# 2014

## Independence Mine State Historical Park Preservation Plan



Alaska Division of Parks and Outdoor Recreation Department of Natural Resources 11/21/2014



### **Department of Natural Resources**

DIVISION OF PARKS AND OUTDOOR RECREATION

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Dear Alaskan,

Independence Mine State Historical Park (IMSHP) in the Talkeetna Mountains is recognized for its mining history. It is, and long has been, popular for summer and winter recreation as well. The mine's peak years of operation were 1937 to 1942, when the miners extracted over 180,000 ounces of gold from deep underground. In 1974, the mine was added to the National Register of Historic Places, and in 1980 the State of Alaska purchased 271 acres of the former mining site for a state park.

The *Independence Mine State Historical Park Preservation Plan* is to guide park managers with background information on the area's history and to record the ideas of park users to help make decisions to sustain the cultural resources and to guide future enhancements of the park. It provides an overview of the mine's cultural, historical, natural, and recreational qualities, defines management goals and objectives, identifies expectations members of the public have expressed, and recommends interpretive themes, projects and partnerships. The plan has been designed to be used over the next twenty years with periodic review.

This plan represents the Division of Parks and Outdoor Recreation's efforts to conserve and interpret Independence Mine State Historical Park's cultural, historic, and natural resources for the use, enjoyment, and welfare of Alaskans and visitors. The years-long effort to produce the plan involved many individuals and organizations. The participants helped shape not only this document, but the way in which the valuable heritage resources of Independence Mine State Historical Park will be preserved and interpreted for future generations. I am grateful to all who contributed to the development of this plan.

Sincerely,

Ethan Tyler Director

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#### **EXECUTIVE SUMMARY**

Located in the scenic Hatcher Pass region in the Matanuska-Susitna Borough, the Independence Mine was one of the largest producing lode gold mines in Alaska. Listed in the National Register of Historic Places in 1974, the property became a state historical park in 1980. It is a popular destination for local residents and visitors to Alaska due to the combination of historic buildings, outdoor recreation opportunities, and natural beauty.

The Division of Parks and Outdoor Recreation (DPOR) began preparing a historic preservation plan for Independence Mine State Historical Park (SHP) in 2010 to provide base line information to effectively manage and sustain the cultural resources and to guide future development and enhancement of the park for visitors. The planning process involved public meetings and comment periods during which ideas were discussed and shared with park managers, industry professionals, and interested public.

The *Independence Mine State Historical Park Preservation Plan* is a framework for management, interpretation, rehabilitation and use at the park. It provides information on the historic character of the park and past preservation efforts and includes an inventory of resources. The plan captures current conditions and identifies preservation priorities, explores use options, delineates education and outreach opportunities, and outlines an implementation plan. To fully appreciate the recommendations made in this plan, it is essential to understand the documented current park conditions in Chapter 5 that provide rationale for all the goals, objectives, action strategies, and financial considerations.

The purpose of the plan is to highlight the park's historic values and strike a balance between preservation, use, interpretation, and development for the benefit and enjoyment of a diverse population. Four goals guide the recommendations in this plan. The first goal is to enhance the historic character of the park by developing and implementing preservation strategies that recognize the historic landscape, buildings, spaces, and artifacts while accommodating appropriate futures uses. The next goal is to promote a safe and secure year-round operation through adequate staffing levels and partnership development. The third goal is to connect a diverse audience to the park's cultural and natural resources using a variety of interpretive themes and methods. The final goal is to evoke a positive intellectual, physical, and emotional visitor experience through active management, interpretation, and continuous improvement of the park. Achievement of these goals will ensure the purpose of this plan is met.

## CHAPTER 1: INTRODUCTION



#### WHY DO WE NEED A PRESERVATION PLAN FOR THIS STATE HISTORICAL PARK?

Since 2009, the Division of Parks and Outdoor Recreation (DPOR) has developed preservation plans for several of Alaska's state historical parks and sites. These plans help meet the goal to "sustain Alaska's cultural, ecological, scenic and scientific assets through proactive stewardship pursuant to the division's parks and programs" outlined in the division's ten year strategic plan.<sup>1</sup> Independence Mine State Historical Park (SHP) was listed in the National Register of Historic Places in 1974 for its significance to Alaska's early lode gold mining operations. Preservation plans are valuable resources used for efforts to preserve and enhance the historical, cultural, archaeological, and anthropological values of historically significant parks such as Independence Mine SHP. A preservation plan can also promote the enjoyment and stewardship of heritage resources found in the park.

#### WHAT IS A PRESERVATION PLAN SUPPOSED TO DO?

This plan provides guidelines to assist division staff in reaching short- and long-term objectives for the preservation and enhancement of cultural and historical resources and in the day-to-day management of these resources. The process of planning, design and implementation of projects and actions involves coordination and consultation between park operations, Design and Construction, and the Office of History and Archaeology staff. Providing guidelines rather than hard and fast rules, this plan is intended to be a dynamic tool. It may be used to enhance and preserve the park's historical, cultural, interpretive, archaeological, and anthropological values, to promote the enjoyment and stewardship of park resources, to support tourism, and to encourage a variety of recreational and educational opportunities in the park for visitors of varying abilities. The plan supports, but does not replace, the National Historic Preservation Act, Alaska Historic Preservation Act, National Environmental Policy Act, or other applicable laws.

#### WHAT IS A STATE HISTORICAL PARK?

The "Alaska State Park System: Statewide Framework" explains the designations of different types of parks in terms of their primary values to the public. Independence Mine is a *state historical park*, defined in that document as "an area containing an assemblage of significant historical, cultural, archaeological, or anthropological resources from representative eras of Alaska's history or prehistory<sup>2</sup>."

<sup>&</sup>lt;sup>1</sup> Alaska Division of Parks and Outdoor Recreation, *Division of Parks and Outdoor Recreation: Ten Year Strategic Plan 2007-2017*. Alaska Div. of Parks and Outdoor Recreation, 2007), 22-25.

<sup>&</sup>lt;sup>2</sup> Alaska Division of Parks and Outdoor Recreation, *Alaska State Park System: Statewide Framework*. Park Planning Section (Alaska Div. of Parks and Outdoor Recreation, 1982), 8.

Historical parks are different from natural parks because they have more existing infrastructure requiring additional maintenance, personal interpretation, curation, and therefore funding. Oftentimes, historical parks have high visitation in a compact area placing additional pressures on fragile historic resources and stretching staff responsibilities. In order to fully meet the needs of the visiting public and properly manage these sites, a specialized professional staff is needed. Adequately funded and staffed, state historical parks are preserved, accessible, and provide educational activities to Alaskans and our visitors.

#### PLAN ROAD MAP

The plan has seven principal components:

- goals and objectives
- brief historical and cultural background of the park
- visitation
- current park conditions
- strategies for achieving objectives
- priorities
- evaluation

Additionally, documents such as architectural survey forms, interpretive display forms, standards for treatment zones, building forms, and condition assessment forms are included as appendices.

#### PUBLIC PROCESS

An interdisciplinary team visited Independence Mine SHP on September 1-3, 2010, to inventory interpretive displays and historic resources of the park, to evaluate current uses and identify preservation issues, and to outline interpretive possibilities. Public scoping meetings were held in Wasilla on December 1, 2010 and January 10, 2011, to allow interested public and professionals to voice their opinions related to the use of Independence Mine SHP and to identify appropriate interpretive themes and preservation priorities. A separate meeting was held on December 14, 2010, for the Matanuska-Susitna State Parks Citizen Advisory Board.

More than 80 individuals and organizations were notified of the public meetings via phone calls, emails, and letters. The second public meeting was advertised on a local radio station (KMBQ 99.7). Public comments were accepted from December 1, 2010 through January 30, 2011, and during this period, an online survey was available through which 50 people provided input regarding building use, preservation, and interpretation. Details of this survey are available in Appendix E.

Following the public comment period, the planning team compiled additional information, evaluated alternatives, and developed priorities. A draft plan was prepared and distributed for public review in July and August, 2011. Internal reviews occurred in October and November, 2011 and January, 2013.



## CHAPTER 2: GOALS

#### ALASKA STATE PARK SYSTEM

In 1982, DPOR established a framework to manage different types of park units known as the *Alaska State Park System: Statewide Framework*. The guidelines in this framework designate Independence Mine SHP as a *state historical park*. As such, this park is " an area containing an assemblage of significant historical, cultural, archaeological, or anthropological resources from representative eras of Alaska's historic or prehistory. The dominant management objective of a historical park is to preserve and interpret historic resources for Alaskans and visitors to the state."<sup>3</sup>

#### HATCHER PASS MANAGEMENT PLAN

The first Hatcher Pass Management Plan was adopted in 1986; it was revised and the new version was adopted in 2011. The updated plan makes the recommendation to "develop and implement Historic Preservation and Interpretive Plans."<sup>4</sup> The Independence Mine SHP Preservation Plan supplements the Hatcher Pass Management Plan, but it does not supersede it. If a management plan is developed specifically for Independence Mine SHP, it will supersede, but not replace this preservation plan.

#### PERIOD OF SIGNIFICANCE

The period of significance is the timeframe during which a property was associated with important events, activities, or persons, or attained the characteristics that qualify it for National Register of Historic Places listing. The period of 1941-1942 was selected as the period of significance because that was the time during which the mine reached peak production, employing 204 people and producing more than 34,000 ounces of gold.<sup>5</sup>

#### PRESERVATION PLAN PURPOSE AND GOALS

After reviewing the Hatcher Pass Management Plan, performing a historic property and general conditions survey, holding public scoping meetings, and gathering the views of interested professionals, the following purpose and goals for preservation and interpretation at Independence Mine SHP were identified:

<sup>&</sup>lt;sup>3</sup> Alaska Division of Parks and Outdoor Recreation, *Alaska State Park System: Statewide Framework, Park* Planning Section (Alaska Division of Parks and Outdoor Recreation, 1982), 8.

