-by-10-foot joists and sheathed with decking and plywood. Floor joists bear on the exterior wall foundation and on the interior pier blocks. The floor is significantly distressed caused by a combination of roof loads from interior load-bearing walls and roof shoring posts compounded by areas of decay (Figures 12 and 13 below; Figures B52, B53, and B54 in Appendix B). The floor is notably soft and deforms significantly under load and has many areas of permanent deflection and decay.

[29] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997) (Appendix E)

Figure 12: Photograph of the interior of the southern rooms in Building A (2023)

Figure 13. A collapsed floor in Building A (2023)

Figure 13. One of the pyramidal concrete piers below the central portion of Building A (2023).)

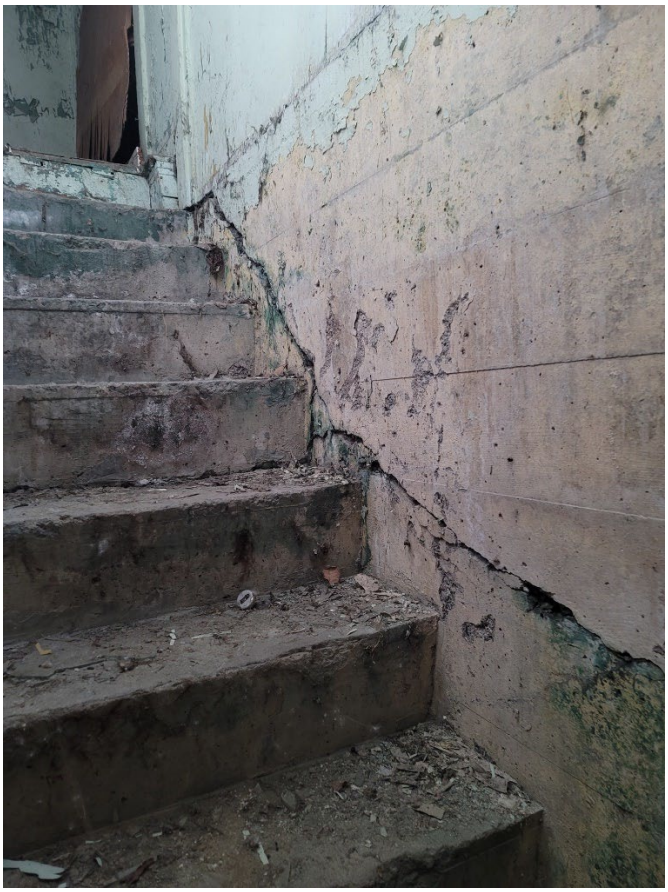

Figure 14. The stairwell to the basement in the south addition of Building A. A crack parallels the stair slope as well as spalling, vegetative growth, and staining from water infiltration (2023).

The 1997 environmental site assessment (Appendix E) reported that the flooring along the west wall had subsided along the entire 28-foot length of the original building. The slumping of the west wall of the original structure was also evident at the eave line. It also reported that the flooring structure had failed in the northeast corner of the building due to dry-rot damage. The report observed that the crawl spaces of Building A (and the other buildings) were shallow and unventilated, with water infiltration occurring resulting in floor joist decay, or "dry-rot." In addition to the lack of crawl space venting, the absence of building heating in recent decades likely contributed to the damage.[30]

Interior and Exterior Walls

The exterior of Building A is clad in a combination of wood lap and wood shiplap siding, painted white. The differences in the wood siding form roughly corresponds with the addition added in 1952: the north addition has wood shiplap siding while the older sections of the building have wood lap siding. The siding is not original to the building; as noted in Connor Scher's thesis, the building originally had board-and-batten siding painted a dark green with white corner boards and fenestration trim. A rectangular opening in the exterior wall on the west façade exposes several layers below the current siding (Figure B17, Appendix B). The current siding is attached to a layer of rigid fiberboard insulation panels, which are affixed to an interior framing system. Below the framing system is a layer of horizontally placed, red painted, channel grove wood siding. All the trim on the building is wood; currently the paint on the corner boards is faded to orange-brown due to discoloration while the fenestration trim color remains green.

Interior and exterior walls are framed with studs and the exterior walls are clad with decking. The Structural Condition Study in Appendix A states that the exterior walls appear plumb and no distress was noted. However, municipal staff editors believe there is a need for clarification on this point because site observations and HABS scan images in Appendices B and F show slumping of the east and west exterior walls of the original (central) portion of the building—particularly the west wall (See also footnote 28). Interior walls all appeared to be in bearing due to how the roof rafters were supported by the ceiling joists and then by the walls. Interior walls are supported by the floor joists.

The interior walls and ceilings of Building A are clad with a mixture of finishes, according to the 1997 environmental site assessment. The finishes in the original portion of the building are mainly plywood and 1x3, 1x4, or 1x2 dimensional wood mixed with cellulose board and small area sof gypsum wall board. The north addition has cellulose board walls and ceilings and the south addition has gypsum wall boards and ceilings.[31]

More assessment of interior walls is provided in the Interior Envelope of Buildings A, B, and C *subsection.*

[30] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)
[31] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)

Fenestration (windows and doors)

The windows and doors on the exterior of Building A do not match and reflect the upgrades and changes to the building that have happened over time. All the windows have wood frames and are covered with chicken wire set in heavy wood frames locked to the siding to prevent break-ins. There are three window pairs on the west façade. The two northernmost pairs of windows are both one-over-one casement windows (Figure B23). The northernmost window pair is centered in the west façade of the northern addition while the other two window pairs are in the original portion of the building. The southernmost window pair consists of three-over-one casement windows (Figure B27). The door in the west façade is a five-panel solid core wood door (Figure B24). The south façade of the building has one hollow core flush panel door flanked by three-over-one casement windows; the set centered in the façade of the building (Figure B28). The north façade of the building has two pairs of one-over-one casement windows, spaced evenly across the façade (Figure B29). There is a concrete formed opening at the ground level that at one time provided access to the crawl space in the foundation.

The east façade of Building A has a mixture of window and door types. At the south end of the façade is a small, three-light window of unknown operation (Figure B30). The window is set high in the façade. A similarly sized opening just to the north of the window has been infilled with siding. There is a three-over-three, fixed window in the stairwell addition that provides illumination for the stairwell (Figure B31). Between the two addition projections on the east façade is a recessed area that was part of the original building. The recessed area contains one set of paired, six-over-one, double-hung, sash windows (Figure B35). The northernmost window in the east façade, centered in the east façade of the northern addition, consists of a single one-over-one, casement window (Figure B26).

On the north end of the stairwell addition is an opening for a doorway that lead to the top landing of the stairwell; this opening has been infilled on both the interior and the exterior with plywood (Figure B32). The arctic entry on the northern half of the east façade has no exterior door, the door having been removed at some point. Only the hinges remain. The door leading into the interior of the building is a three-panel solid core door with a single light that has been covered with plywood (Figure B33).

Porches and Arctic Entrances

Building A has one arctic entry located in the northern half of the east façade (Figure B33). The arctic entry was installed in 1952 when the final addition was constructed on the north end of the building. The arctic entry has light timber framing and is clad with plywood on the interior and wood lap siding on the exterior to match the rest of the building. The roof of the arctic entry is a continuation of the polycarbonate or PVC roofing material evident across the rest of the building. The exterior doorway leading into the arctic entry is missing. The flooring of the arctic entry is plywood but obscured from view by the buildup of vegetation debris inside the entry. There is no evidence on the remaining entrances that there were ever any porches or entrance landings.

Cupola

The only building with roof adornments is Building A. Building A has a square cupola centered over the original portion of the building, with a corrugated PVC clad pyramidal roof and tall spire. Each of the four walls of the cupola consist of wood framed, three-light, fixed windows, with thick corner boards.[32] The cupola remains in good condition at the time of writing this report. The exposed rafter tails, window framing, corner boards, and spire are all painted green (which has faded to orange-brown) to match the trim around the rest of the building (Figure B45).

Chimney

Each of the three buildings at the Government Hill Wireless Station site has a chimney rising through the roofing to vent interior heating sources. All chimneys are showing signs of deterioration but are mass-produced, ensuring that they can be replaced in kind with relative ease.

The main chimney on Building A is located on the eastern side of the south addition. The chimney is made of welded sheet metal, and is cylindrical with a cone cap. The chimney is supported by a pyramidal base (Figure B46). Two plumbing vents rise through the east side of the roof as well, one located near the cupola and the second over the north addition. The vents are simple, unpainted, metal pipes. A final roof protrusion, a metal pipe that once held and directed electrical service to the building panel on the exterior, is located at the southeast corner of the building.

Roof/Roofing

The roof of Building A consists of corrugated PVC clad roofing[33] (Figure 11; Figure B1) installed over older roofing and is framed with 2-by-6-foot rafters set at 24-inches-on-center spacing. Some rafters appeared to have been supplemented with collar ties, but this was infrequent and seemingly random. There is no ridge beam and only a small squash block ridge member. The rafters are supported several feet back from the exterior wall with studs that bear on ceiling joists below. The ceiling joists are supported by interior and exterior walls. Where the north and south additions meet the original building, the original roofing and structure of the building is present underneath the roofing for the additions.[34]

The roof framing is generally sagging and some of the framing members have been patched where they had cracked/split previously. There is much roof shoring by use of wood posts and temporary metal posts.

---

[32] The glazing in the north face of the cupola was lost during the winter of 2023-2024, possibly due to heavy snow loading. This change exposed the interior of the cupola to the weather. The MOA Facilities Maintenance department covered the opening and boarded up other windows and openings in the complex in the spring of 2024.

[33] Some report materials describe the roofing material as being metal; however, given the information available staff believes the material is most likely PVC. Further site investigation may be necessary confirm.

[34] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)

Structural Capacity

Building A is a light framed wood building and sheathed with decking, so it has some nominal resistance but is not an engineered system. There are no tie downs, anchor bolts, or fastening that would be evident in an approved lateral force resisting system. Light framed wood buildings generally perform well in earthquakes despite lack of proper restraint.

Given the irregular roof framing and layout of the supporting walls and shoring, compounded by the patchwork of repairs and other constraints, a complete structural analysis was not feasible. Based on comparable light framed construction, estimates of safe load carrying capacity were made for the various structural components. At areas of rot and decay, the wood has no capacity and is in failure. Estimated load capacities are as follows:

- Roof framing - Snow load capacity of 15 pounds per square foot.
- Floor framing - Live load capacity of 15 pounds per square foot (at non-decayed areas).
- Foundations - Exterior foundation allowable bearing capacity of 3,000 pounds per square foot.
- Walls - Limited by roof and floor capacity.

Structural Deficiencies

- Exterior foundation is uninsulated and does not extend below frost line, although no frost heaving was observed.
- Floor framing is under distress from overload due to bearing walls and roof shoring loading the joists.
- Areas of floor framing are decayed, some areas significantly decayed.
- Roof framing is deficient.
- Roof rafters are not restrained from wind uplift with hurricane ties.
- There is no rational lateral force resisting system.
- Joists are not attached at interior or exterior supports.
- Walls do not appear to be attached at foundations.

Structural Stability

The building has been retrofitted evident by the amount of roof shoring by added interior posts and patched roof framing. It is likely this building has been in progressive failure and the shoring was added in an attempt to mitigate the issues. The shoring only buys time and does not address the major problems. The primary framing will continue to deform and will fail over time. The likelihood of future partial or total building collapse is high.

Figure 15: Building B junction of the main long axis (at left) with the addition (right) extending to the southwest.

Building B – Specific Conditions Assessment

Foundation and Floor

There is a continuous perimeter concrete foundation supporting exterior walls and is approximately 8 inches wide. The concrete foundation walls on the main section of the building extend several feet above grade (up to four feet from the concrete slab floor) along the main wing to form a foundation wall. By contrast, the foundation ends at the ground level on the addition extending to the southwest. The exterior foundation appears to extend 2 feet below grade. The exterior foundation appeared plumb with no signs of settlement. The foundation is formed by poured-in-place concrete painted white where exposed above the ground level. The visible portion of the poured-in-place concrete foundation still bears the imprints of the wood boards that made up the forms (Figure B16). The concrete material is uniform, with medium-sized aggregate.