<sup>&</sup>lt;sup>4</sup> Alaska Department of Natural Resources, Division of Mining, Land and Water, *Hatcher Pass Management Plan*. (Alaska Div. of Mining, Land and Water, November 2010). p. 3-57

<sup>&</sup>lt;sup>5</sup> Cohen, Independence Mine and the Willow Creek District, 3, 48, 58.

#### The purpose of the Independence Mine SHP Preservation Plan is to highlight the park's historic values and strike a balance between preservation, use, interpretation, and development for the benefit and enjoyment of a diverse population.

**GOAL #1:** Enhance the historic character of the park by developing and implementing preservation strategies that recognize the historic landscape, buildings, spaces, and artifacts while accommodating appropriate future uses.

- Consolidate staff related functions in buildings near the entrance to the park.
- Institutionalize a proactive building maintenance program that resolves immediate threats and identifies issues before they become threats.
- Identify, collect, preserve, exhibit, and interpret cultural materials that illustrate hard rock mining and community life in the Independence Mine bowl area.

*GOAL #2:* Promote a safe and secure year-round operation through adequate staffing and partnership development.

- Develop opportunities for special events, seminars and overnight stays at the park.
- Operate and manage the park to attract year round visitation and engagement.

*GOAL #3:* Connect a diverse audience to the park's cultural and natural resources using a variety of interpretive themes and methods.

- Educate the public through professional and active personal interpretation.
- Improve program and collections experiences and effectiveness of interpretive programs.
- Offer opportunities for visitors to learn more about specific topics through hands-on experiences and enhanced educational opportunities.
- Develop improved and effective nonpersonal interpretive materials.

*GOAL #4:* Evoke a positive intellectual, physical, and emotional visitor experience through active management and interpretation and continuous improvement of the park.

- Accurately depict the social and work life of residents at Independence Mine through displays, interpretation and other tools.
- Maintain displays so that all artifacts and facilities are clean and safe.
- Continue to advance and evaluate landscaping, amenities, and site planning throughout the core area of Independence Mine SHP.

## CHAPTER 3: HISTORY AND CULTURE



#### **DENA'INA**

Independence Mine SHP is recognized for its mining history, however, Dena'ina Athabascans used the region prior to the mining period. Although no past or present Native settlements are known in the area, the Dena'ina hunted caribou, sheep, and moose in the region. Dena'ina place names provide evidence of use. Some of the known place names for features in the Hatcher Pass area include *K'eda Beq'e Nay'uni* (Government Peak), *Qughun* (Bald Mountain Ridge), *Qughun Betnu* (upper Willow Creek), and *Tsałtastnu Tl'u* (the canyon at the headwaters of the Little Susitna River). A map of the mining district in 1899 shows a Native summer trail roughly following the current route of the road from the Little Susitna River to the pass.<sup>6</sup>

#### DISCOVERY AND EARLY MINING

Prospectors discovered placer gold in the Willow Creek District as early as 1897, but most placer<sup>7</sup> deposits in this district had already been carried away by glaciers. Lode<sup>8</sup> gold deposits were the most valuable prospects in the region. Robert Hatcher discovered lode gold in the Willow Creek District on Fishhook Creek in 1906 at the Alaska Free Gold Mining Company (Martin Mine) site on Skyscraper Mountain. One year later, the Alaska Gold Quartz Mining Company discovered the Independence vein on Granite Mountain and they installed the first stamp mill in the district in 1908.<sup>9</sup> Independently and intermittently managed, various companies operated these two mines on Skyscraper and Granite mountains for the following three decades.<sup>10</sup>

#### THE GREAT DEPRESSION AND THE GOLD RESERVE ACT

Gold mining in the Willow Creek District increased during the 1930s despite the nationwide depression. On January 30, 1934, President Franklin Roosevelt signed the Gold Reserve Act, ending the gold standard in the United States. One of the stipulations of this act changed the price of gold from \$20.67 per ounce and froze it at \$35 per ounce. The combination of the high price of gold and the lack of jobs in the United States created a steady market for miners and mining companies in Alaska.<sup>11</sup>

<sup>&</sup>lt;sup>6</sup> James Kari and James A. Fall, *Shem Pete's Alaska: The Territory of the Upper Cook Inlet Dena'ina* (Fairbanks: University of Alaska Press, 2003), 258-269.

<sup>&</sup>lt;sup>7</sup> An alluvial deposit of sand and gravel containing valuable minerals such as gold.

<sup>&</sup>lt;sup>8</sup> A mineral deposit in solid rock.

<sup>&</sup>lt;sup>9</sup> Stephen Capps, *The Willow Creek District, Alaska*, U.S. Geological Survey Bulletin No. 607 (Washington, D.C.: U.S. Government Printing Office, 1915), 7, 50, 60.

<sup>&</sup>lt;sup>10</sup> Kathryn Koutsky Cohen, *Independence Mine and the Willow Creek District* (Anchorage: Alaska Dept of Natural Resources, Office of History and Archaeology, 1982), 48.

<sup>&</sup>lt;sup>11</sup> Philip S. Smith, *Mineral Industry of Alaska in 1938*, U.S. Geological Survey Bulletin No. 917-A (Washington, D.C.: U.S. Government Printing Office, 1939), 33.

#### ALASKA-PACIFIC CONSOLIDATED MINING COMPANY

The mines on Skyscraper and Granite mountains went in and out of operation until 1938. In that year, the Wasilla Mining Company and the Alaska-Pacific Mines consolidated as the Alaska-Pacific Consolidated Mining Company (APC Mining Company) that collectively managed the Independence, Martin, and Gold Bullion mines. It became the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the entire United States. The APC Mining Company built the structures of Independence Mine SHP during the late 1930s and early 1940s. At its peak in 1941, the mine employed 204 people and produced more than 34,000 ounces of gold.<sup>12</sup>

#### WORLD WAR II ERA

World War II significantly affected gold mining in the United States. In October 1942, the War Production Board issued Order L-208, stating that gold mining was non-essential to the war effort. Most large mining operations closed due to this order. The Independence mine operated at full capacity for the last time in 1942. After that, the mine continued as a small-scale operation due to the presence of scheelite<sup>13</sup>, but APC Mining Company struggled to remain open even as a drastically reduced operation. The mine never fully recovered after World War II and it was shut down in 1951. By 1958, the company gave up hope of opening the mine again and offered their machinery and equipment for sale.<sup>14</sup>

#### SKI RESORT

Skiing was a popular activity with employees and their family members at the Independence Mine. After the mine closed, some of the buildings, including one of the bunkhouses, were converted to support a ski area. Rope tows and a T-bar were installed near the mine in the 1960s and the U.S. Army Biathlon team used the site as a training area. A three-hour bus ride took skiers from Anchorage to the mine on the weekends. In the 1970s, the Manager's House was used as a bar and ski lodge. Although the ski area closed by 1980, the area near Independence Mine is still a popular place for winter recreation.<sup>15</sup>

#### INDEPENDENCE MINE SHP

Due to a rise in gold prices, the Coronado Mining Corporation tried to revive the Independence Mine area in the late 1970s and early 1980s. They accessed the water tunnel built by APC Mining Company from the Willow Creek side of the mountain, but their mining activities did not last long, partly due to problems in the mill. They halted operations in September 1982.<sup>16</sup> In 1980, Starkey A. Wilson, who owned the claims Coronado was working, donated surface rights and the buildings at the mine, totaling 271 acres, to the state and the Division of Parks and Outdoor Recreation. The state began managing the area as Independence Mine SHP.<sup>17</sup> It is an accessible historical park providing not only a glimpse of Alaska's mining heritage, but also a place to recreate in all seasons. The historical park is well-loved by many Alaskans and visitors to the state.

<sup>&</sup>lt;sup>12</sup> Cohen, Independence Mine and the Willow Creek District, 3, 48, 58.

<sup>&</sup>lt;sup>13</sup> A fluorescent mineral, white when pure, that consists of calcium tungstate and is an important ore of tungsten.

<sup>14</sup> Ibid., 55-61.

<sup>&</sup>lt;sup>15</sup> Elizabeth Tower, Umbrella Guide to Skiing in Alaska (Kenmore, WA: Epicenter Press, 1997), 69-75.

<sup>&</sup>lt;sup>16</sup> Damon Bickerstaff and Steven W. Huss, "Alaska Resource Data File, Anchorage Quadrangle," U.S. Geological Survey Open-File Report 98-599, (Anchorage: USGS, 1998), 6.

<sup>&</sup>lt;sup>17</sup> Cohen, Independence Mine and the Willow Creek District, 118.

#### PRIOR IMPROVEMENT PROJECTS

The DPOR has carried out dozens of improvements to Independence Mine SHP since it became a park in 1980. Major projects include roads, parking lots, drainage and foundation work on Bunkhouses No. 1 and No. 2, trestle reconstruction, portal reconstruction, trail work, interpretive shelter and interpretive signs, and ADA accessibility work.

In the early 1990s, DPOR constructed a dirt road with a small parking area within Boomtown. The road was asphalt surfaced in 2003. There may be considerable archaeological resources below the parking lot surface, as part of it is located over a portion of Boomtown. The degree to which Boomtown's historic archaeological features remain intact is unknown.

The foundations of Bunkhouse No. 1 and Bunkhouse No. 2 were replaced in the mid-1980s and the late 1990s, respectively. The Mess Hall, Warehouse, Engineering Building, Bunkhouse No. 1, and Bunkhouse No.2 received new foundations and roofs in 2002 and 2003. The Assay building received a new foundation in 2013.

In the summer 2000, DPOR completed several major park improvements. The mine portal entrance and the railway platform on the mill trestle to (and including) the first trestle bent were reconstructed. Most park trails were improved and asphalt surfaced, including the core area pathway, upper trail to the portal, paths to the Mess Hall and Assay Office, and path between the upper and lower parking areas. Other improvements included resurfacing the upper parking area, constructing an interpretive shelter, and adding an ADA accessible ramp to the visitor center. A 3D scan of the Trestle was done in the fall of 2013.



## CHAPTER 4: VISITATION

#### VISITATION

Visitation statistics for Independence Mine SHP are collected using different techniques in the summer and winter. During the summer, park staff count visitors in the Visitor Center. In the winter, visitation for the bowl area is based on vehicles counts in the parking area. In 2009, DPOR installed a mechanical counter at the entrance gate, providing the site with statistics based on the number of cars entering the site. Estimates produced from these methods are statistically unreliable; however, they are the only data available to illustrate visitor trends. Although the data collected is not precise in the exact number of visitors, it is evident that visitation is increasing at Independence Mine SHP in each of the categories except at the Visitor Center. The decrease in visitation at the Visitor Center in 2009 and 2010 is likely due to low staffing levels and the reduced hours building was open to the public.





Figure 1: Graph showing the estimated number of visitors per year at Independence Mine SHP.

#### HERITAGE TOURISM

Visitors seeking heritage tourism opportunities want to experience places and activities that authentically represent the stories and people of the past and they want high quality services. The historic resources at Independence Mine SHP are tangible reflections of the mining heritage in the Willow Creek Mining District. According to the National Trust for Historic Preservation, cultural and heritage visitors stay longer on average than all other U.S. travelers. They also spend approximately \$62 more per day than other visitors. Recent studies have also shown that when heritage tourism is promoted, it brings sustainable economic development to nearby communities, especially when public and private entities forge partnerships. Heritage tourism is a growing component of the tourism industry, ranking third behind shopping and outdoor recreation.<sup>18</sup> Independence Mine SHP encompasses a wealth of opportunities for visitors interested in both historic sites and outdoor recreation. Summer visitors are interested in visiting the historic lode gold mining site or engaging in outdoor recreational activities. The park's roads and trails become popular cross-country ski trails when there is sufficient snow on the ground. Heritage tourism can and should be used as a selling point for visitors to the Matanuska-Susitna Borough.

<sup>&</sup>lt;sup>18</sup> National Trust for Historic Preservation, *Cultural Heritage Tourism 2011 Fact Sheet* (Washington, D.C.: National Trust for Historic Preservation, 2011). http://www.preservationnation.org/issues/heritage-tourism/additional-resources/2011-CHT-Fact-Sheet.pdf; Georgia Department of Natural Resources, Historic Preservation Division, Lynn Speno, ed., *Heritage Tourism Handbook: A How-to-Guide for Georgia,* (Atlanta: Georgia Historic Preservation Division, 2010).

## CHAPTER 5: CURRENT CONDITIONS



#### PARTNERSHIPS

DPOR has well-established relationships with many organizations in the area. Friends of State Parks, Mat-Su provides information to visitors, is a source of volunteers, generates funds for the park, and advocates for Independence Mine SHP. The Archives and Special Collections Department of the University of Alaska Anchorage has an agreement with DPOR to house components of the collection deposited in 1981 and 1989 in long-term storage. An informal partnership, mostly consisting of information exchanges, exists between the Gold Cord mine and DPOR. The Dorothy Page Museum in Wasilla has permanent exhibits displaying artifacts and information about the Willow Creek Mining District.

#### LAND USE AND BUILDINGS

The intent of this section is to capture the overall condition and highlight some concerns identified during the site visit in September 2010. Many of the buildings at Independence Mine SHP exhibit similar conditions inside and out. Recommended treatments or alterations to the buildings outlined in this plan are based on the information provided in this section. Additionally, building descriptions are included in Appendix A. A summary table shows what buildings exemplify specific current conditions and issues.

#### **BUILDING INTERIORS**

**WATER DAMAGE:** Water damage is evident in many buildings at Independence Mine SHP. Evidence usually consists of heavy staining on the walls and ceilings, often in corners of rooms. The staining appears to be old and was probably caused by moisture entering through the roof, windows, or missing siding. DPOR recently replaced many roofs and windows, so the problem is likely corrected in those buildings with new roofs.

**FINISHES:** Fiberboard sheathing, sometimes referred to as Celotex, is found in all historic buildings of the park. This wall covering is missing, broken, or damaged in many of the rooms of these buildings. Water penetrating the buildings has created moisture damage and mold-related issues—black and green molds are common. There is graffiti in some rooms; however, graffiti could be important because it dates from the period of significance.

Historical preservation standards have not been consistently used to guide installation of newer finishes in buildings and spaces. Spaces are currently presented with a more rustic application than the original finishes. In many spaces, the floors are left unfinished. Modern improvements have been completed in a non-sympathetic manner. For instance, telephone and computer wires are stapled onto walls and are not appropriately attached or concealed.

**USE DAMAGE:** Heavy visitor use in the Manager's House has caused damage to the historic fixtures and finishes including the wainscoting, wallpaper, and carpeting. Wall finishes are severely scratched and gouged and the wallpaper is peeling and fading. Carpeting is beyond its useful life.

**ROUTINE UPKEEP:** Excluding the Manager's House, it appears that many buildings have not been cleaned or maintained for a number of years. Dirt is evident on the floors, dust has accumulated on artifacts and ledges, and some windows are not transparent from dirt. Equipment, building fixtures (lights, doors, and windows), artifacts, and tools are haphazardly scattered throughout buildings and the overall park.

**PESTS:** Bird and rodent droppings are present in many buildings.

**ACCESSIBILITY:** Only two buildings—Manager's House and Bunkhouse No. 2—have accessible entrances. However, once in those buildings, people with physical disabilities have limited access to interior spaces. For example, visitors can easily enter the Manager's House, and once inside, they can go to the gift shop area. The small museum and living room are located down a small set of stairs so that visitors in wheelchairs or walkers cannot easily descend. Hardware is noncompliant, turning radii are tight, and thresholds create obstacles. The interiors of all buildings present these issues and obstacles.

**FIRE AND SAFETY:** Fire and safety will be an important component of any rehabilitation. Where needed, a second means of egress must be included in any rehabilitation as well as meeting all other fire and safety requirements.

#### **BUILDING EXTERIORS**

*SIDING:* Common conditions on the siding include paint failure, missing siding, weathering, water damage, and general damage. Missing and damaged siding is a condition that does not warrant further explanation.

**PAINT:** Common types of paint failure that are evident at Independence Mine SHP include peeling, crazing, cracking, and failure possibly due to inter-coat bond breaking. *Preservation Brief #10: Exterior Paint Problems on Historic Woodwork* is included in Appendix B.

**WINDOWS**: Boarded windows, broken windows and the introduction of inappropriate materials such as plexiglass are the most apparent window conditions at Independence Mine SHP. Other conditions are less noticeable; however, smaller conditions are very important due to the cumulative distraction presented to the visitor. To provide guidance, *Preservation Brief #9: The Repair of Historic Wooden Windows* is appended to this document for quick reference in Appendix C.

Individual *window panes* at the park are either comprised of original glass, replacement glass, plexiglass, or Lexan. Each building of the complex presents a mixture of window materials. Original glass found at Independence Mine SHP is wavy and extremely distinctive and is easily distinguished when seen in close proximity to replacement glass. Due to the manufacturing processes of newer glass, the waviness disappears, providing a clearer view to the outside. Plexiglass or Lexan were used to replace original glass in storm windows and historic windows in a limited number of buildings. Both materials have a tendency to become opaque due to pitting and they yellow over time. Opaque panes are evident throughout the park and detract from the overall appearance of the buildings. Both materials also have a tendency to break at extremely cold temperatures.

**STORM WINDOWS:** The Manager's House is the only building that currently uses storm windows. However, these storm windows are a hodgepodge of different types. A 12-pane wood exterior storm window, the one-over-one

exterior wood storm window, and plexiglass storms windows are all used. In some cases, the plexiglass has been placed in wood frames while others are simply inserted in the window spaces with no framing.

**FOUNDATIONS:** Many wood pile foundations at Independence Mine SHP were replaced with new concrete foundations in 2002-2003. In other cases, buildings are still situated on wood piles that are likely rotting or showing signs of decay. Concrete foundations will last longer and provide better stability. Wood skirting surrounds the buildings, covering the actual structural members of the buildings. The historically accurate skirting allows for access so inspections can occur.

**ROOF:** Most buildings in the park received new corrugated metal roofs during the 2002-2003 rehabilitation. Currently, the roofs are stable. However, two common issues encountered with sheet metal roofs will be described for future reference: galvanic action and fatigue. *Galvanic action* happens when two materials that are completely different in nature are used in a roofing system. The different chemical compositions of these metals can cause them to react; and this reaction may be catalyzed by rainwater as it corrodes the metals. The second issue is *fatigue*, which is often evident at the joints and near protrusions. Fatigue is likely the most common form of roof deterioration at the site and should be addressed immediately where seen or evident.<sup>19</sup>

#### SITE AND LANDSCAPE

**ACCESSIBILITY:** Great efforts have been made to create a park that is as accessible as possible, a difficult task due to the extremely varied topography and the historic positioning of the buildings. Paved areas, constructed at different periods over the history of the park, create a core area that provides outdoor access to all the standing and ruinous buildings. In many cases, the accessibility ends at the doorsteps of the historic buildings. The Manager's House and Bunkhouse No. 2 are the only buildings that can be easily entered by people with varied abilities. Static site interpretation (signs) is appropriately positioned for people of different ages and abilities.