The floor in the main part of Building B is a concrete slab at grade on the northern end, but there is a wood framed floor at the former grease pit location in the south end which raises the floor level approximately 8 inches above the concrete slab; the survey team did not investigate what is under the infill wood floor. The slab is in fair condition, but the wood framed floor shows some distress with

areas of failure. The floor in the short, western addition consists of wood joists over a crawl space and is in failure and collapse.

More assessment of the flooring materials is provided in the Interior Envelope of Buildings A, B, and C *subsection at the end of Part 2*.

Interior and Exterior Walls

The exterior walls of Building B are clad in wood shiplap siding painted white (Figure B16). The siding is uniform across the long, main body of the building and covers approximately the top two-thirds of the wall. The lower third of the wall is the white painted exterior wall of the concrete foundation. The bottom wood board is angled outward to create a skirtboard over the top of the concrete foundation wall. The corner boards and trim around all the fenestrations are discolored from their original green paint color to orange-brown, matching the faded color scheme on Building A. The addition that extends southwest also has wood shiplap siding; the siding on the southwestern-most end of the addition and the southwest façade is wood drop siding.

Interior and exterior walls are framed with studs and the exterior walls are clad with decking. Interior walls are supported by floor joists or concrete slab and transfer roof load to the floor. Exterior walls were not bowing or deformed and appeared to be in serviceable condition.

More assessment of interior walls is provided in the Interior Envelope of Buildings A, B, and C *subsection at the end of Part 2*.

Fenestration

Like on Building A, all the windows on Building B are wood framed and have been covered with either plexiglass or plywood to prevent unauthorized entrance into the building. Many of the windows have missing or broken glazing. The windows whose operation could be determined are all one-by-one casement windows of uniform size and installation placement (Figure B34). The southern half of the long axis of Building B has three windows that mirror one another in placement across the southwest and northeast facades; the southwest façade has a fourth window in the southernmost end of the façade that does not appear to have been present on the northeast façade. The mirroring of the fenestration pattern and number of windows indicates that the southern portion of the building was intended for human occupancy as opposed to utilitarian purposes. The northern section of the long axis of the building, by contrast, has only two windows. Both windows are located on the northeast façade; the inner of the two windows opens into the boiler room that housed the heating element for the building. There are only two window openings in evidence in the addition that extends to the southwest. The window in the northwest façade of the addition, located near the western corner of the façade, is boarded over with plywood and its operation could not be determined. The final window, located in the approximate center of the southeast façade of the addition, has been infilled with wire insulation, wire mesh, and a ventilation unit.

Figure 17: North entrance to Building B showing double door and stoop.

There are only two entrances into the building at present. The main entrance is through paired, flush, metal security doors in the northwest façade of the long axis of the building (Figure 17; Figure B12 in Appendix B). The surrounding siding, concrete foundation walls, and curbed driveway that once led to the façade all indicate that the façade once held an overhead vehicular door that has been infilled, and the double metal doors are not original to the building. The second entrance is in the southwest façade of the addition and consists of a single, flush, wooden man door placed slightly north of center in the façade (Figure B36). The door was unusable at the time of inspection as it has been boarded over and secured from the interior to prevent unauthorized access.

Porches and Arctic Entrances

Building B has one entrance porch or stoop, located against the doorway in the northwest façade of the long axis of the building (Figure 17; Figure B12). The entrance was constructed on top of the original paved driveway that led into the vehicular overhead door. The porch or stoop is wood framed, filled with gravel, and at one point may have been covered with a plywood floor (Figure B43). The wood framing extends slightly wider than the double metal security doors and approximately 2 feet outward from the building wall.

Chimney

Building B has one chimney of identical style to Building A. It is located near the center of the northeast façade of the long axis over the building, over the utility room. It is still tangentially attached to the remains of the boiler system on the interior of the utility room, however the exterior portion of the chimney has collapsed (Figure B47). While the upper, cylindrical portion of the exterior chimney and the conical chimney cap appear to be in good condition, the pyramidal chimney base shows extensive rusting that contributed to the chimney collapse. Given the angle that the chimney has fallen, it is possible that recent snow loads pushed against the deteriorated pyramidal chimney base and caused it to fail structurally. The collapse has left an opening in the roof structure and precipitation falls freely into the interior of the building.

The building also has a metal vent pipe located near the southern corner of the addition. The exhaust pipe located in the addition has collapsed, although given the thickness of the pipe and lack of base, it is probable that the source of the collapse is moisture infiltration on the interior of the building.

Another metal pipe rises through the southeast façade of the main building. Historically, this second metal pipe supported and directed electrical service to the building exterior panel. This utility pipe appears to be in good, serviceable condition.

Roof/Roofing

The roof of Building B is similar to Building A in both framing and roofing material. The roof is clad in corrugated PVC roofing (Figure B49) and supported by framing with rafters set at 24-inches-on-center spacing. Some rafters appeared to have been supplemented with collar ties and patching but this was not uniform. There is no ridge beam, only a squash block type member in which the rafters are connected. The rafters are supported several feet back from the exterior wall with studs that are carried on ceiling joists below. The ceiling joists then are underpinned by a few interior walls and many wood posts. The roof on the addition that extends to the southwest was framed into the main wing roof near the main wing center. Like Building A, the roof framing is generally sagging and shows signs of over stress. The PVC roofing appears to be in serviceable condition.

Structural Capacity

Building B is a light framed building with no rational lateral force-resisting system for wind and seismic loads. It is sheathed with decking, so it has some nominal resistance but is not an engineered system. There are no tie downs, anchor bolts, or fastening that would be evident in an approved lateral force-resisting system. Light-framed wood buildings generally perform well in earthquakes despite lack of proper restraint.

Given the irregular roof framing and layout of the supporting walls and shoring, with patchwork of repairs and splices and other constraints, a complete structural analysis was not feasible. Based on comparable light framed construction, estimates of safe load carrying capacity were made for the

various structural components. It should be noted that at areas of rot and decay, the wood has no capacity and is in failure. Estimated load capacities are as follows:

- Roof framing - Snow load capacity of 15 pounds per square foot.
- Floor framing - Live load capacity of 15 pounds per square foot (at non-decayed areas).
- Slab on grade - Live load capacity of 100 pounds per square foot.
- Foundations - Exterior foundation allowable bearing capacity of 3,000 pounds per square foot.
- Walls - Limited by roof and floor capacity.

Structural Deficiencies

- Exterior foundation is uninsulated and does not extend below frost line, although no frost heaving was observed.
- Former grease pit infill floor framing is deficient.
- Areas of floor framing are decayed.
- Roof framing is deficient.
- Roof rafters are not restrained from wind uplift with hurricane ties.
- There is no rational lateral force resisting system.
- Joist are not attached at interior or exterior supports.
- Walls do not appear to be attached at foundations.

Structural Stability

Like Building A, Building B has had retrofits evident by the amount of roof shoring and patched members in the roof framing. It is likely Building B has also been in progressive failure and the shoring was installed to try to stop collapse. Any shoring only slows the degradation and does not address the significant concerns. The primary framing will continue to deform and will eventually fail. The likelihood of future partial or total building collapse is high.

Figure 16: Southeast entrance to Building C showing main door and boarded-up window.

Building C – Specific Conditions Assessment

Foundation and Floor

There is a continuous perimeter concrete foundation supporting exterior walls. The foundation is approximately 8 inches wide and extends 2 feet below grade. The visible portion of the poured-in-place concrete foundation still bears the imprints of the wood boards that made up the forms. The concrete material is uniform, with medium-sized aggregate.

The interior of the building is supported by a form of post-on-pad foundation with wood cribbing resting on a gravel pad that supports the floor framing. The resulting crawlspace below the interior of the building is no greater than 12 inches deep. The exterior foundation appeared in fair condition with no noticeable signs of distress or settling.

The floor is framed with 2x joists and sheathed with decking. The floor joists bear on the exterior wall foundation and interior wood cribbing. The floor is noticeably soft and has significant issues in areas, particularly where supported by the wood cribbing.

More assessment of the flooring materials is provided in the Interior Envelope of Buildings A, B, and C *subsection at the end of Part 2*.

Interior and Exterior Walls

Interior and exterior walls are framed with studs and bear directly on floor joists. The exterior walls of Building C are clad in wood plank siding oriented horizontally and painted white. The corner boards and fenestration trim were painted green but the paint color has faded to orange-brown due to discoloration. The color scheme (and its discoloration) matches the rest of the Government Hill Wireless Station complex. One opening in the building that may have held utilities shows that below the current siding are more horizontal wood planks (Figure B21). The interior planks also show signs of having been painted, although whether the paint remnants are from the inner planks being previously exposed or from a repainting of the current siding is unclear. Exterior walls appear sound with no distress or out-of-plane deformation noted.

More assessment of interior walls is provided in the Interior Envelope of Buildings A, B, and C *subsection at the end of Part 2*.

Fenestration

The windows on Building C are similar to the windows of Building A in their nonuniformity. All the windows are wood framed and have been covered by plexiglass drilled into the frames and either chicken wire or thin wire mesh. The plexiglass and wire combination appears to have protected the glazing from destruction due to vandalism. One window, located to the west of center in the southeast façade of the building, has been boarded over with plywood (Figure B37).

There are two windows in the northeast façade. The southernmost window, located to the north of center, is a three-over-one casement window (Figure B38). The northernmost window is a three-over-three of unknown operation located near the northernmost corner. An identical window, set at the same height, is located on the eastern end of the northwest façade (Figure B39). The southwest façade contains two identical windows, both three-light windows of unknown operation. The northern most of the two windows mirrors the placement of the northernmost window in the northeast façade; the southernmost window is centrally located between the doorway in the southwest façade and the southernmost corner of the building.

There are two entrances into Building C. The main entrance is through a single-light, two-panel, metal door set to the east of center in the southeast façade of the building (Figure 18; Figure B9). The door is likely a replacement, as the surrounding trim is wood rather than metal and there is evidence of infill in the siding. The single light in the top half of the doorway has been covered with plywood on both the interior and exterior to prevent vandalism and unauthorized access; it is unknown if the glazing in the door remains. The second entrance is located on the southwest façade of the building, just north of center. The door is an oversized, flush, metal man door with a single square light centered in the upper half of the doorway (Figure B40).

A final egress opening in Building C is in the upper gable of the southeast façade. The short, narrow opening is formed by a doorway constructed of matching siding and large T-hinges. The purpose and origin of this opening is unknown.

Porches and Arctic Entrances

Each of the two entrances to Building C has evidence of porches or stoops similar in style to the deteriorated one on Building B. Both entrances have wide landings constructed of timber framing; no decking remains in evidence. The framing of the platforms has been filled in with gravel and vegetation.

Chimney

Building C has one metal chimney located on the southwest side of the gable roof near the southernmost corner of the southeast façade. The chimney consists of a cylindrical metal stove pipe that has been wrapped with thick wire for reinforcement, a conical cap, and a cylindrical metal base (Figure B48). A second pipe rises through the southeast façade and once held and directed electrical utilities to the building panel.

Roof/Roofing

The roof of Building C is identical in cladding and framing to the other buildings at the Government Hill Wireless Station; It is clad in corrugated PVC roofing over light timber framing (Figure B50). The rafters are set at 24-inches-on-center spacing. Some rafters appear to have been supplemented with collar ties, more so than the other buildings. There is no ridge beam, nor are there rafter ties at every set of rafters. The rafters are supported several feet back from the exterior wall with studs that bear on ceiling joists below. The ceiling joists are supported by a few interior walls. Building C has a steeper roof pitch and shorter spans, meaning that it sheds snow at a greater rate. Because of this, the roof framing is in noticeably better condition than the other two buildings. There are no shoring posts in Building C, unlike the other buildings.

Structural Capacity

Building C is a light-framed wood building and sheathed with decking, so it has some nominal resistance but is not an engineered system. There are no tie downs, anchor bolts, or fastening, that would be evident in an approved lateral force-resisting system. Light-framed wood buildings generally perform well in earthquakes despite lack of proper restraint.

Given the irregular roof framing and layout of the supporting walls, along with supplemental members and repairs and other constraints, a complete structural analysis was not feasible. Based on comparable light-framed construction, estimates of safe load carrying capacity were made for the various structural components. It should be noted that at areas of rot and decay, the wood has no capacity and is in failure. Building C generally has more capacity than the other buildings. Estimated load capacities are as follows:

- Roof framing - Snow load capacity of 25 pounds per square foot.

- Floor framing - Live load capacity of 25 pounds per square foot.
- Foundations - Exterior foundation allowable bearing capacity of 3,000 pounds per square foot.
- Walls - Limited by roof and floor capacity.

Structural Deficiencies

- Exterior foundation is uninsulated and does not extend below frost line, although no frost heaving was observed.
- Floor framing is deficient.
- Areas of floor framing are decayed.
- Roof framing is deficient.
- Roof rafters are not restrained from wind uplift with hurricane ties.
- There is no rational lateral force resisting system.
- Joists are not attached at interior or exterior supports.
- Walls do not appear to be attached at foundations.
- Wood cribbing on the ground supporting the floor framing is not a proper interior foundation.

Structural Stability

Like the other buildings, Building C has been retrofitted in the past, as evident by the collar ties that appear to be newer lumber than the original roof rafters. Unlike the other buildings, there were no additional shoring posts. Building C has some floor issues, but Building C appears in much better condition than the other buildings. The likelihood of future partial or total building collapse is low.

Figure 17: Interior room in Building A

Interior Envelope of Buildings A, B, and C

The interiors of the three buildings at the Government Hill Wireless Station site are utilitarian by design but deteriorating from environmental influences and lack of maintenance. Due to the limited accessibility of the interiors for life and safety concerns, the interior features of the buildings are generalized and based on what was safely observable.

It is important to note that under accepted cultural resource practices, building interiors are generally not governed by the same guidance as exteriors per *The Secretary of the Interior Standards for the Treatment of Historic Properties*. The reasoning behind this is because the interiors of most buildings are inaccessible to the public (i.e., a private residence listed to the NRHP or a secure building such a bank or military structure). The exception to this practice is if one or more of the interior features contribute to the historic integrity of the building. These features can include pressed tin ceilings in an area where they are not commonly found, the circulation pattern of a former church, or the layout of interior rooms in a Federalist-period building.

The interiors of the three buildings at the Government Hill Wireless Station were not evaluated at the time of determination of eligibility in 2006 or at the time of listing in 2015. This may be due to the inaccessibility of the buildings due to life and safety concerns. As a result, the interiors of the three buildings are not considered to contribute to the historic integrity of the site. The treatment recommendations included in this section are generalized but are largely dependent on the proposed future uses of the building for which they can be adapted.

Additionally, there is evidence that the interiors of the buildings have been remodeled over time as the purposes for which the buildings were used changed. Should a proposed future use require it, research can be undertaken to determine the original layouts and finishes of the interiors of the buildings, at which time the interiors can be returned to their original appearance. However, this is not required, and the interiors can be reconfigured to adapt to a proposed future use as needed.

Interior Wall Finishes

The interior walls of all three buildings appear to be finished drywall and/or painted plywood. Most of the observable walls have wood trim. The materials that could be seen are almost all in a state of disrepair. In addition to paint peeling and flaking away from the walls, there is significant cracking in the drywall and the painted plywood has warped away from the wall backing. These conditions are being caused by a variety of concerns acting at once. Moisture infiltration has impacted all the materials, with water staining visible on the finished drywall and causing plywood to warp and deteriorate (Figures B51 and B52).

Interior Doors and Windows

The interior doors of all three buildings consist of hollow core wood doors of various ages. Building A has at least two five-panel doors, while the other two buildings have all flush doors. The doors are in various states of disrepair and deterioration, and some are missing entirely. The only building with windows on the interior is Building B; the southern end of the main long axis of the building was enclosed at some point to create a private office. The wall that separates the space from the rest of the open room is dominated by two large, plate glass windows that afford a view of the rest of the building.

Ceilings

Like the other interior finishes, the ceilings in the three buildings are in poor condition and have failed in some locations. The ceilings consist of finished and painted drywall and plywood, similar to the interior walls. There was no observable evidence that the existing holes and deficiencies in the ceiling have been addressed in the past.

Flooring

The interior flooring of the three buildings consists of plywood or wood decking overlaying 2-by-10-inch joists. The floor joists bear on the exterior wall and on interior pier blocks (or slab floor in Building B). The flooring in Building A and the addition to Building B is significantly distressed, caused by a combination of roof loads from interior bearing walls and roof shoring posts, and compounded by

areas of decay (Figure B54). The floor is notably soft and deforms significantly under load. There are many large areas of permanent deflection and decay. Much of the flooring in Building A and the addition on Building B was unstable for pedestrian access.

Building C and the north section of the long axis of Building B is more stable; the floor in this section of Building B is the bare concrete slab foundation, ensuring that it is structurally stronger than its corresponding framing members. It may not be necessary to replace the flooring in the northern section of Building B.

Figure 20. Bare concrete foundation serves as the floor in the northernmost section of Building B (2023).

Part 3. Treatment and Work Recommendations

3.1. Historic Preservation Prerequisites

The three buildings at the Government Hill Wireless Station demonstrate significant structural failures as noted in the previous sections and in the *Structural Conditions Study* (Appendix A). Before any adaptive reuse can commence on the buildings, significant work will need to be undertaken to address structural failures in the foundations, framing of walls and floors, and the roof. Site work including vegetation removal should be one of the first actions taken, as removing the overgrowth that encroaches the site and threatens the structures will allow for more detailed inspection and evaluation of the buildings at their base. Any rehabilitation and restoration work will also involve disturbance of hazardous materials. The 1997 environmental site assessment[35] (Appendix E) recommended a more specific survey including destructive investigation for hazardous materials be performed as part of the design work for any future treatment activity.

The recommendations made in this report are based on treatment suggestions and guidelines put forth by *The Secretary of the Interior's Standards for the Treatment of Historic Buildings*. These guidelines cover preservation work at all levels of deterioration, but their application should be through the lens of the proposed future use of the buildings. The guidelines, along with other bulletins and briefs produced by the National Park Service, have suggestions for the adaptive reuse of buildings, including detailed information on the installation and upgrade of life and safety systems as well as adding ADA-compliant features. Once a future use for the buildings is selected, more detailed recommendations can be created.

3.2. Requirements for Work

Future Use

The appropriate use for a historic building is not governed by any guideline, law, or rule. The best use for a historic building, however, is one that is similar to the original historic use of a building. In the case of an elementary school, an appropriate reuse would be as an adult education center, such as the former Chena Elementary School on Fort Wainwright, Alaska. Reuse of the buildings at the Government Hill Wireless Station in a way that is similar to their original purpose, however, is not possible at this juncture, due to the increases in radio and wireless technology. The most appropriate reuse option is one that protects the historic integrity of the buildings while still serving a need within the community.

Hazardous Materials

Any repair or rehabilitation work to the structure will require disturbance of existing hazardous materials. Although an environmental assessment of hazardous materials is outside the scope of this Historic Structure Report, the phase 2 environmental assessment work in 1997 identified the existence of hazardous materials in Buildings A, B, and C.[36]

[35] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)

Specifically, the property was surveyed for asbestos-containing materials, lead-containing materials, and chemical hazards[36]. The survey found the following hazardous materials in each building:

- Lead-containing paints on the building interiors and exteriors.
- Fluorescent light ballasts containing polychlorinated biphenyls (PCBs).
- Mercury-containing items including switches, thermostats, and fluorescent light fixture tubes.
- Asbestos-containing materials (ACM), typically including joint compound of the wall and ceiling finishes, flooring materials, cement asbestos board, roofing materials, and wire and pipe insulation. Most of the ACM was non-friable and not likely to release asbestos fibers unless disturbed. Only small quantities of the ACM materials in each building were found to be "friable" and more hazardous.

Since there has not been subsequent rehabilitation work or replacement of these materials, these hazardous materials are assumed to remain in the buildings.

The 1997 survey also included subsurface site investigation and underground oil storage tank removal of the site. The survey found the following hazardous materials in the soil:

- A deep boring to 40 feet, approximately 1 foot below the groundwater level, found concentrations of Diesel Range Organics and methylene chloride above the cleanup criteria applicable at the time.
- A dry well investigation at the north end of Building B found contaminated soil at a depth of 3 feet, including concentrations of DRO and Residual Range Organics (RRO). Concentrations of polychlorinated biphenyls (PCBs) and lead were also found in the soil at the dry well.
- Three underground storage tanks were removed and heating oil removed from each. Soil surrounding each of the tanks included concentrations of DRO, and soil around one of the tanks also contained concentrations of benzene.

Fire and Life Safety

The buildings do not meet requirements for fire and life safety and pose significant danger to human occupants. Any proposed work will need to comply with the International Existing Building Code (IEBC) and building elements will need to be upgraded to varying degrees depending on the classification of work (construction) and eventual building occupancy use. Rehabilitation of the site will likely require several variances.

Zoning and Platting Entitlements

Two of the buildings cross property lines and work may require subdivision to combine the parcels. The buildings have encroachments in required property setbacks but are likely legally

[36] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)

nonconforming (i.e., have grandfathered rights). Due to the residential zoning of this parcel, some kinds of potential community uses may require a conditional use, site plan approval, or other kind of special entitlement approval.

Only Building A has a staircase, included in the 1934 addition. Many doors and hardware are damaged or missing. There are no functioning fire detection or suppression systems, no security systems, or phone connections. It is assumed the construction complies with building practices at the time of construction for fire stopping.

ADA Accessibility

Development of the site predates the 1968 Architectural Barriers Act and does not meet the provisions of the Americans with Disabilities Act. As a result, the site and buildings are not considered accessible. There are no accessible routes throughout the site or buildings.

Public Health

The site does not have active water, sewer, or trash service. The condition of a sewer and water connection, albeit abandoned, is unknown. The last use of fixtures in the buildings was likely 1985.

Engineering Report on Safety Considerations and Load-Bearing Limits

A full, comprehensive structural analysis could not be completed for the Government Hill Wireless Station Campus buildings due to several constraints and limitations. The first is that existing construction does not conform to current building code for similar building types, therefore based on current code, many components would have 'zero' capacity, and this would not give a helpful representation of the existing structural conditions. Some examples of this constraint include roof rafters that are typically connected to a thin ridge member with only a few collar ties to develop an opposing tension force. Without collar ties at every set of rafters, and a weak ridge member that cannot carry vertical load, there is 'zero' roof capacity according to the code. However, due to membrane action and other mechanisms that cannot be considered per code for light-framed wood construction, the roof has some capacity that cannot be calculated with the current codes. Another constraint is that none of the buildings had connections to foundations. The building code requires some connection and anchorage to develop resistance against wind and seismic forces, but no foundation anchorage was observed. Yet the buildings have some capacity to resist wind and seismic forces, even though per code, no capacity could be calculated.

An important limitation is there are many areas of irregular roof framing that have a piecework of supplemental members and repairs that are supported by a random layout of interior walls. It is not feasible to catalog every deviation given the scope and time constraints. Therefore, structural capacities were determined based on comparing each building primary structural system construction to current light-framed construction and then estimating a safe load carrying capacity by analogy comparing to the capacity developed per current code approved construction

techniques. By estimating a safe load capacity in this way, relevant information can be obtained related to the main point of this study which is the feasibility of historical preservation.