**WEATHER:** The weather is a major force that contributes to the deterioration of the historic resources of this park. Among the weather factors that affect these structures are the high altitude of 3,500 feet above sea level, which creates a short summer season with heavy snowfall and freeze-thaw cycles. Wind speeds that exceed 60 miles per hour place additional stress on the old structures.

**AMENITIES:** Site amenities are located throughout the park and include interpretive shelters, benches, trash receptacles, and interpretive signs. Most amenities appear to be in good condition. Benches are adequately spaced for resting. Trash receptacles are available during the summer months. Two single toilets are located in the lower level parking area and two flush toilets are available in each of the two restrooms in the Manager's House. No other restroom facilities are available.

**RUINS:** Ruins are scattered throughout the heart of the park and found in the greater bowl area. Some are standing while others have collapsed. Standing ruins present a safety issue to visitors who wander off the trails. Other ruins present a danger to standing buildings as they continue to collapse. In certain instances, ruinous buildings house a variety of artifacts yet to be inventoried.

**ARTIFACTS:** Artifacts are located throughout the park, on the landscape, in buildings, and in ruins. The amount, type, value, and condition of these resources are unknown at this time. A determination to differentiate site debris from artifacts has not been undertaken.

<sup>&</sup>lt;sup>19</sup> Sweetser, Sarah M., "Preservation Brief #4: Roofing for Historic Buildings," U.S. Department of the Interior, National Park Service, February 1978, p. 6.

**ARCHEAOLOGITCAL SITES:** Boomtown's historic archaeological site is partially covered by the lower level parking lot. A systematic survey of the Boomtown site has not been conducted.

**PARK ACCESS:** Currently, Gold Cord Road, which is paved, is open in summer to the upper level parking, which functions as a "drop-off" zone, provides handicap and staff parking, and is an emergency vehicle access point. The lower level parking area, situated on top of a historical archaeological site, fills up during summer and large tour buses have difficulty maneuvering. In winter, the park plows the road only to the Independence Bowl parking lot, which is approximately a mile from the mine. To access the park, which is closed to motorized vehicles in winter, visitors must walk, ski, or snowshoe to the park. Only adjacent landowners at Gold Cord Mine, park staff, and contracted facility maintenance crews are allowed motorized vehicle access in winter. The park's roads and trails become popular cross-country ski trails when there is sufficient snow on the ground.

	Manager's House	Bunkhouse No. 2	Bunkhouse No. 1	Framing Shops	Bunkhouse/Warehouse	Assay Office	Mine Shops	Mill Complex	Apartment House	Plumbing, Sheet Metal, Electrical, and Storage Shops	Engineering Office & Commissary	Mess Hall
Water Damage		Х	Х		Х				Х		Х	Х
Finishes	Х	Х	Х		Х	Х			Х		Х	Х
Use Damage	Х	Х	Х						Х			
Routine Upkeep		Х	Х		Х				Х		Х	Х
Pests	Х		Х									
Accessibility	Х	Х	Х	Х	Х	Х			Х		Х	Х
Siding		Х	Х	Х							Х	
Paint	Х		Х	Х	Х				Х		Х	Х
Windows		Х	Х	Х	Х				Х		Х	Х
Storm Windows	Х	Х	Х		Х	Х			Х		Х	Х
Foundations				Х			Х			Х		
Roof				Х			Х			Х		
Site Accessibility		Х	Х									
Amenities												
Ruins				Х			Х	Х		Х		
Artifacts		Х	Х	Х			Х	Х		Х		

#### Areas of Concern in the Historic Structures of Independence Mine SHP

Figure 2: Shows the areas of concern for each structure as discussed in the Building Interiors, Exteriors, Site and Landscape sections of this chapter.

**UTILITIES:** The electrical grid is located nearly 10 miles away on Hatcher Pass Road. Two diesel generators, purchased in 2010, provide power at Independence Mine SHP. At that time, the battery bank and inverter charging system in the Visitor Center was upgraded. These upgrades save fuel and reduce noise. Power is supplied to the Manager's House, Bunkhouse No. 2, and the Assay Office.

The Manager's House is the only building using the water plumbing. The water is supplied by a low-yield water well, a 500-plus-gallon holding tank, and a pressure tank. The water supply is adequate for staff and current visitor levels. The Manager's House is also the only building with a functioning septic system. The septic and waterlines were disconnected from all other buildings when new foundations were built.

The Manager's House is the only building with a furnace heating system that functions year-round. DPOR replaced the furnace in 2011. Propane heaters are used as needed in other buildings.

#### COLLECTIONS AND RESEARCH

#### COLLECTIONS

Independence Mine SHP has a variety of organic and inorganic items in its collections including artifacts, photographs, and research documents. Many of these items are currently stored in boxes at DPOR's Finger Lake Office, but others are on display or in storage throughout the park, especially in the Manager's House and Assay Office. An unknown number of artifacts are located in collapsed and collapsing buildings. The park acquired the Starkey Wilson collection located in Texas in 2009. Friends of State Parks, Mat-Su purchased the collection and donated it to DPOR. The Starkey Wilson collection includes many research documents, photographs, and artifacts related to the Willow Creek District.

The park's collections have not been evaluated in recent years and many of the items are stored in unsecured locations in an uncontrolled environment. DPOR made several attempts since the winter of 2004 to organize and inventory Independence Mine SHP collections. Employees learned to use PastPerfect museum software and began writing a mission statement to guide the selection of appropriate items for a permanent collection. DPOR staff digitized approximately 150 photographs and negatives, but the hard drive that contained the database crashed and the project ended due to lack of funding. In November 2007, the Office of History and Archaeology provided additional grant funding to resume the project. By the end of December, digital photos of artifacts contained in eight boxes at the Finger Lake office had been taken and a photo inventory was made of the Manager's House, Bunkhouses, Warehouse, Engineering Office, Apartment Building, and Mess Hall. These images were stored on a computer and backup CD. A mission statement to guide a collections policy has not been established.

In addition to Independence Mine SHP collections, artifacts associated with the site are on display at the Dorothy Page Museum. The University of Alaska Anchorage houses a variety of photographs, reports, research documents, and artifacts in two collections. The Stoll family collection includes papers, maps, and photographs related to Independence Mine and Alaska-Pacific Consolidated (APC) Mining Company from 1922-1987. The APC Mining Company collection provides researchers an opportunity to view administration and operation records, historic files, interviews and correspondence, photographs, negatives, slides, maps, and building plans. DPOR deposited many items in this collection in 1981 and 1989. The agreement for the deposit is for long-term storage of research materials related to Independence Mine SHP. (Appendix J)

#### RESEARCH

Numerous bulletins produced by the United States Geological Survey describe the geology and early history of mining at Independence Mine SHP.<sup>20</sup> The most comprehensive history of Independence Mine was written by Kathryn Koutsky Cohen for DPOR in 1982.<sup>21</sup> Cohen's study, *Independence Mine and the Willow Creek District,* covers a variety of topics including the discovery of gold in the region, the numerous mines operated in Willow Creek District, transportation, technology, the lives of miners, and an overview of life at Independence Camp. The bibliography is useful for researchers, but the location of some of the sources is no longer accurate. This study is no longer in print due to the use of an outdated printing technology.

#### PARK STAFF

DPOR manages Independence Mine SHP as a unit of Matanuska-Susitna/Copper River Basin Area. DPOR staff who manage this area comprised of 24 units, consist of a Park Superintendent, two Ranger IIs, four Ranger Is, two Park Specialists, three Natural Resource Technician IIs, a Maintenance Generalist Journey II, a Maintenance Generalist Sub Journey II, an Office Assistant II, an Administrative Officer I, and an Accounting Clerk I. DPOR assigns a seasonal permanent Park Specialist specifically to Independence Mine SHP during the summer months. A Ranger I assigned to the Hatcher Pass Management Area services this park in addition to all units in the Management Area. Area-wide maintenance staff work in the park as necessary and practicable. The duties performed by the Park Ranger, Park Specialist, and maintenance staff include maintenance activities, gathering trash, collecting fees, administering park operations, and providing public safety and visitor services to park users, which severely limit the amount of time they can devote to any single unit under their care.

Volunteers are an integral component of Independence Mine SHP management. Volunteers allow the small staff to provide basic services to residents and visitors such as guided tours and occasional special events. Volunteers also help make the park a more visitor friendly park by providing visitor services in the Manager's House, which serves as a visitor center, and by offering literature and mementos for sale. Currently, full-time, seasonal volunteers are housed on the second floor of Bunkhouse No. 2.

Independence Mine SHP boasts a volunteer base including the Friends of State Parks, Mat-Su that has been very active and engaged. Volunteers have successfully accomplished many projects for the benefit of the park and its users. Volunteer programs demonstrate local support and incrementally improve local sponsorship of park programs through active engagement—residents who work in the park generally support park efforts.

#### INTERPRETATION

#### PERSONAL INTERPRETATION

**GUIDED TOURS:** Underground tours of the water tunnel and mine camp tours have both been offered to park visitors in the past. The Friends of State Parks Mat-Su group offered the *underground tours* once a year as fundraisers until the mine entrance was deemed too dangerous for public access in 2009. Park rangers and neighboring miners were generally involved as tour guides, but the Friends group was in charge of everything else regarding these fundraisers. This tour cost \$100.00 per person and lasted approximately three hours. A

<sup>&</sup>lt;sup>20</sup> Alaska Dept. of Natural Resources, Geological and Geophysical Surveys, Digital Collection of Alaska Mining Publications (Fairbanks: Alaska Dept of Natural Resources) available from http://www.dggs.dnr.state.ak.us/pubs/.

<sup>&</sup>lt;sup>21</sup> Cohen, Kathryn Koutsky, Independence Mine and the Willow Creek District (Anchorage: Alaska Dept of Natural Resources, Office of History and Archaeology, 1982), 48.

waterproof jacket and pants, rubber boots, and hardhats were provided and, after the tour, the group was taken to the privately owned Hatcher Pass Lodge for lunch.

Independence Mine camp tours have been offered seasonally for many years, except in 2010. In 2011, these tours cost \$6.00 for adults and \$3.00 for youth (aged six to 12) and lasted approximately an hour. Tours were offered at 1:00 p.m. and 3:00 p.m. every day and were led by four volunteers and the Park Specialist. During these tours, visitors saw the inside of the Manager's House, the Schoolroom in the Bunkhouse/Warehouse, the Apartment Building, Bunkhouse No. 1, and the Mess Hall while the tour guide explained the uses and history of these buildings and their role in everyday life and operations of Independence Mine SHP. These tours were based on a training paper prepared by former park ranger Pat Murphy.

**PRIVATE TOUR COMPANIES:** Private tour companies also provide visitors with guided tours of Independence Mine. However, these companies are not given access to the inside of the mine camp's buildings, so the tours are strictly outdoors unless the museum in the Assay Building and the visitor center in the Manager's House are open at the time of the tour. All private tour companies must obtain a commercial use permit prior to taking tour groups through the park facilities.

#### NON-PERSONAL INTERPRETATION

*VISITOR CENTER/MANAGER'S HOUSE:* The lower level of the Manager's House serves as the visitor center that volunteers operate. The living room and dining room are furnished with chairs and couches lined up against the wall and display artifacts from the Independence mine's period of operation. Historic photographs of Independence Mine SHP, most from circa 1940 adorn the walls. This space provides visitors an overview of the mine manager's life.

DPOR renovated the kitchen to interpret the mine's period of peak operation. When the building is open, this room contains a few noteworthy interpretive displays such as a "Touch Tunnel," an interactive display titled "People of Independence Mine," and "From Mine to Money" a mixed-media display. Some of this interpretive material is effective. However, many of the displays are worn and outdated. There are also too many displays and, as a result, the space is cluttered and the effectiveness of the interpretation is reduced.

**MUSEUM/ASSAY OFFICE:** Historically, the Assay Office housed the essential operations of testing the quality of gold ore and efficacy of the mill extraction process and retorting (separating the mercury from the gold by distillation). Much of the equipment used in these processes remains in the building and now interprets the history of mining operations. Interpretive panels on wooden block pedestals are found in the Museum.

**BUNKHOUSE NO. 1:** The first floor of Bunkhouse No. 1 is furnished to represent the period when employees of the mine bunked here. Furnishings in the entry room include two pool tables, a water fountain, a fire hydrant, and a wooden bench. The pool tables were donated, and did not originally belong at the Independence Mine. The second floor contains bunk rooms; four of these rooms have old furnishings placed to evoke a sense of the mine's heyday. The furnishings are old and worn and, therefore, they do not represent what was known as the best lodging for miners in the Willow Creek Mining District.

**BUNKHOUSE NO. 2:** The first floor of Bunkhouse No. 2 housed a small movie theater for the workers and inhabitants and doubled as a classroom for the children of Independence Mine during the daytime. A first floor room is dedicated to interpreting life of the miners and muckers with interpretive panels, photos, and shelves exhibiting old mining equipment along the walls. The equipment displayed on the shelves is not labeled adequately and the interpretive displays are outdated.

**APARTMENT BUILDING:** Four small apartments are located in the apartment building. Each has a living area, kitchen, and full bathroom downstairs and small sleeping area with a closet upstairs. Two of these units are decorated to represent the time period in which they were inhabited. The rug, upholstery, and other fabrics on display are accurate to the period, but they are tattered, stained, and worn.

**BUNKHOUSE/ WAREHOUSE:** The Bunkhouse/ Warehouse building is currently a popular part of the scheduled tour as it accommodated the first schoolroom at Independence Mine SHP. The room that is located above the second floor, known as the bullpen, is also popular for its unique layout and for the historic graffiti on the walls. The schoolroom is currently a static museum exhibit that depicts a typical period classroom with a teacher's desk and chalkboard at the front of the class and seating for the students in back. The furnishings are sparse, later than the period of significance and thereby inaccurately represent the period.

**MESS HALL:** The Mess Hall housed the kitchen and dining hall on the first floor, living quarters on the second floor and storage in the basement. First floor rooms contain original built-in furniture and large equipment. The kitchen area and dishwashing machine display a few dishes and there is a table in the dining area that is set for dinner. Behind this table are two bare tables. This area is roped off to prevent visitors from entering the display. Upstairs, one of the supervisors' apartments is currently a static display with sparse furnishings.

#### INTERPRETIVE PANELS

There are 32 panels located outdoors throughout the park that deal with a variety of topics such as historic uses of specific mine buildings, gold and gold mining, the Willow Creek Mining District, life at the mine, and an orientation to Hatcher Pass. Please refer to Appendix D for a more detailed account of the park's interpretive panels.

**INTRODUCTORY PANELS:** The seven introductory panels are located near the park's entrance. One presents a brief overview of Independence Mine's history and some activities that the park offers. Others introduce the Hatcher Pass area and provide a description of recreation opportunities with an orientation map of Hatcher Pass.

Above the parking area and near the Manager's House are six more panels. One of these panels is a duplicate of a panel located in the parking area and provides a brief overview of Independence Mine SHP's history and park activities. The other five panels present an introduction to the site including:

- a timeline of important events worldwide, and specific to Alaska and Independence Mine
- definitions for mining-specific vocabulary with visual representations
- a discussion of the gold-bearing Talkeetna Mountains geological formation
- an overview of the two types of gold mining
- a brief description of family life at Independence Mine's Boomtown

**HISTORIC FEATURE PANELS:** Sixteen historic feature panels identify each of Independence Mine SHP's historic buildings and their role in the operation of the mine and the daily activities of the mining camp's residents. Most of these panels are placed next to the structures or sites they interpret.

**DAILY LIFE PANELS:** Four panels are dedicated to interpreting daily life at Independence Mine camp. They allow visitors to take a step into the area's past and imagine what it was like to live and work at the mine during its peak years of operation. The content of these panels also relates to structures and activities at this mining camp.

**BROCHURES:** Currently, there are no brochures produced by DPOR that specifically address this park. A brochure for Hatcher Pass East Management Area includes some information about Independence Mine SHP.

#### MAINTENANCE

Many of the original buildings at Independence Mine SHP have not been maintained or stabilized since the mine's closing in 1951, leaving multiple structures in ruins. Current staffing levels are insufficient to meet the park's maintenance needs; therefore, maintenance efforts are generally reactive rather than preventive, with the most pressing issues taking precedence.

## CHAPTER 6: TREATMENT ZONES AND SITE CHARACTERISTICS



#### TREATMENT ZONES

To facilitate continued preservation, development, program expansion, visitor growth, and general enjoyment of Independence Mine SHP by residents and visitors, DPOR devised treatment zones. These designations will guide development, use, and preservation treatments. Treatment zones do not change the land-use designations identified in the *Hatcher Pass Management Plan*. They provide additional parameters to park staff, design, and historic preservation professionals, and park management, including Design and Construction and the Office of History and Archaeology, as they make building- and area-specific decisions related to historic preservation.

The plan establishes four treatments zones for Independence Mine SHP, each with a unique preservation outcome for the buildings, rooms, archaeology, and landscape. These treatments will guide decisions in each zone, including fire, safety, and ADA requirements, while preserving and interpreting the historic resources at the park.

#### TREATMENT ZONE ONE: RESTORATION

**TREATMENT ZONE ONE** applies to specific rooms such as the Manager's House living room and two apartments in the Apartment House. The overall goal of these spaces is to display and interpret what life was like at Independence Mine SHP.

**The primary treatment in Zone One is Restoration.** Cultural assets in this zone represent an important historical function of the historic resource, are critical to understanding the resource and to the visitor experience, embody distinctive qualities (such as unique materials, features, details, or craftsmanship), or achieve additional significance due to associations with important people, styles of architecture, or events. The highest priorities in Zone One should be maintaining, preserving, and protecting all historic resources. Work that takes place in this zone should follow the Secretary of the Interior's Standards for Restoration and use the period of 1941-1942 to guide decisions. The overall definition of restoration is *"the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period."<sup>22</sup> The Restoration Standards are attached in Appendix F.* 

<sup>&</sup>lt;sup>22</sup> Kay D. Weeks and Anne E. Grimmer, *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings* (Washington, DC:U.S. Department of the Interior, 1995), 62.

#### TREATMENT ZONE TWO: PRESERVATION

**TREATMENT ZONE TWO** encompasses the Mine Shops, Mill Ruin, Trestle, Plumbing, Sheet Metal, Electrical and Storage Shops, and the majority of the landscape. These areas are mostly ruinous in nature and that quality has become, over time, a character-defining element of the park. Items on the landscape should be preserved, to the greatest extent possible, in place.