3.3. Historic Preservation Treatment Recommendations and Alternatives

This section begins with general recommendations for the historic preservation treatment of the buildings in general, and for the site elements (e.g., landscaping). It then proceeds to recommendations specific to each of the three buildings and their individual building components.

Building Treatment – General Options and Recommendations

Based on the structural engineering report (Appendix A) and Part 2 of this report, it is recommended that the buildings be subjected to an intensive **rehabilitation** treatment, with some restoration (i.e., replacement) of deteriorated and unsafe components, as well as preservation of certain components in good condition. The recommended treatments, as outlined in the historic structure report, are based upon guidance published by the National Park Service in *The Secretary of the Interior's Standards for the Treatment of Historic Properties*.[37] The recommendations were compiled by the project team and should be used as a starting point only. Unexpected discoveries as to the types and conditions of building materials and systems are always a factor when undertaking projects on historic structures.

Rehabilitation of a historic structure means to make possible a compatible use for the property through repair, alterations, or additions while preserving those portions or features which convey its historical, cultural, or architectural values. The Secretary of the Interior's Rehabilitation Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character. Rehabilitation involves retaining as much of the historic material present in a given building as possible, while repairing those materials and systems that are deteriorating or at risk of failure.

Some of the systems present in the Wireless Station buildings will need more intensive replacement work, which falls under the Secretary of the Interior's **Restoration** treatment heading. For those systems, like the interior foundation on the center portion of Building A, replacing deteriorated and failing structural members and other components is recommended, but as directed by the Restoration Standards, should be replaced in such a way as to match or closely resemble the original elements being replaced.

Preservation is not recommended as the overall treatment strategy for the Wireless Station buildings. Under the Secretary of the Interior's Standards definition, a Preservation treatment means sustaining the existing form, integrity, and materials of a historic property; such work focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The Wireless Station buildings are deteriorating at such a rate that preserve-in-place treatment approaches are unlikely to ensure their continued survival.

[37] (Grimer 2017).

Preservation has been used to help protect the buildings in the past, including the installation of the polycarbonate or PVC roofing and the plexiglass window coverings on Buildings B and C. Such measures will not enable the buildings to be put to any new uses, however, and will eventually lead to their collapse.

Reconstruction is not recommended for the Wireless Station buildings at this time. Reconstruction under the Secretary of the Interior's Standards definition means the construction of a new building that depicts the form, features, and detailing of a non-surviving historic structure, for the purpose of replicating its appearance during its period of historical significance and in its historic location.

Reconstruction of the buildings should be considered a treatment option only if it is determined that demolition of the historic structures is necessary or preferred. Reconstruction can create confusion in visitors unaware of the reconstruction history of the site. Reconstruction as a treatment approach should only be used as a last resort. It is listed here because, with the buildings in such an advanced, accelerated stage of deterioration, a possible option is to consider the buildings as non-surviving.

Site Plan Treatment Options

At present, the site plan reflects the layout of 1952, at the end of the period of significance for the Wireless Station. In addition, historical site maps for the Wireless Station could not be located, so the original placements of the buildings as detailed by Connor Scher could not verified[38]. The layout of the site should be preserved, as, at present, the layout does not pose any threat to the surrounding neighborhood or to life safety. The relationship between the buildings, joined by walkways, with an interior courtyard, helps to create the feeling of unity of purpose at the site, especially in the absence of the original antenna arrays.

Treatment Options for the Walkways

The recommended treatment for the walkways is replacement. Under the restoration option for the treatment of historic properties, it is appropriate to replace "in kind an entire restoration-period feature that is too deteriorated to repair using the physical evidence as a model to reproduce the feature."[39] The walkways can be located and laid out by on-the-ground survey, after which any existing damaged concrete can be removed. New walkways can then be installed using modern concrete, which is considered an appropriate in-kind replacement material for this type of work.

Parking Treatment Options

The recommended treatment option for motor vehicle parking at the site is a combination of options. The only planned parking in evidence at the site is the paved and curbed driveway that leads into the northwest end of Building B. Similar to the treatment option for the walkways, it is recommended that the driveway be replaced per the restoration treatment option. There is enough of the original driveway remaining that the new driveway can be constructed to match the original. Modern

[38] Property of the MOA, aerial photographs from 1939, 1949, 1959, and photograph courtesy Steve Gerlik, ca 1935.
[39] (Grimer 2017), 212

concrete is considered an appropriate in-kind replacement material for this type of work. Any modern safety regulations related to the construction of driveways and curbs should be observed, however.

Landscaping Treatment Options

The recommended treatment option for the vegetation that dominates the landscaping of the Wireless Station is the removal of all trees and shrubs from the entire site. This treatment option is recommended as the only viable option under the *Secretary of the Interior's Standards for Preservation*. The preservation recommendation for a building site as defined by the *Secretary of the Interior's Standards* state that the building site will retain "the historic relationship between the buildings and the landscape."[40]

Historic photographs of the Wireless Station taken during the period of significance show no vegetation at the site taller than grass. The land would have been cleared at the site for two reasons. First, as a Wireless Station, the site would need to be cleared of any vegetation or obstacles that could potentially obstruct signals from reaching the receiving field or transmitting effectively. Second, the development of Anchorage from a tent city to a railroad town would have required vast amounts of lumber, thus necessitating the use of all available trees. As such, the historic relationship between the Wireless Station buildings and the surrounding landscape would have been denuded of all vegetation taller than grass, leaving clear views from the site to the surrounding Government Hill area, Ship Creek, and local oral histories suggest views even to the Cook Inlet.

Additionally, clusters of native trees and shrubs are growing up against all three buildings. Vegetative growth to the extent observed at the site has likely led to deterioration and if unmanaged will lead to further deterioration of the structural integrity of the buildings. Removing the vegetation from the site will not only return the original relationship of the buildings to the landscape but halt further deterioration of the buildings from vegetative growth.

[40] (Grimer 2017), 63

Figure 21: Building A viewed from the east-southeast

Building A – Specific Treatment Recommendations

Structural Recommendations

Historical preservation efforts are impossible under the current structural condition. The building cannot take any additional load and the floor is not safe to work upon. Structural stability must be established before any attempt at historical preservation treatment is made. The challenge is that the entirety of the framing is significantly deficient, and the framing must be rebuilt to stabilize the building. Retrofits would need to start at the roof since the weak roof is currently shored and overloads the floor. A possible rehabilitation method would be to stick-build new trusses or a rafter-collar tie system inside the existing attic that distribute roof load from exterior wall to exterior wall. This would relieve the floor from being overloaded by roof shoring loads. Then the floor could be safely retrofitted to increase the capacity and replace decayed joists. The lateral force resisting system would need to be supplemented with anchor bolts or other type of restraint.

Foundation and Floor Treatment Recommendations

The recommended approach to the existing concrete portions of the foundations of Building A is preservation. The concrete basement on the south (1939) and crawl spaces in the north (1952) and central (1917) portions of the building appear to be stable and in good structural condition; only one large crack in the exterior stairwell on the east façade requires repair work (Figure B56).

Despite the large crack in the exterior concrete wall of the stair well, the approach to the treatment of the stairs and stairwell is preservation. The crack should be probed to determine the cause; as it parallels the slope of the stair treads, it is likely that the crack resulted from settling of the ground below the stairs. The crack should be mapped to document the current extent of the damage, the vegetative growth cleared, and the crack patched with concrete that matches the existing historic concrete material. Patching the crack will prevent infiltration by moisture, vegetation, and insects, thereby preventing further deterioration unrelated to the original cause of the crack.

Similarly, the areas of surface spalling evident on the stairs and stairwell walls should be patched and repaired as appropriate. As the spalling appears to be clustered in areas surrounding the large crack, the spalling could be related to moisture infiltration. Adding an appropriate sealant to the exposed concrete could help protect it from further deterioration, as would determining the source of the moisture infiltration. Installing systems such as a curtain drain around the foundation or gutters along the edge of the roof could help divert water away from the foundation and stairs, thereby preventing further damage.

The observable pyramidal concrete piers that support the original portion of the building appear to be later replacements for any original foundational supports. The increased settling of the original portion of the building creates a saddle-bow appearance to the building, with the central portion sagging at a lower level than the concrete-supported additions. To correct this, the piers should be adjusted using hydraulics to lift the building, allowing for the piers to be stabilized, repaired, replaced, and/or adjusted as needed to provide increased support for the building above. This treatment option falls within the category of restoration work, and care should be taken to retain those structural elements that are in serviceable condition. Replacement in kind is appropriate for "large portions or entire features of the structural system from the restoration period that are either extensively damaged or deteriorated… the new work may be unobtrusively dated to guide future research and treatment."[41]

Work on the piers should be carried out in context of treatments for the floor joists and flooring. The flooring and floor joists on Building A should be replaced as part of any work moving forward to reuse the buildings. Floor joists bear interior and exterior walls and the roof structure, and some floor joists are in failure. Safety concerns for the flooring and floor joists of Building A are paramount and should be one of the first conditions addressed.

Although there is no observable damage to the exterior perimeter of the foundations, vegetation was observed growing against the side of the building including against the concrete foundation. The vegetation should be removed and either a curtain drain or gravel border installed around the base of the building. This will not only help with drainage at the site but also protect the concrete foundations from damage caused by vegetation growth and standing water.

[41] (Grimer 2017), 200.

Exterior Walls Treatment Recommendations

The current exterior siding is in serviceable shape, although not original to the building. The paint shows signs of crazing, a deterioration condition characterized by excessive cracking in the paint. Crazing is caused by thick paint that has become brittle and inflexible, no longer expanding and contracting with the wood underneath. The paint also shows signs of peeling caused by the crazing as well as environmental grime, particularly on the east façade. Following the guidance for preservation, it is recommended that the exterior paint be removed by hand-scraping or sanding, and a new layer of paint applied.[42] Paint helps to protect the wood siding from environmental factors like moisture, which can cause rapid deterioration of the wood siding material.

It is also recommended that the underlying layers of insulation and siding be investigated to determine material makeup and purpose. Determining the insulation material in particular is helpful when trying to decide on future use, as it may need to be replaced in order to increase the R-Value to the point that the building is economical to heat. It would also be beneficial to determine if the channel groove siding visible inside the framing is the base for the interior wall finishes.

Fenestration Treatment Options

The glazing in all the windows has been damaged due to vandalism over time. The framed chicken wire panels were installed to prevent entrance through the broken windows, but it may not be adequate to prevent further breakage. The wooden muntins and mullions all appear to be intact, however, escaping the damage caused to the glass. The paint is failing on all the window frames, leaving sections with little paint remaining. The last paint application, however, was somewhat careless, as the edges of the glazing were also painted over.

Identification of the original window types is important for preservation efforts. Once it is determined which windows were installed during which period, it is possible to identify any windows that were installed outside the period of significance for documentation purposes. As the window frames appear to be in serviceable condition; the shifting of the building over time has pushed the windows out of alignment with the surrounding frames. This misalignment should be corrected when the foundation is fixed, and the building framing brought back to alignment. The glazing will need to be replaced on nearly all the windows. The recommended treatment approach for the windows on Building A is rehabilitation. Under this treatment option, as much of the historic material is retained as possible while replacing only those elements that have failed structurally (Figure B27).

The most substantial replacement material is the glazing, much of which has broken due to vandalism. The windows should be removed and inspected. The broken glazing should be replaced with an appropriate, in-kind replacement, such as single-paned glass. As the older glazing is removed, the frames can be inspected and repaired as necessary by patching, splicing, or reinforcing the framing members. The existing paint should also be removed by hand scraping and sanding. When the new glass is installed in the frames, new putty sealant can be used to ensure a

[42] (Grimer 2017), 39.

weather-tight fit. The window operation mechanisms, such as hinges and locks, should be inspected, cleaned, and oiled. After the windows are reinstalled on the building, removable storm windows that are sympathetic in design to the building can be installed to both protect the windows and to ensure that the building is more weathertight. Any windows that are too deteriorated for continued use should be replaced in kind with wood framed windows that match the framing and operation of the original, historic window.[43]

The doorways on Building A are likewise mismatched, reflecting the period during which they were installed. Research should be undertaken to determine what door type was original to the building for documentation purposes. The doorways are all beginning to fail on Building A. The doors and frames all demonstrate misalignment as the frames have shifted out of plumb with the building settlement. Once the building foundation has been stabilized and corrected, the door frames should be adjusted so that they are square once again, ensuring proper door operation.