**The primary treatment in Zone Two is Preservation.** Areas designated as Zone Two are historically important to the understanding of the overall resource, augment the visitor experience, represent distinctive qualities (such as unique materials, features, details, or craftsmanship), or achieve additional significance due to associations with important people, styles of architecture, or important events. Zone Two areas are designated when specific uses for the property have not been identified, but stabilization is necessary for future use, or when the level of deterioration has become a character-defining feature of the area. *"Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property."*<sup>23</sup> All resources in Zone Two should receive regular monitoring in order to assess the condition. When work on Zone Two resources is needed, a "soft touch" approach should be taken (Appendix F). The ruinous nature must remain intact at these locations, to the greatest extent feasible, while taking into consideration public safety.

**Optional treatment in Zone Two is Reconstruction.** Ruins may be reconstructed when it is decided the building or structure is significant and integral to the visitor experience of the historic mine site. *"Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture and such reconstruction is essential to the public understanding of the property."* All reconstruction work must adhere to the Secretary of the Interior's Standards for Reconstruction (Appendix F).

#### TREATMENT ZONE THREE: REHABILITATION

**TREATEMENT ZONE THREE** includes the Assay Office, Bunkhouse No. 1, Bunkhouse No. 2, Manager's House, Bunkhouse/Warehouse, Framing Shop, Apartment House, Engineering Office & Commissary, and Mess Hall. The core of the park along the ADA accessible pathways should be used as a rehabilitation zone.

**The primary treatment in Zone Three is Rehabilitation.** Areas designated as Zone Three may embody characteristics or features that are distinctive in their own right, and contain spatial relationships from the period of significance, but are secondary to the historic district as a whole. These areas are less significant than Zone One areas. Still, every effort should be made to retain original features and fabric in rehabilitation areas. New materials and features can be introduced in rehabilitation zones if done sensitively and the intact primary character-defining features are retained. *"Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."<sup>24</sup> All work conducted in Zone Three must adhere to the Secretary of the Interior's Standards for Rehabilitation (Appendix F).* 

<sup>&</sup>lt;sup>23</sup> Ibid.

#### TREATMENT ZONE FOUR: RENOVATION

**TREATMENT ZONE FOUR** comprises the lower parking area and Boomtown. These areas are mostly away from the interpretive core of the park and allow for continued development. Boomtown is a historic archaeological site that must be taken into consideration when planning projects in this area.

**The primary treatment in Zone Four areas is renovation.** Zone Four are those areas where changes will not significantly diminish the historic character and value of the property as a whole. Modifications, renovations, and intrusions are acceptable; however, additions must still be sympathetic to the historic nature of the park. Zone Four areas can accommodate more changes than other designated zones. Zone Four areas are often undistinguished or repetitive in nature unless they represent a part of a larger ensemble of features, or are closely associated with other more significant site features.





Figure 4: Detailed map depicting the Treatment Zones in the core historic area of Independence Mine SHP.

#### USES AND CHARACTERISTICS

#### MANAGER'S HOUSE

#### TREATMENT ZONE THREE

**BUILDING USE:** Visitor Center and Administrative Offices (Rehabilitation).

**TREATMENT CONSIDERSATIONS:** To create a functional and welcoming visitor center, work needing attention includes developing an accessibility plan for the entire first floor, providing access to the deck from the outside, repairing wainscoting, fabricating storm windows (glass and wood), replacing carpet, creating gift shop space that flows with the building's interior, repainting the interior and exterior of the house, using wall coverings that are based on historic evidence, and replacing light fixtures with ones that are based on historic evidence. For interpretive purposes, consider restoring the living room using Zone One Treatment guidance.

**CHARACTER DEFINING FEATURES:** The exterior features that must be retained include the overall shape of the building, the stone chimney, horizontal wood siding, exposed rafters, metal roof, wood windows and doors. Important aspects of the interior include the fireplace, volume of space in the great room, stairs, wainscoting, wall finishes, balcony, railings, and doors. Secondary spaces have more flexibility for change. Some of these spaces include the upstairs bedrooms, bathrooms, interpretive room, and gift shop room.

BUNKHOUSE NO. 2

#### TREATMENT ZONE THREE

**BUILDING USE:** Visitor Orientation and Park Infrastructure Needs (Rehabilitation)

**TREATMENT CONSIDERSATIONS:** Work needing immediate attention includes repairing windows, controlling pests, insulating (first floor), installing a vapor barrier (first floor), installing sheetrock (first floor), fabricating wall treatment (first floor), establishing a rotating collection display space, establishing an interpreter office space, acquiring film equipment, refinishing floors, constructing new built-in tables, and ensuring the entire first floor is accessible.

Two to four rooms on the second floor should be furnished and restored for interpretive purposes. In the short term, the rest of the second and third floors, as well as the first floor bathroom should be secured with no visitor access. Uses for these spaces should be periodically reassessed if park needs change and require use of these spaces. For example, DPOR could place additional staff and volunteer housing on the third floor. If visitors are allowed on the second floor or third floors, a second means of egress must be established. Before DPOR permits staff housing on the third floor, a plan should be developed to secure the rotating collection on the first floor and static interpretive display on the second floor. It is important to consider separation between visitor programs and staff living spaces.

Items that should be considered in the future include stair thresholds, second means of egress on the north bathroom areas of the second and third floors, second floor bunkrooms configured for interpretive purposes, and period finishes installed throughout as appropriate.

If used as visitor orientation, Bunkhouse No. 2 should be the second stop visitors make after leaving the Manager's House. The Theater Room should be used as a functioning classroom for orientation activities and a theater for interpretive programs with appropriate period furnishings. Additionally, community organizations and individuals can use this space for other activities such as educational sessions, public meetings, personnel briefings, etc.

Because the schoolroom display in the Bunkhouse/Warehouse is a popular display, DPOR should ensure that a schoolroom is open to the public during the transition from the Bunkhouse/Warehouse to Bunkhouse No. 2. The infirmary and first aid rooms could be rehabilitated as seasonal interpreter office space, staff and special events break room, and storage. The drying room could be reused as rotating collection space. The third floor could be used as staff and volunteer housing only if other identified locations are determined inadequate and all fire and safety codes are met.

**CHARACTER DEFINING FEATURES:** Primary characteristics that must be retained are the entire exterior of the building including the overall shape of the building, horizontal wood siding, color pattern, windows, porch, exposed rafters, roof material, and doors. Interior elements that should be preserved include the stairwell, theater space, doors, existing wood paneling, light fixtures, wood ceiling, and hallways on the second and third floors.

Secondary spaces that should be given more flexibility include the Infirmary, Nurse's Quarters, bathroom, and locker room. Individual spaces on the second and third floor should also have an adequate amount of flexibility to ensure future use.

BUNKHOUSE NO. 1

TREATMENT ZONE THREE

BUILDING USE: Lodging, Accommodations, or Research Facility (Rehabilitation)

**TREATMENT CONSIDERSATIONS:** To address fire and safety, an appropriate location for a new stairwell is in the bunkrooms on the east side of the building. A door leading outside from this stairwell is necessary. Accessibility must also be addressed and accommodations should be made on the first floor for accessible rooms. If a porch is added to the building, appropriate accommodations should be made to have the main entrance completely accessible. The arctic entry should be appropriately rehabilitated to stop the entry from pulling away from the rest of the building as it is currently doing. All lexan window panes should be replaced with glass and storm windows fabricated and installed.

**CHARACTER DEFINING FEATURES:** Primary characteristics of the building include the siding, paint color, windows, doors, roof material, exposed rafters, and porch. Interior primary characteristics are limited to the following spaces: lobby, wood doors, second and third floor corridors, room numbers, wood floors, wood stairwells, and radiators.

#### ASSAY OFFICE

TREATMENT ZONE THREE

BUILDING USE: Museum and Storage (Rehabilitation)

**TREATMENT CONSIDERSATIONS:** Flashing near the chimney should be inspected to ensure it is adequate. The exterior needs to be painted. Water damaged fiberboard on the interior should be replaced. Appropriate light fixtures that adequately illuminate displays and objects should be installed. Floors should be refinished.

The Assay Office has two primary uses, education and collections storage. The first floor should be museum space and the second floor should serve as storage space for frequently used collections. The Assay Office should be mostly educational in nature and interpret objects housed in the first floor space with a clear educational mission and flow. **CHARACTER DEFINING FEATURES:** Primary character defining features of the Assay Office exterior include the wood siding, paint color, windows, exposed rafters, doors, and roof material. Interior character defining features include wood floors, first floor plywood wall coverings, doors, and spatial configuration.

ENGINEERING/COMMISSARY

TREATMENT ZONE THREE

BUILDING USE: Static Display (Rehabilitation)

**TREATMENT CONSIDERSATIONS:** Immediate issues that need attention include exterior painting, window repair, and general cleaning of the interior. Spaces that should receive priority treatment include the commissary and engineering offices (located at the two ends of the building) for interpretive purposes.

The portions of the building that were historically used as the Engineering Office and the Commissary should be restored and interpreted with static displays. Other areas of the building, including the second floor and basement, should be stabilized and preserved for a future use.

**CHARACTER DEFINING FEATURES:** Primary characteristics of the building's exterior include the wood siding, wood multi-light windows, paint color, roof material and configuration, porch, doors, and exposed rafters. Interior primary characteristics include flooring, spatial configuration, kiln, and trim.

APARTMENT HOUSE

TREATMENT ZONE THREE

BUILDING USE: Static Displays and Storage (Rehabilitation)

**TREATMENT CONSIDERSATIONS:** The primary concern needing attention immediately is mold removal. Other issues that warrant attention prior to allowing visitors to enter the building include installation of wall and ceiling finishes, furnishings, paint, installation of appropriate light fixtures, window repairs, installation of appropriate floor and window coverings, and exterior painting.

Two apartments in the Apartment House should be considered as Zone One Restoration for primarily interpretive purposes.

The first floor apartments on the street side should be restored and appropriately furnished to convey everyday life at the Independence Mine camp during the period of 1941-1942. The entire second floor could be used to store cleaning supplies and artifacts that may be used in the apartments in future interpretive and educational programs. The first floors of the apartments on the non-street facing side should be cleaned and repaired in the simplest way possible. No identified use is assigned to these spaces

**CHARACTER DEFINING FEATURES:** Exterior character defining features include the roof material, windows, horizontal wood siding, paint color, and arctic entries. Interior character defining features include the stairway, kitchen cabinets, celotex wall finish, doors, and under stair storage.

#### BUNKHOUSE/WAREHOUSE

TREATMENT ZONE THREE

BUILDING USE: Curation and Maintenance Facility (Rehabilitation)

**TREATMENT CONSIDERATIONS:** To house maintenance and curatorial functions in the building, the connectivity, ventilation, equipment and storage need to be addressed. The basement could be used for storage of equipment

and large items that require repair. The first floor could be used for maintenance or curatorial activities, including wood working, window repair, painting, celotex repair, and collections storage. The second and third floors could be used as curatorial space, storage, summer office space, and special events.

The old schoolroom could be used for processing and summer office space. However, because it is popular, DPOR recommends relocating the schoolroom display to Bunkhouse No. 2 where it is also historically accurate.

**CHARACTER DEFINING FEATURES:** Primary character defining features of the Bunkhouse/Warehouse include the following exterior features: wood siding, paint color, windows, doors, porch, roof material, exposed rafters, and stairs. Interior character defining features include the historic graffiti, light fixtures, heating pipes, trim, and wood floors.

#### MESS HALL

TREATMENT ZONE THREE

BUILDING USE: Special Event Space and Housing (Rehabilitation)

**TREATMENT CONSIDERSATIONS:** Rehabilitation priorities for the Mess Hall include painting, window rehabilitation, and rehabilitation of the two large apartments. The large apartments are well preserved spaces and are in overall good condition. To make them habitable, they need insulation, vapor barrier, electrical, and new drywall. Flooring and doors should be refinished. Missing built-ins should be reconstructed and new appliances installed. The boarding rooms in the rear of the building should be reconfigured into one apartment and a kitchen installed when the need for additional housing is demonstrated.

Potential uses of the first floor include rental spaces for conferences or special events. A rehabilitated kitchen, dining room and lobby could accommodate food preparation and service. The basement could be used for storage.

**CHARACTER DEFINING FEATURES:** Primary characteristics of the exterior include the wood siding, paint color, roof configuration, roof material, massing, windows, doors, porches, railings, exposed rafters, and water table. Important characteristics worthy of preservation in the Mess Hall and lobby include the wainscoting, radiators, light fixtures, chair rails, quarter round, and doors. Characteristics of the kitchen that should be preserved include the wood-paneled wall and ceiling surfaces, built-ins, light fixtures, and meat hooks. Character defining features of the apartments include the built-ins, floor finishes, baseboards, trim, radiators, kitchen cabinets, doors, chair rail, and wainscoting.

#### MILL COMPLEX RUINS

TREATMENT ZONE TWO

#### BUILDING USE: No Use (Preservation)

**TREATMENT CONSIDERSATIONS:** Attempts can be made to preserve important characteristics of the mill and end walls. However, the overall approach should be to preserve the remains as ruins. At this point, the centrally located mill ruin is a character defining feature of the site and should be preserved in its current condition. Efforts should be made to ensure the continued collapse of this structure does not impact other area resources including the Plumbing, Sheet Metal, Electrical, and Storage Shops. The debris scatter should be examined annually, to ensure it is not applying unnecessary pressure on standing remains.

#### TRESTLE

**BUILDING USE:** Interpretation (Reconstruction)

**TREATMENT CONSIDERSATIONS:** The trestle, located behind the back mill wall, should be considered for reconstruction. The thorough record of the current trestle developed through the 3D scanning process should be used to inform the new design. Additional recordation could include a written description of the current structure, locating existing drawings, and photo documentation.

WATER TUNNEL

BUILDING USE: No Use (Preservation)

**TREATMENT CONSIDERSATIONS:** A study has been completed that addresses the structural integrity of the water tunnel, identifies safety issues in the tunnel and mine, and outlines the feasibility of potential rehabilitation and pedestrian access. DPOR should prioritize the recommendations outlined in the study and when funding is available, an effort should be made to stabilize and repair the mine entrance.

PLUMBING, SHEET METAL, ELECTRICAL, AND STORAGE SHOPS TREATMENT ZONE TWO

BUILDING USE: No Use (Preservation)

**BUILDING USE:** No Use (Preservation)

**TREATMENT CONSIDERSATIONS:** These shops should be stabilized as soon as possible. In order to have a future use, the structures must remain standing. Collection of artifacts should be a priority and follow the park's established collection mission and policy (discussed in the following section).

FRAMING SHOPS

**TREATMENT CONSIDERSATIONS:** The framing shops should be primarily used for interpretive purposes to demonstrate the decay and restoration process. In the future, the use of this structure could be slightly modified and refined, but the primary use should be to interpret the preservation efforts of the park.

#### MINE SHOPS

TREATMENT ZONE TWO

TREATMENT ZONE TWO

TREATMENT ZONE TWO

TREATMENT ZONE TWO

BUILDING USE: No Use (Preservation)

**TREATMENT CONSIDERSATIONS:** These buildings are beyond repair and should be managed as a ruin. Efforts should be made to ensure continued collapse does not create an unsafe park. Collection of artifacts should be a priority and follow the park's established collection mission and policy (discussed in the following section).

## CHAPTER 7: INTERPRETIVE THEMES AND APPROACH



#### INTERPRETATIVE THEMES

Themes are the primary messages visitors should understand about a particular interpretive site or presentation. Themes bring a sense of continuity to a site and assist planners when organizing the content for interpretive materials. Each interpretive product developed will support the primary interpretive theme and one of the subthemes listed below.

**PRIMARY INTERPRETIVE THEME:** Independence Mine was the one of the largest producing hard-rock gold mines in the Willow Creek District during the 1930s and 1940s around which a vibrant community grew. After the mine closed in 1951, the site became a destination for heritage tourism and outdoor recreation.

#### SUBTHEMES:

- *Industry and Engineering:* The people of Independence Mine worked arduously using a variety of equipment, technology and buildings to operate the hard rock gold mine.
- *Social:* The wide range of people in the Independence Mine community, including Boomtown, created a diverse social atmosphere year-round.
- *Recreation and Tourism:* Although small-scale, sporadic mining occurred after 1950, Independence Mine evolved into a year-round destination providing a glimpse of Alaska's mining heritage and a place for outdoor recreation.
- *Historic Preservation:* The State saves and preserves the buildings, structures and objects that makeup the Independence Mine SHP. Independence Mine is listed in the National Register of Historic Places.
- *Natural History:* The scenic Hatcher Pass region supports thriving ecosystems adapted to its harsh environment.
- *Geology:* The geology of the Independence Mine and the Hatcher Pass area attracted mining interests resulting in mineral extraction.
- *Prehistory:* Early people traveled the area seasonally for subsistence purposes and had names for geographic features.

#### INTERPRETIVE APPROACH

Personal interpretation<sup>25</sup> will be the primary delivery method for the outlined themes and subthemes supported by nonpersonal interpretation.<sup>26</sup> Staff and volunteer interpreters will help facilitate visitor flow at the site. Ideally, visitors will start their Independence Mine experience at the Visitor Center located in the Manager's House. At the Visitor Center, guests will catch a glimpse of the life of mine managers, experience the hands-on exhibits and see the gift shop. Visitors will then be directed to the Visitor Orientation Center located in Bunkhouse No. 1. At the Visitor Orientation Center, guests will explore rotating exhibits in the drying room while waiting for tours to begin. A short interpretive film shown in the Theater Room will reveal life and operations at Independence Mine using the primary interpretive theme. Once the film is finished, guides will illustrate the history and geology at Independence Mine along the main street. Possible interpretive stops include the Apartment House, Engineering/Commissary and the mill ruins. Tours will end near the Assay Office where visitors can conclude their experience learning about the mining process at the park museum.

Nonpersonal interpretation should be available for people who visit the site when tours are not available or choose to experience the park independently. Interpretive panels should be presented so visitors can read them out of order and still have a clear understanding of the delivered message. This concept must be used when creating outdoor signs as well as exhibits in the Assay Office, Visitor Center, and Visitor Orientation Center.

Special event and special topic programming, such as Arts in the Park, is essential to provoke a connection with returning visitors. It is important to encourage staff to identify new potential topics and programs to engage more visitors and residents to return to the park. Partnerships with local nonprofits can help develop and sustain unique programs and opportunities at Independence Mine SHP.

<sup>&</sup>lt;sup>25</sup> Brochu and Merriam define personal interpretation as "one of the most powerful approaches to interpretation because the interpreter can continually adapt to each audience. If you are practicing personal interpretation, the opportunities for you to make emotional and intellectual connections are numerous, because you can learn about the guest and apply what you learn to enhance her or his experience."
<sup>26</sup> Nonpersonal interpretation occurs when the person interpreting is removed and replaced with media such as signs, audio, or brochures.

## CHAPTER 8: IMPLEMENTATION OF GOALS AND OBJECTIVES



Based on professional guidance, public meetings, and the public opinion survey, numerous projects and action strategies were identified for Independence Mine SHP. The strategies and suggested action items address preservation, interpretation, management and staffing recommendations and options. Some tasks are more urgent because of the threat to the current resource. Some tasks cannot take place until another is first accomplished. The goals, objectives, strategies and actions are subject to management decisions and funding.