The entrance on the west façade of the building has been blocked off on the interior and is no longer operational. The door appears to be in better condition than the rest of the doors possibly because it is likely a solid core door. The wood along the bottom of the doorway shows signs of deterioration from moisture and vegetation and has been patched at some point in the past. The door should be scraped of all paint and the doorway inspected for internal damage; all hardware should be cleaned, examined, and oiled for ease of use. If necessary, the door can be replaced in its entirety using an in-kind replacement of a five-panel, solid core, exterior door.[44]

The doorway in the south façade is a flush, hollow core, wood door that shows significant signs of failure. Holes have been punched in the outermost panel of the door, the paint is failing, and the lower portion of the door shows signs of deterioration from moisture (Figure B28). It is recommended that this door be removed and replaced with a period-appropriate wood door. Research should be done to determine the original door type; if that is not possible, then a five-panel wood exterior door similar to the door on the west façade may be an appropriate replacement type.[45]

The doorways in the arctic entry should be treated in a similar fashion. The wood material of the door that leads into the interior of the building is in relatively serviceable condition; the single light window in the upper portion of the doorway, however, has been broken and boarded over with plywood. The glazing should be replaced as appropriate. The door should be scraped of all paint and the doorway inspected for internal damage; all hardware should be cleaned, examined, and oiled for ease of use. If necessary, the door can be replaced in its entirety using an in-kind replacement. Research should be done to determine the type of door that originally led into the arctic entry from the exterior; if possible, efforts should be undertaken to replace the doorway with one as close to the original as possible.[46]

[43] (Grimer 2017), 102-106.
[44] Ibid., 110-112.
[45] Ibid.
[46] Ibid.

Porches and Arctic Entry Treatment Options

The arctic entry needs repair and is one of the few elements of the building that should be subjected to restoration treatment. Under this approach, it is appropriate to evaluate the integrity of the materials, in particular the deteriorating plywood on the interior walls, floor, and ceiling. It is likely that the wood will need to be replaced. If so, then limited replacement in kind is appropriate, so long as the new work matches the original in material, design, scale, color, and finish. If the framing below the cladding is found to be deteriorated to the point of failure, then the entire arctic entry can be replaced. The work should be undertaken in such a manner as to be "unobtrusively dated to guide future research and treatment."[47]

Cupola Treatment Options

The cupola appears to be in serviceable condition and should be preserved as a high priority. As noted in the NRHP nomination for the Government Hill Wireless Station, an anecdote from the Oral History of Government Hill claimed that the cupola, elevated above the building which was placed on a high bluff overlooking the Port of Anchorage, "was known to provide direction to help ships get into port"[48] in the dark when it was lit, although this story does not appear in historical records and is likely incorrect. Regardless of the veracity of the lighthouse story, the cupola is considered a character-defining feature of Building A specifically and of the Government Hill Wireless Station more generally.

The elevated nature of the cupola has protected it from vandalism, as of 2023. It retains its glazing on three of four sides and all framing members. It is recommended under the preservation treatment guidelines that the framing be inspected more thoroughly to ensure structural integrity, then the exterior cleaned. Any areas of deteriorated paint should be hand scraped or sanded and reapplied. The surviving glazing requires cleaning, as the edges of the glass have been painted during previous work sessions. Special attention should be given to the windows, with removable storm windows installed to prevent any breakage. The windows, once cleaned, and the storm windows should provide sufficient transparency so that should the cupola be lit from within as it was during the period of significance, although it is questionable if the light could be seen from ships approaching the Port of Anchorage given the larger buildings and mature vegetation that have grown up in the neighborhood around the Wireless Station.[49]

The glazing on the north face of the cupola was lost during the winter of 2023-2024, possibly due to heavy snowfalls, and will need to be replaced. Further survey of the damage may be needed to address change in condition on the cupola.

[47] Ibid., 192.
[48] (Wilson and Rickman 2015)
[49] (Grimer 2017), 46-48.

Chimney Treatment Options

The chimney on Building A appears to be in good condition and should be retained and preserved if possible.[50] Staining on the metal indicates that it is suffering from minor deterioration due to moisture concerns. The recommended treatment option is preservation, which would involve cleaning the chimney and inspecting it for structural deficiencies. If necessary, the chimney can be supported by additional bracing or framing on the interior. Flashing should be installed around the base of the chimney to prevent precipitation from leaking into the roof structure. It is recommended that snow clips or directional flashing should be installed on the roof above the chimney; these measures will protect the chimney from melting or sliding snow accumulation on the roof.

The exhaust vents and utility pipe should be investigated. If these roof protrusions are not connected to any utilities and their installation post-dates the period of significance or pose concerns over moisture infiltration into the roof, the vents should be removed and the roofing repaired. If they were installed during the period of significance or their retention does not pose a threat to the underlying roof structure, then the vents and utility pipe can remain in place with no recommended treatment other than cleaning. The opening in the roof eaves that allows for passage of the utility pipe should be sealed to prevent deterioration of the roof decking due to moisture infiltration.

Roof/Roofing Treatment Recommendations

The most important structural aspect in need of attention on Building A is the roof framing. The corrugated roofing appears to be in serviceable condition, although it should be thoroughly cleaned of all grime and any vegetative growth that could not be observed from the ground. The roof framing was generally sagging and some of the framing members were patched where they had cracked/split previously. There was much roof shoring by use of wood posts and temporary metal posts. This approach is appropriate under the preservation treatment guidance for structural systems, which allows for the repair or augmentation of compromised structural components by sistering, bracing, or otherwise supplementing and/or reinforcing the failing structural member.[51]

These measures, however, have been used so extensively across the building that there is a risk of roof collapse. The structural engineering study completed as part of this project reported that the roof framing is deficient and that the rafters are not restrained from wind uplift. The estimated allowable snow loads are approximately 15 pounds per square foot, significantly less than the required 40 pounds per square foot required by municipal building code. The rehabilitation treatment option allows for the in-kind replacement of structural systems that are damaged, deteriorated, or missing; the substitute material, however, should be "physically compatible with the rest of the system, and, where visible, must have the same form, design, and appearance as the historic feature."[52] This indicates that the failing roof framing can be replaced with new framing members, provided that they are made of wood and have the same form as the original members.

[50] Municipal staff may seek clarification of the condition of the Building A chimney and its recommended treatment, as the conditions assessment in Part 2 states that all chimneys are showing signs of deterioration and could be replaced.
[51] Ibid., 55-57.
[52] Ibid., 123.

Figure 22: Building B viewed from the south-southeast

Building B – Specific Treatment Recommendations

Structural Recommendations

Historical preservation efforts for Building B would be very challenging but not as difficult as Building A. The roof cannot take additional load and the infilled grease pit wood floors have reduced capacity. The concrete slab on grade could take considerable load from additional shoring but is only in a smaller portion of the building. New foundations could also be more easily constructed in this area for new permanent supports, if desired.

Structural stability must be established before any attempt at historical preservation treatment is made due to the low roof capacity. Similar to Building A, a possible method could be to stick-build new trusses or a rafter-collar tie system inside the existing attic that would distribute roof load to exterior walls and off the floor. Once the roof system is strengthened, the interior shoring could be removed, and the floor retrofitted. Preservation efforts could then occur after the structural repairs are completed. The lateral force resisting system would need to be supplemented with anchor bolts or other type of restraint for a current code compliant system.

Foundation and Floor Treatment Recommendations

The recommended treatment approach for the foundation in Building B is preservation. The foundation is in good structural shape and does not show any signs of structural failure. There is evidence of minor spalling at the corners of building and in some areas directly below the skirtboard; this spalling is likely caused by infiltration of moisture. There are also small vertical cracks in several locations that correspond with the window framing; it is unclear what caused these cracks but the cause should be investigated.

The extent of the spalling and cracking should be mapped and monitored. The spalling and cracking can be patched with concrete that matches the existing historic concrete material to prevent further damage from moisture, vegetation, and/or insect infiltration. The areas should be monitored over time to ensure that the damage does not spread to surrounding areas.

Minor vegetation growth was observed on the foundation particularly on the northwest façade and the intersection between the main portion of the building and the addition that extends southwest from the center of the main building. The vegetation should be removed from the surface of the concrete as well as from the perimeter of the building, after which a gravel border or curtain drain should be installed to prevent further vegetation growth or damage from standing water.

The recommended treatment approach to the concrete floor in the main part of Building B may be preservation—Municipal staff believes that a follow-up consultation with the report authors appears to be needed to clarify. Staff also finds that the recommended treatment approach to the raised wood floor above the concrete floor in the south part of Building B was not determined by the authors and needs clarification. Based on the information available, the flooring and floor joists in the small "T" addition to Building B, where there is no concrete slab floor, should be replaced.

Exterior Wall Treatment Recommendations

The siding on Building B is in good condition and should be treated with preservation practices only. No immediate areas of failure were observed, and thus, the recommended treatment for the exterior siding is preservation. The paint on the skirtboard is deteriorating, likely eroded by water over time. The paint is also peeling in some locations, especially the southwest façade of the addition, and other areas show cracking and crazing as well. The paint across the entire building, including the wood siding, trim, and the paint on the exposed concrete foundation wall, should be hand scraped and sanded to remove any loose or deteriorated paint and then repainted to protect the siding underneath. Additionally, it may be appropriate to install a gutter system along the edge of the roof to prevent further deterioration of the siding materials. If installed, however, the gutter should be sympathetic to the historic appearance of the building so as to not impact the historic integrity of the building.

Fenestration Treatment Options

The recommended treatment option for the windows in Building B is similar to that of Building A and is guided by the preservation treatment approach. The windows should be removed and inspected,

and any broken glazing should be replaced with an in-kind replacement. As the older glazing is removed, the frames can be inspected and repaired as necessary by patching, splicing, or reinforcing the framing members. The existing paint should also be removed by hand scraping and sanding, and new paint applied before reglazing takes place. When new glass is installed in the frames, new putty sealant should be used to ensure a weather-tight fit. The window operation mechanisms, such as hinges and locks, should be inspected, cleaned, and oiled for ease of operation. After the windows are reinstalled on the building, removable storm windows that are sympathetic in design to the building can be installed to both protect the windows and to ensure that the building is more weathertight. The existing plexiglass covers on the windows protecting them from damage could serve this purpose. Any windows that are too deteriorated for continued use should be replaced in kind with wood framed windows that match the framing and operation of the original, historic window.[53]

The treatment of the doorway in the northwest façade of the long axis portion of the building is entirely dependent on the proposed future use of the building. Under the preservation treatment option, the current double metal door would remain, although the operational members of the doorway should be cleaned and oiled, and the existing vegetation cleared away from the doorway to ensure that the door is useable. The rehabilitation approach, however, recommends that should the historic feature be missing entirely, a new entrance can be designed and installed, as long as the new entrance is of a design that is compatible with the size, scale, material, and color of the historic building.[54] If it is determined that the building should be used for vehicular maintenance, a use it served in the past, then the rehabilitation approach would not only be appropriate but also necessary.

The entrance in the southwest façade of the addition should be treated as a failing element. The doorway shows significant deterioration. The flush door appears to be wood laminate or veneer, with the outer layers of thin wood peeling apart (Figure B36). The door should be replaced in its entirety; as a mass-produced product, finding an appropriate in-kind replacement should be relatively simple. Effort should be taken to preserve the door frame; the paint on the frame, however, is failing with evidence of cracking and peeling. The paint should be hand scraped and sanded and the frame repainted to ensure that the wood does not suffer further deterioration.

Porches and Arctic Entrance Treatment Options

The porch or stoop in front of the entrance in the northwest façade of the long axis of the Building B is deteriorated almost to the point of being obscured from view. Any decking that may have existed has long since vanished and the framing is filled with gravel that appears to have been deliberately piled against the façade. Trees are currently growing up through the porch or stoop.

[53] Ibid., 102-106.
[54] Ibid., 112.

Treatment options for the porch or stoop are dependent upon the proposed future use of the building. If it is decided that the building will serve as a vehicular service structure, then the porch or stoop should be removed as part of the restoration of the driveway[55]. If the decision is made, however, to keep the doorway in place as a man door, then the stoop should be cleared away and reconstructed. Reconstruction of a single historic feature is guided by the rehabilitation treatment recommendations, whereby the new porch or stoop should be designed in such a way as to match the original as closely as possible or constructed in such a way as to be compatible with the original material, design, scale, color, and finish of the rest of the building.[56]

Chimney Treatment Options

The recommended treatment for the collapsed chimney and vent is directed by rehabilitation treatment options. At the very least, the pyramidal base of the collapsed chimney should be replaced in kind and the undamaged chimney structure reinstalled on the vertical. The installation of new flashing and either snow clips or directional flashing is recommended to prevent another collapse caused by sliding snow. The roof structure below the chimney should be investigated and repaired as necessary to ensure future structural integrity; it is likely that the infiltration of precipitation into the building through the hole in the roof left by the collapse has created further structural concerns.

In addition, the collapsed vent in the addition extending southwest should be investigated to determine if it dates from the period of significance. If the vent is not connected to any utilities and its installation post-dates the period of significance or poses concerns over moisture infiltration into the roof, the vent should be removed and the roofing repaired. If the vent was installed during the period of significance, then it should be set upright and flashing installed around its base to prevent further moisture infiltration into the roof structure.

The utility pipe that rises through the roof eaves on the southeast façade appears to be in good, serviceable condition. Research should be undertaken to determine if this feature dates to the period of significance; if it post-dates this period, then the utility pipe can be removed if necessary. If the utility pipe is to remain installed on the building, care should be taken to install weather proofing inside the hole cut in the roof decking to accommodate the pipe to prevent damage to the roofing structure from moisture infiltration.

Roof/Roofing Treatment Recommendations

Like Building A, the roof framing is generally sagging and shows signs of over stress while the polycarbonate or PVC cladding appears to be in serviceable condition. The roof cladding should be cleaned and cleared of all grime and vegetative growth, with special attention paid to the roof junction between the long axis of the building and the addition. Due to the presence of tall trees against the building, leaves and other tree debris has built up in the junction valley and has begun to

[55] See Figure 17; also Figure B43 in Appendix B.
[56] (Grimer 2017)., 191.

sprout vegetative growth of its own. While the plastic nature of the cladding material is less vulnerable to deterioration from biological forces, it is still important to keep the roof clean of growth to protect the building structure below.

The structural report notes that the roof framing on Building B has deteriorated to the point where the estimated snow load is limited to 15 pounds per square foot. This is significantly less than the required 40 pounds per square foot required by municipal building codes. As previously discussed, the framing can be replaced by new framing members, if they are made of wood and have the same form as the original members. It is recommended that this approach be taken to ensure that the roof and the building both survive.

Figure 23: Building C as viewed from the east-southeast.

Building C – Specific Treatment Recommendations

Structural Recommendations

Historical preservation efforts for Building C would be easier than the other buildings. That does not mean that no retrofits are required. The roof and floors are still deficient in capacity and would need to be strengthened to bring up to current code capacity. Work could be done more safely in Building C without immediate shoring. The framing is similar to the other buildings so the same type of retrofit is the most feasible. Roof framing could be strengthened by stick-built new trusses or a rafter-collar tie system inside the existing attic that take the load off interior supports and distribute to the exterior walls. The floor could then be strengthened by removal of the wood cribbing and replacement by concrete piers and the addition of more floor joists. Preservation efforts could then be made after structural repairs. The lateral force resisting system would need to be supplemented with anchor bolts or other type of restraint.

Foundation and Floor Treatment Recommendations

The recommended approach to the existing concrete perimeter foundation of Building C is preservation. At the time of inspection, no structural deficiencies were observed. Vegetation growth

around the perimeter of the building should be removed, after which a gravel border or curtain drain should be installed to prevent further vegetation growth or damage from standing water.

Settling of the building appears to have happened unevenly, with the concrete perimeter foundation appearing to be lower than the foundation level of the interior post-on-pad foundation. The uneven settling is evident in the way that the center of the building is domed upwards on the interior. The recommended treatment for the settling is to replace the cribbing below the interior of the building, adjusting the cribbing height so that the floor above is level.

Municipal staff finds a need to clarify the determination for what treatment is recommended for the floor joists in building C. Staff has adapted the following from a later section of this report: The floor and floor joists of Building C should be replaced as part of any work moving forward to reuse the building. The floor of Building C, although in more stable condition, domes upward as previously noted due to the uneven settlement of the building between the concrete perimeter foundation and the post-on-pad foundation in the interior of the building. Although this doming should correct itself when the foundation is fixed, the flooring materials of finished and sealed plywood may no longer conform to the corrected orientation of the floor and thus should be replaced.

Exterior Wall Treatment Recommendations

The wood plank siding on Building C appears to be in serviceable condition, with few signs of deterioration. The paint, however, is beginning to show signs of cracking and crazing, and has eroded from the boards near the base of the exterior walls. This leaves the wood below more vulnerable to moisture and animal infiltration. There is evidence that the paint has been removed and reapplied in the past, with crack and crazing sections surrounded by smooth, newer paint (Figure B52).

It is important that the paint should be hand scraped and sanded to remove any loose or deteriorated paint and then repainted to protect the siding underneath. The vegetation surrounding the building should be removed, especially where it has built up along the southwest façade. The vegetation at this location has built up to the point that it is pushing the door inward and is likely exerting the same force on the lower walls. It may be appropriate that a gutter system or curtain drain should be installed around Building C to prevent further deterioration; if installed, it is important that the systems be sympathetic to the historic appearance of the building.

Fenestration Treatment Options

As the glazing in the windows appears to be intact and the plexiglass has protected much of the window structures from damage, it is recommended that the windows be treated with the preservation approach. Research should be done to determine the original, historic form of the windows, and to determine whether any of the windows currently installed post-date the period of significance for the Government Hill Wireless Station. It is possible that due to construction material limitations at the time Building C was constructed in 1934, the windows installed were the windows that could be found for use, explaining the nonuniformity. The windows should be carefully inspected and repaired as necessary by patching, splicing, or reinforcing the framing members. The

existing paint should also be removed by hand scraping and sanding, and new paint applied before reglazing takes place. The window operation mechanisms, if any, should be inspected, cleaned, and oiled for ease of operation. If the windows are fixed, then the frames should be sealed as necessary to ensure that moisture does not infiltrate through poorly fitting frames. The existing plexiglass coverings can be retained for use as removable storm windows, although care should be taken to address the holes drilled into the framing to secure the coverings.

The treatment of the doorways in Building C is entirely dependent on whether the doors are replacements. The wood trim and infill that surround the doorway on the southeast façade appear to indicate that the current metal doorway is not original. Under the preservation treatment option, the door should be removed and repaired, the glazing replaced and the paint removed and reapplied. Under this option, the door frame would be left in place and repaired only as needed to ensure continued survival.[57] However, if the proposed use of the building necessitates the replacement of the door or if the original door type can be discovered, then the rehabilitation approach is more appropriate. Under these options, it is considered appropriate to design a new entrance for the building that is based on historic data of the original door. Barring the discovery of the original door type, then a new entrance can be designed that is compatible with the size, scale, material, and color of the historic building.[58]

The doorway in the southwest façade of the building will require more extensive repair work. The door is currently out of plumb with the door frame and is being pushed inward by a buildup of vegetation and debris against the door. The inward push has caused the metal of the doorway to warp. Additionally, moisture and vegetation infiltration have caused deterioration of the metal along the bottom of the door. The door is secured on the interior with a metal rod bolted into the door frame that prevents the door from being pushed inward (Figure B42). It is recommended that this doorway be treated with a rehabilitation approach, whereby the door should be removed, cleaned, and examined to determine if it can be repaired for use. If so, then the door should be straightened and repainted prior to reinstallation. If the door cannot be repaired, then it should be replaced with a metal door that is as similar as possible to the original.[59]

Porches and Arctic Entrance Treatment Options

The treatment options for the deteriorated porches or stoops on Building C are directed by the rehabilitation treatment options. As previously discussed, the rehabilitation option provides guidance for the replacement or reconstruction of building elements that have failed or disappeared. The remains of the original porches or stoops should be cleared away once their extents are mapped and/or documented. Using the footprint of the original structures, new timber framed porches or stoops can be constructed that match the originals in size and material.

[57] Ibid., 49-52.
[58] Ibid., 112.
[59] Ibid., 110-112.

Chimney Treatment Options

The chimney on Building C is in poor shape, although it remains upright. The stove pipe has been reinforced with metal wiring but shows signs of rust, particularly near the bottom. The flashing installed to protect the joint between the base of the stove pipe and the cylindrical base for the chimney has shifted out of alignment and appears to direct precipitation towards the upslope of the roof. The cylindrical base has likewise shifted out of alignment, with bowing and buckling of the sheet metal readily visible.

The chimney should be treated with a rehabilitation approach. Under this treatment option, the replacement of failing features of the building is allowed, provided that the feature is replaced in kind. Efforts should also be made to retain any of the chimney structure that remains in serviceable condition. The mass-produced nature of the chimney, however, means that an in-kind replacement is economical and likely readily available. The installation of new flashing and either snow stops or directional flashing around the base of the chimney is recommended regardless of repair or replacement to prevent collapse caused by sliding snow.

The utility pipe installed at the southern corner of the southeast façade appears to be in good, serviceable condition. Research should be undertaken to determine if this feature dates to the period of significance; if it post-dates this period, then the utility pipe can be removed if necessary. If the utility pipe is to remain installed on the building, care should be taken to install weather proofing inside the hole cut in the roof decking to accommodate the pipe to prevent damage to the roofing structure from moisture infiltration.

Roof/Roofing Treatment Recommendations

As with the other two buildings, it is recommended that the roof cladding be treated with preservation efforts. At the present time, the preservation efforts required are minimal, as the material appears to be in serviceable condition. The roof should be cleaned of all built up grime, including vegetative grown and debris. The roof framing, although in better condition than the other two buildings at the site, is still estimated to support only a 25 pounds per square foot snow load. Additionally, like Building A, the roof has no restraint against wind uplift. The approach required to strengthen the roof framing is preservation, which calls for the strengthening of the roof framing through sistering, bracing, or otherwise supplementing and reinforcing the existing structural members.[60]

[60] Ibid., 57.

Building A, B, and C Interiors

Interior Wall Finishes Treatment Recommendations

The treatment recommendations for the interior walls of all buildings are aggressive by necessity and falls under the restoration treatment guidelines. If possible, more research should be undertaken to determine what finish materials were present during the period of significance, and all other post-period materials should be removed. All deteriorated finish materials should be removed as well, which will expose nearly all the interior framing for inspection and repair as necessary. The replacement finish materials should follow the same types of materials as were originally installed in the building, even though this may mean replacing plywood panels with more permanent finish materials. All replacement materials should be modeled after original finishes.[61]

Figure 24: Building B interior, looking into the stem of the "T."

It should be noted that the extent of interior wall repair will be dictated by the proposed future use of the buildings. Reconfiguration of the interior spaces to adapt to a new use is allowed under *The Secretary of the Interior Standards for the Treatment of Historic Properties*, as the existing spaces do not contribute to the historic integrity of the buildings.

Interior Doors and Windows Treatment Recommendations

The treatment recommendations for the interior windows and doors are entirely dependent on the proposed future uses for the buildings. As previously noted, the reconfiguration of the interior spaces to adapt to new use is allowed. If possible, any doors that are still serviceable and date to the period of significance should be retained for use in the new building layout; due to the deterioration of the building materials in the interiors of all the buildings, however, it is not likely that many of the interior doors can be salvaged. The windows in the interior of Building B may be salvageable, but as the office wall they are part of is not a contributing feature to the historic integrity of the building, their retention is not required.

Ceiling Treatment Recommendations

It is recommended that the ceilings be replaced across all three buildings. The deterioration of the roofing material and rafters has led to extensive moisture infiltration, causing sections of the ceiling to collapse completely. Once the ceiling finishes are removed, the interior insulation of the buildings can be definitively determined, and upgraded as required by the recommended future use of the buildings.

[61] Ibid., 204-208.

Flooring Treatment Recommendations

The flooring on the interiors of both Buildings A and C and the addition on Building B should be removed and replaced as part of any work moving forward to reuse the buildings. Safety concerns for the flooring of Building A are paramount and should be one of the first conditions addressed. The floor of Building C, although in more stable condition, domes upward as previously noted due to the uneven settlement of the building between the concrete perimeter foundation and the post-on-pad foundation in the center of the building. Although this doming should correct itself when the foundation is fixed, the flooring materials of finished and sealed plywood may no longer conform to the corrected orientation of the floor and thus should be replaced.

Hazardous Materials Treatment Options

The 1997 environmental site assessment[62], cited earlier in this report and is provided in Appendix B, recommended that a specific survey including destructive investigation for hazardous materials be performed as part of the design work for any future repair or rehabilitation work on Buildings A, B, and C. Disturbance, handling, and disposal of hazardous materials is highly regulated.

[62] (Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997)

3.4. Reuse and Rehabilitation Strategies – Alternatives

This Historic Structure Report is intended to inform subsequent analysis and decisions to determine the future of the Wireless Station property. In this section 3.4., the municipal Planning Department staff and members of the Historic Preservation Commission identify the range of alternative strategies and a path for implementing a preferred strategy for the buildings. Following are potential alternative restoration strategies and future reuse options for the buildings that the community has discussed, for further study. Additional analysis and community discussions should be conducted to decide on the preferred treatment alternative and, depending on the alternative selected, the preferred future use of the building.

More research should also be undertaken on other government-built wireless stations across the US. Most of the construction by the government and the military from the early twentieth century onward was dictated by prefabricated form buildings that could be adapted to any use. It is possible that other wireless stations in the US constructed during the first two decades of the twentieth century have similar forms and materials and can be used as models for preservation work.

Suggested reuse options for historic buildings should be evaluated based on their potential impacts to the historic integrity of the Government Hill Wireless Station. Many of the original exterior character-defining features should be retained, especially the cupola on Building A. The interiors are not contributing features, however, which opens many opportunities for adaptive reuse. The potential use options below should be evaluated for their potential impact to the integrity of the buildings.

Neighborhood Preferences

In January 2024, the Municipality of Anchorage Historic Preservation Officer and Historic Preservation Commission Chair and Vice-Chair consulted with Government Hill Community Council (GHCC) leaders most active in Wireless Station preservation efforts regarding neighborhood preferences for the future of the property and the historic buildings. The GHCC leaders' interest indicates a strong, enthusiastic interest in the surrounding community for preserving and restoring the buildings. At the January meeting, they advocated for restoring all three buildings and reusing them as a community center or museum in a park several blocks to the north of the historic site, next to the AT&T facility.

The Municipality recently adopted Assembly Ordinance (A.O.) No. 2023-82 transferring approximately eight acres of Port of Alaska property located at the northern edge of Western Government Hill and commonly known as the "Upper Bench" of Tract J to the municipal Parks and Recreation Department and dedicating it as parkland. GHCC neighborhood leaders desire the Municipality to explore if this new parkland has created an opportunity for re-creating the historic setting for the Wireless Station buildings in a new location that is more conducive to attracting an adaptive reuse and the long-term survival of the buildings. This new parkland to the north of the neighborhood's residential area could provide a context for the buildings that can be more representative of the buildings' original setting as a wireless station facility in an open field than the

existing location, which is now hemmed in by neighborhood streets and abutting residences. The park location on Tract J also provides views to the Port and is located next to the AT&T communications facility, both of which relate to the Wireless Station's historic function. The GHCC leaders were less optimistic regarding the market viability of reusing the buildings in place, because of their location tucked further into the western residential neighborhood.

The current management status of Tract J as of spring 2024 is that the transfer of the eight acres to become parkland is still in progress. Tract J will need to be subdivided through a platting action to determine the exact boundaries and management areas. In the meantime, Tract J is still under Port management until the transfer is complete. Relocation and reuse of the Wireless Station building(s) in the new park would probably require a user agreement with the Parks and Recreation Department. To avoid burdening the Parks and Recreation Department, the user would most likely be responsible for the operations and maintenance of the building(s).

In February 2024, the Municipality of Anchorage Historic Preservation Officer and Historic Preservation Commission Chair and Vice-Chair presented the summary findings from the Historic Structure Report to the general membership of Government Hill Community Council (GHCC) and took additional questions and feedback. GHCC leaders then conducted a brief survey of its membership regarding the future preferred usage of the buildings. The questionnaire consisted of two brief questions regarding what neighbors would like to see inside of the Wireless Station buildings once they were relocated to Tract J (the site of the new neighborhood park). GHCC reported that it received 12 responses, and that the majority of respondents preferred a combination of offices and community hall.

These neighborhood preferences carry significance for future preservation options. More study needs to be conducted on the impact of relocation on historical integrity. The potential effect of restoration in a new location on compliance with the deed restriction (historic easement) must be clarified. Likewise, potential impact on the Wireless Station's listing in the National Register must be determined. Finally, critically, the practicality of options for how to rehabilitate, or relocate and rehabilitate the structures need to be further evaluated.

The following summary of possible alternatives for the future of the property describes the full range of approaches available to the Municipality and identifies aspects that need to be considered. Future outreach to the GHCC will explore these and other questions to determine the best solution for the preservation of the site.

Historic Preservation Alternatives

Following are the four historic preservation alternatives available to the Municipality. Under Alternatives 1 and 2 the buildings would be non-surviving, if the Municipality determines that rehabilitation treatments are no longer within reach. Alternative 2 would require more proactive action in the immediate term than Alternative 1 but is likely to ultimately result in lower costs and public safety risks than Alternative 1. Under Alternatives 3a and 3b, the buildings would undergo the

rehabilitation treatments recommended by this report in section 3.3. Alternatives 4a and 4b would apply if the buildings are non-surviving and the community decides to reconstruct (i.e., create a replica of) the building(s). Based on further study, the Municipality's preferred alternative may vary between the three Buildings A, B, and C.

Historic Preservation Alternative 1: No Action (Continued Deterioration)

The buildings continue in a moth-balled state, with no maintenance activity. They will continue to deteriorate, until they collapse. According to the Structural Condition Study (Appendix A), collapse may occur in the near future. No action may seem the easiest strategy in the immediate term and is the path of least resistance, however its drawbacks will become more evident as deterioration advances. Neglect until collapse present public safety problems and are not consistent with local property management regulations. The resulting debris-filled site would require removal of the remains, and remediation of the hazardous materials present. Consultation with the Municipal Attorney is required to determine if the neglect of preservation would result in ownership of the property reverting to the U.S. Government per the historic easement (deed restriction).

Historic Preservation Alternative 2: Documentation and Managed Removal

The Municipality would seek to declare the buildings as non-surviving, proceed to arrange HABS/HAES documentation, and then conduct a managed process to remove the structures before they collapse. Managed removal may provide the Municipality with more options as to the means of demolition than under Alternative 1. Removal would require remediation of the hazardous materials present. Consultation with the Municipal Attorney is required to determine if the lack of preservation would result in ownership of the property reverting to the U.S. Government per the historic easement. If the buildings are non-surviving, Alternative 2 is preferable to Alternative 1.

*Historic Preservation Alternative 3: Rehabilitation (**Recommended** in section 3.3. of this report)*

The Municipality would take steps to implement the historic preservation treatments outlined in this HSR, primarily *rehabilitation* treatments combined with some *restoration* (replacement of certain components). These are the treatments that are necessary for their survival. Two rehabilitation options include to (a) rehabilitate the buildings in place or (b) move the structures to rehabilitate in a new location, as follows:

- *Alternative 3a: Rehabilitate in Place*

  The effort would start with extensive replacement of deteriorated structural framing members (in-kind), while the building is shored. Significant repair to interior and exterior finishes is required, along with replacement of missing components and building infrastructure.

- *Alternative 3b: Rehabilitate in a New Location*

  The Municipality would rehabilitate and restore the buildings, but during the treatment process would move the building(s) to a new location, such as Tract J. The new location could recreate the historic setting of the Wireless Station and make the historic resource more accessible and important to the residents of the Government Hill neighborhood. The buildings would need to be

stabilized first, then moved and rehabilitated. Following are implications if Alternative 3b is to be explored:

- Consultation with the Municipal Attorney would be needed to determine if placement in a new location in the neighborhood would result in ownership of the property (3 lots on East Manor Avenue) reverting to the U.S. Government per the historic easement. Negotiations with SHPO and the NPS may be necessary. A potential historic preservation argument in favor of moving the buildings is that it may be the best hope for saving the building(s). Restoring the historic feature's original environment or setting in a more central, public park location could help make it a more accessible piece of history that the neighborhood wants to be a part of. The goal is to make this historic place important to the neighborhood to attract a viable adaptive reuse that leads to the buildings' long-term survival. Also, the park could become a possible expansion of an existing Government Hill Historic District.

- If the building is restored in a new location, Municipal agency consultations would be needed to determine if the existing lots would be declared excess to municipal needs and any proceeds from the transfer of the lots to a new owner could be directed toward the Wireless Station rehabilitation.

- Additionally, a building placement, site design, management and maintenance, and lease agreement with the municipal Parks and Recreation Department may be needed, and the use of the building(s) would need to be permitted in the PR zoning district.

Historic Preservation Alternative 4: Reconstruction

Reconstruction is typically a treatment option of last resort. The structural assessment of the existing buildings in this report indicates that it is at least physically possible to rehabilitate them and recommends doing so. However, if the Municipality were to decide to declare the buildings as non-surviving (under alternatives 1 and 2), the Municipality may choose the reconstruction alternative. Reconstruction means to create a replica of the building(s) using primarily new materials. Two reconstruction options include to (a) reconstruct in place or (b) reconstruct in a new location, as follows:

- *Alternative 4a: Reconstruct in Place*

The building(s) would be reconstructed on the current site. The existing platting pattern with the current building positions crossing interior lot lines may need to be addressed.

- *Alternative 4a: Reconstruct in a New Location*

The building(s) would be reconstructed in a new location, such as Tract J. The implications of this option to explore would be similar to those discussed for Alternative 3b above.

Future Use (Adaptive Reuse) Alternatives

The following scenarios for future use would apply to Preservation Alternatives 3 and 4.

Future Use Alternative 1: Community Center and Offices

Government Hill residents have suggested reusing the buildings for a community center and office space for the Community Council or other community organizations. The community center would be a place for community events and meetings. The amount of space needed for this use needs to be determined; all 3 buildings might be needed, with Building A being the meeting/assembly space, and Buildings B and C being support spaces. Considerations include the amount of space that would be needed to house the offices of Government Hill Community Council and its records; and whether the site (i.e., existing lots, or Tract J) makes a difference in the viability of this use. Some community uses are permitted in the zoning district.

Future Use Alternative 2: Communications Museum

Government Hill residents have been in conversation with AT&T about historic artifacts and items currently in the operations building on Government Hill, and throughout Anchorage. The residents have suggested reusing the buildings to display these items and tie their history to the history of the Wireless Station. This use may have benefits if it is located on Tract J, adjacent to the AT&T building. The amount of space for this use needs to be determined – whether all three buildings are needed, or just one, or just a portion of one building. This use could be in one building, in conjunction with Use Alternative 1. There would need to be a variance or other zoning action to allow this use in Tract J or the current site.

Future Use Alternative 3: Business Incubator/Park

An alternate asset the Government Hill residents have suggested is to reuse the buildings as office spaces for local non-profit organizations or for-profit companies. The rents of the spaces would bring funds for the ongoing maintenance of the buildings or could be set aside for community projects. The residents favor a public or Municipal ownership of the buildings, but this may require private ownership. The assumption is that all three buildings could be made available for this use, or it could be located in one building in conjunction with Use Alternative 1 and/or 2. There would need to be a variance or other zoning action to allow this use in Tract J or the current site.

Future Use Alternative 4: Other Use Scenarios

Connor Scher's thesis[63] proposes reusing the buildings as an oral history library. The thesis included a review of the zoning requirements and permitted uses at the time (2018) and identified a library as a use that benefited the community and was permitted in the zoning district with an Administrative Site Plan Review, a relatively uncomplicated zoning action. The library would include places for recording and listening to oral histories, as well as community gathering spaces. These are currently uses permitted in the zoning district of the present site but might require zoning action for use at Tract J.

[63] (Scher 2018)

3.5. Next Steps for the Municipality and Wireless Station

The municipal Planning Department staff and members of the HPC identify the following immediate next steps for the Municipality to take with the Government Hill Wireless Station property. These steps describe a process to (a) stabilize the property, (b) determine the preferred historic preservation alternative and future use, and (c) develop a framework plan for carrying out the preferred historic preservation alternative. These steps could be organized, funded, and carried out as a second-phase continuation of the Historic Structure Report and preservation planning project a new CLG Grant. The Municipality may meet the grant match requirement through a combinations of in-kind staff services, commissioner time, community volunteer time, and incidental use of the municipal Historic Preservation Fund or other funding sources.

1. Secure and Stabilize the Building Envelopes

This report recommends removal of vegetation that is encroaching on the building exterior foundations, walls, and eaves. Property maintenance arrangements for clearing debris, weeding, and mowing could provide visible indication of ownership and care. These activities could be carried out as a first step. Additionally, the Municipality should continue its efforts to secure building openings (windows, entrances, broken vents, and foundation access) from trespass and weather.

2. Estimate the Costs of Historic Preservation Alternatives

The scope of work and funding established for this HSR did not include cost estimating of rehabilitation and reuse alternatives as a task. A cost estimate and final budget for any work at the site will be dependent on the rehabilitation strategy selected, and on the future type of use for the buildings that is ultimately selected. To help determine the preferred rehabilitation alternative, the Municipality should obtain an estimate of the comparative costs of the alternatives available.

The cost estimate for Historic Preservation Alternatives 3 (rehabilitation) and 4 (reconstruction) would involve the preparation of a programming/pre-design-level construction cost estimate. The cost estimate for Historic Preservation Alternatives 1 (neglect and removal) and 2 (documentation and removal) would involve the preparation of a demolition and abatement cost estimate. Removal is not necessarily always the cheapest alternative. The presence of such hazardous materials as lead paint and asbestos throughout all three buildings may necessitate that waste materials from the demolition of the site be transported out of state for the disposal of such materials.

3. Explore the Implications of Restoring the Buildings in a New Location

Arguments in favor of Historic Preservation Alternatives 3b and 4b include that restoring the buildings on new municipal parkland (Tract J) in Government Hill could be key to making rehabilitation feasible and adaptive reuse/survival possible, given the circumstances of this site. Leaders in the neighborhood community support this option and have requested the Municipality to investigate it. To consider this option, the Municipality would need to determine if it could resolve potential challenges, including:

- *Historic Preservation Requirements*
  Consultation with the Municipal Attorney and the SHPO and NPS will be needed to determine if the restoring the buildings in a new location that better recreates the historic original environment and attracts an adaptive reuse could be an acceptable option, or if it might lead to a de-listing of the Wireless Station from the National Register of Historic Places. It will be necessary to determine if moving the building(s) could jeopardize the potential for historic preservation grant funding for building rehabilitation. Furthermore, the Municipality should determine what is the likelihood that removing the buildings from the original property could trigger the historic preservation easement on the property, resulting in the ownership of the property (3 lots on East Manor Avenue) being reverted to the U.S. Government.

- *Land Development Agreements and Funding for the Benefit of Rehabilitation*
  Municipal agency consultations are needed to determine if funds from any transfer of ownership of the properties from the Municipality to a new owner could be directed toward the municipal historic preservation fund and allocated for the rehabilitation of the Wireless Station. Even if there is a mechanism for such a transfer, the Municipality should forecast what the net yield in funding from the sale of the properties might be.

- *Park Property Management Agreements*
  Additionally, a building placement, site design, management and maintenance, and lease agreement with the municipal Parks and Recreation Department may be needed, and the chosen future use of the building would need to be permitted in the PR zoning district. The Formal dedication as municipal parkland would occur prior to any rezoning to the PR zone.

4. Stabilization and Remediation Plan

Because the budget and scope of this HSR report was limited, certain additional information would be prerequisite to pursuit of whichever alternative future is decided for the property. This additional research would include but not be limited to:

- *Clarification of Existing Structural Conditions*
  Because the project teams were unable to access portions of the buildings or conduct intrusive investigations due to advanced deterioration, safety concerns, and project budgets, there are several unanswered questions or clarifications regarding the existing structures to resolve. In particular, the status of the perimeter foundation in the original portion of Building A (Wireless Station) and the cause(s) of the slumping of its west wall would be essential for planning the sequence of stabilization and treatment steps for the foundation, floor joists, walls, and roof structure.

- *Stabilization and Remediation Planning*

A part of the construction cost estimation services by a professional consultant firm could be general planning for the development and construction of the historic preservation alternatives, including for example the sequence of steps for the initial stabilization of the building structures and components. If additional funds are available, the Municipality could also retain a structural engineering consultant to recommend how to stabilize the building(s). Given the state of disrepair of multiple structural components, it is challenging to be sure where to begin—i.e., which roof, wall, or foundation components to shore up first, in a safe manner.

- *Conceptual Drawings of Restored/Rehabilitated Building*

The generation of conceptual drawings of the future buildings was beyond the project scope and budget for this initial version HSR. Moving forward, conceptual drawings created for proposed reuse of historic buildings can help both project personnel and the public understand and visualize the work that needs to be accomplished in order to put the buildings to reuse. This may be pursued once an ultimate use is determined, and additional funding is achieved.

5. Carry Out a Public Process for Decision Making

Building on the findings of this Historic Structure Report, this project would include a transparent, inclusive public process for selecting a preferred historic preservation alternative and future use of the property. The process would use the information from steps 1 through 4 on the previous two pages and other decision-making factors identified for the public. The outcome would be for the Anchorage community to arrive at a decision about the future of the Wireless Station historic property, with a cost estimate and development plan for executing that preferred future.

Bibliography and Archival Sources

Alaska Engineering Commission. 1917. "Anchorage Wireless Station." *Alaska Railroad Record*, July 24: 1.

Alaska Heritage Resources Survey. 2023. "ANC-00306: Government Hill Wireless Station." Anchorage, AK: On file at Alaska Office of History and Archaeology.

Alaskan Engineering Commission. 1916. *Reports of the Alaskan Engineering Commission for the Period from March 12, 1914 to December 31, 1915.* House Documents, U.S. House of Representatives, Washington, D.C.: Washington Government Printing Office.

Anon. 1917. "Wireless Station on Government Hill." Jessie Noble Collection. *B1995.025.83.* Anchorage: Courtesy of Anchorage Museum.

Black-Smith, Diane, and George M Mies. 1992. *Three Storage Buildings located at 132-140 East Manor Drive.* Appraisal Report, Anchorage, AK: Black-Smith and Richards, Inc.

Blanchard, Morgan R. 2010. *Wires, Wireless and Wilderness: A Sociotechnical Interpretation of Three Military Communication Stations on the Washington Alaska Military Cable and Telegraph System (WAMCATS).* Edited by Dr Donald L. Hardesty. Reno, NV: University of Nevada, Reno.

Carberry, Michael E, and Donna Lane. 1986. *Patterns of the Past: An Inventory of Anchorage's Historic Resources.* Anchorage, AK: Municipality of Anchorage Community Planning Department.

Carberry, Michael E., and Donna Lane. 1986. *Patterns of the Past: An Inventory of Anchorage's Historic Resources.* Anchorage, AK: Municipality of Anchorage Community Planning Department.

Engineering, Health & Safety Consultants (EHS) Alaska, Inc., and Shannon & Wilson, Inc. 1997. "Phase 2 Environmental Site Assessment of the Government Hill Wireless Station." Anchorage, AK.

Grimer, Anne E., ed. 2017. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidlines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.* Washington, DC: U.S. Department of the Interior National Park Service Technical Preservation Services.

Jessup, David Eric. 2007. "Connecting Alaska: The Washington-Alaska Military Communication and Telegraph System." *The Journal of the Gilded Age and Progressive Era* 6 (4). Accessed October 23, 2017. http://www.jstor.org/stable/25144495.

Kaiser, H.G. 1917. "A.E.C. Wireless Station, Anchorage, Alaska December 22,1917." Alaska Railroad Collection. *B1979.002.AEC.H28.* Anchorage: Courtesy of Anchorage Museum.

Municipality of Anchorage Community Development Department Planning Division. 2012. *Government Hill Neighborhood Plan.* Anchorage, AK: Municipality of Anchorage.

Municipality of Anchorage Community Development Department, Planning Division. 2013. *Anchorage Original Neighborhoods Historic Preservation Plan.* Community Development Plan, Municpality of Anchorage Community Development Department, Planning Division, Anchorage, AK: Municipality of Anchorage, Reprographics Section.

Municipality of Anchorage Community Development Department, Planning Division. 2012. *Government Hill: Yesterday and Today.* Oral History, Munipality of Anchorage Community Development Department, Planning Division, Anchorage, AK: Municipality of Anchorage, Reprographics Section.

Municipality of Anchorage Office of Economic and Community Development, Long Range Planning Division. 2018. *Municipality of Anchorage Historic Preservation Plan.* Community Development Plan, Municpality of Anchorage Office of Economic and Community Development, Planning Division, Anchorage, AK: Municipality of Anchorage, Reprographics Section.

Municipality of Anchorage Real Estate Department. 2017. "Request for Proposals: Development of Lots 1, 2, & 3 Block K North Addition No. 4 Original Townsite of Anchorage." Compiled by Robin E.

Ward. Anchorage, Alaska: Municipality of Anchorage, May 9. Accessed November 2017. https://www.muni.org/Departments/hlb/2014%20Docs/2017-GHill%20Wireless%20Station%20RFP+Attachments.pdf.

Scher, Connor. 2018. *Unsung: An Architectural Allegory on the Government Hill Wireless Station.* Portland, OR: Portland State University School of Architecture.

Signal Officer (Anon). September 14, 1931. *Interior of receiving and keying station looking east.* Alaska Communications System, Anchorage.

Signal Officer (Anon). May 24, 1931. *Section of control cable line between Anchorage and transmitter building.* Alaska Communications System, Anchorage.

Slaton, Deborah, and National Park Service. 2004. *Preservation Brief 43: The Preparation and Use of Historic Structure Reports.* Washington, D.C.: U.S. Government Printing Office.

Wilson, Sarah, and Summer Rickman. 2015. *The Wireless Station.* National Register of Historic Places Registration: Form 10-900, Washington, D.C.: National Park Service.

Appendices

Appendix A: Government Hill Wireless Station Structural Condition Study

Appendix B: Photographs

Appendix C: Measured Drawings

Appendix D: Historic Preservation Agreements

Appendix E: Phase 2 Environmental Site Assessment of the Government Hill Wireless Station (EHS Alaska, 1997)

Appendix F: HABS/HAER Scans