The purpose of the Independence Mine SHP Preservation Plan is to highlight the park's historic values and strike a balance between preservation, use, interpretation, and development for the benefit and enjoyment of a diverse population.

GOAL 1: ENHANCE THE HISTORIC CHARACTER OF THE PARK BY DEVELOPING AND IMPLEMENTING PRESERVATION STRATEGIES THAT RECOGNIZE THE HISTORIC LANDSCAPE, BUILDINGS, SPACES, AND ARTIFACTS WHILE ACCOMMODATING APPROPRIATE FUTURE USES.

- **Consolidate staff-related functions in buildings near the entrance to the park.** *Objective: Create Curatorial/Maintenance Facility in the Bunkhouse/Warehouse.* 
  - Complete a Historic Structures Report. (Appendix K)
  - Develop space plan that addresses curatorial needs on the second and third floors.
  - Develop space plan and identify needs for maintenance space on the first floor and the basement.
  - Complete rehabilitation as identified in the space plan and historic structures report while preserving character defining features.
  - Identify maintenance equipment needs and purchase as necessary.
  - Install large maintenance equipment in basement of the new maintenance facility to be located in the Bunkhouse/Warehouse.
  - Install smaller equipment for general maintenance such as woodworking or painting on the main floor of the Bunkhouse/Warehouse.
  - Paint the exterior of the building.
  - Properly ventilate the first floor before maintenance activities are centralized.

*Objective: Construct a Visitor Orientation Center in Bunkhouse No.2.* 

- Complete a Historic Structures Report. (Appendix K)
- Develop a space plan that specifically addresses issues such as the museum, offices, static displays, storage, visitor flow, and orientation area. (Appendix I)
- Complete the rehabilitation as identified in the space plan and historic structures report while preserving all character defining features.
Objective: Redesign Visitor Center in Manager's House and Address Interior Accessibility.

- Complete a Historic Structures Report (Appendix K).
- Develop a space plan that specifically addresses issues such as the museum, gift shop, office, and living quarters. (Appendix I)
- Complete the rehabilitation as identified in the space plan and historic structures report while preserving all character defining features ensuring that the majority of all spaces are accessible to all visitors to the park.
- Purchase appropriate furniture and interpretive displays to complete the living room area and interpretive room.
- Paint the exterior of the building.
- Construct new wood storm windows and ensure they all match.

Objective: Reconstruct Trestle for Interpretation.

- Complete Historic Structures Report. (Appendix K)
- Identify and record features essential to an accurate reconstruction
- Reconstruct trestle, accurately duplicating historic features and spatial relationships.

• Institutionalize a proactive building maintenance program that resolves immediate threats and identifies issues before they become threats.

Objective: Collect accurate information to inform maintenance decisions and outcomes.

- Complete a resource inspection form twice per year for each standing building.
- Complete condition assessments (form found in Appendix H) for each standing building every five years.
- Use collected information to prepare cost estimates for maintenance program.
- Develop annual work plan using information collected during the condition assessment and the resource inspection.
- Conduct appropriate maintenance work as identified in the annual work plan.
- During the off season, evaluate the progress of work completed through the year.

Objective: Hire knowledgeable and dedicated maintenance staff.

- Develop position description for new maintenance staff.
- Secure funding, develop contract, or hire volunteers to complete outlined duties.
- Train staff to maintain historic buildings.
- Identify, collect, preserve, exhibit, and interpret cultural materials that illustrate hard rock mining and community life in the Independence Mine bowl area.

*Objective:* Establish a collections management program.

- Develop a collections management plan that includes a mission statement, collection policies, inventory database development, a long-term on-site storage plan, and guidance regarding conservation and inventory.
- Designate secure locations for different types of artifacts dependent on their material and related agents of deterioration.
- Purchase and use PastPerfect Museum Software to track inventory, identification, acquisition, locations and conditions of collection objects and consumptive objects.
- Coordinate with Alaska State Museums to ensure all activities meet best museum practices.
- Develop management categories for artifacts such as collections items and consumptive use objects.
- Interpret and exhibit artifacts that enhance the visitor's experience and understanding of Independence Mine SHP.

*Objective:* Complete an inventory of the collection according to the existing standards established by the National Park Service, American Association of Museums, and the American Association for State and Local History.

- Complete an inventory of the Independence Mine SHP collection.
- Sort the collection into accessioned objects and consumptive use items and store them in accordance with the collections management plan.
- Accession collection items using a tripartite numbering system on the item and in the database.
- Photograph all objects in the collection and enter into PastPerfect.
- Enter all objects into PastPerfect before they are placed on display.
- Document the condition of the collection. Identify the type, extent, location, and reason of damage and outline a treatment plan for each object.
- Conduct a random sample inventory once per calendar year.

# GOAL 2: PROMOTE A SAFE AND SECURE YEAR-ROUND OPERATION THROUGH ADEQUATE STAFFING LEVELS, PARTNERSHIP DEVELOPMENT, AND USE OF CONCESSIONAIRES.

Develop opportunities for special events, seminars and overnight stays at the park.
 Objective: Rehabilitate Bunkhouse No. 1 for overnight accommodations, lodging or research facility.

- bjective: Renublinate Bunkhouse No. 1 jor overnight accommodations, loaging of research jac
  - Develop a Historic Structures Report for Bunkhouse No. 1.
  - Ensure a second means of egress is included in all rehabilitation plans that prescribe a use to the second and third floors.
  - Reconstruct a front porch to the building similar to the historic porch that can make the building more accessible.
  - Stabilize the connection between the vestibule and the main building.
  - Replace all lexan window panes with new glass panes.
  - Make the building as accessible as possible.
  - Appropriately insulate and secure for winter use.
  - Ensure that the building meets fire and safety codes.
  - Paint the exterior of the building.

*Objective:* Rehabilitate the first floor of the Mess Hall for special events and conferences and second floor rooms to provide housing for volunteers or staff.

- Paint the exterior of the Mess Hall.
- Repair all the windows on the building.
- Prepare a Historic Structures Report for the building that specifically outlines needed rehabilitation work for a specific use.
- Ensure that the first floor of the building is ADA accessible.
- Install insulation, vapor barrier, drywall, and electrical wiring throughout.
- Finish all first and second floor interior spaces in an appropriate manner that reflects the period of significance. Interior spaces should not be left unfinished.
- Reconfigure boarding rooms in the rear of the building into one apartment.
- Reconstruct missing built-ins in the apartments.

*Objective: Create a marketing plan to attract new clients for new services.* 

- Identify goals that compliment the goals outlined in this plan.
- Identify the target audience(s).
- Develop and deliver messages for the identified audiences.
- Identify potential competitors and distinguish IMSHP from similar offerings.

• Evaluate the outcomes and progress so adjustments can be made in the future marketing efforts.

#### • Operate and manage the park to attract year round visitation and engagement.

*Objective:* Adequately staff Independence Mine to provide quality customer service to the visitor and protection for the historic property

- Contract with a Museum Specialist to separate collection into manageable categories, create a database, and develop a long-term on-site storage plan.
- Hire a Museum Protection and Visitor Services Manager trained in museum studies, historic preservation, or public history to manage the collection, visitor services, interpretation, volunteers, public outreach, education and special events.
- Hire Maintenance Staff to rehabilitate windows, paint buildings, maintain grounds, clean secondary spaces, investigate building issues, lead maintenance volunteers, organize work parties, and manage utilities and snow removal.
- Offer internships or Alaska Conservation Corps positions to high school or college students. Possible duties include historic building treatment, preliminary research on specific topics of interest, interpretive tours, and day-to-day maintenance of the park's resources.
- Train and supervise volunteers to supplement park operational functions including maintenance work and interpretation.

*Objective: Provide opportunities to attract, retain, and nurture employees.* 

- Integrate annual preservation, interpretive, and collections training into each employee's work schedule.
- Support and promote staff participation in local, state, and national conferences and trainings.
- Offer on site staff housing to help attract employees. The apartments in the Mess Hall and the third floor of the Bunkhouse No. 2 are good locations for staff housing.

*Objective: Institutionalize cost-effective measures to operate and manage visitor services and amenities at Independence Mine SHP.* 

- Develop a park specific budget for operations, maintenance, and management.
- Outline a concessionaire program which could supplement parks related functions.
- Conduct a feasibility study of alternative energies at IMSHP
- Build or develop cost-effective power sources to enable year-round operation at identified buildings.
- Ensure new power sources do not visually or audibly affect the park.

*Objective: Expand existing partnerships and develop new ones with organizations, individuals, institutions, and agencies that have an interest in the park.* 

- Conduct personal and organizational capabilities assessments for working with partners.
- Open communications with potential outside partners to develop a foundation for future agreements.
- Outline the issues and perspectives so consensus can be reached.
- Collaboratively develop the necessary steps to take to address relevant issues.
- Develop partnership agreements that follow the agreed upon steps that address the issues.
- Maintain relationships with partners.

*Objective:* Explore opportunities for concession operated facilities and services that provide high quality experiences for park visitors pursuant to Alaska Statute 41.21.027. Possible concession opportunities include accommodations at Bunkhouse No. 1, event space at the Mess Hall, and park-wide personal interpretive programs.

• Identify and list concession priorities at IMSHP.

- Draft Request for Proposals for identified priorities including the rehabilitation of selected facilities.
- Enter into concession contract(s) with selected proposer(s).
- Actively manage all concession contracts.
- Ensure the work conducted on all buildings meets the historic preservation treatments and appropriately address the interpretive themes outlined in this plan.

GOAL 3: CONNECT A DIVERSE AUDIENCE TO THE PARK'S CULTURAL AND NATURAL RESOURCES USING A VARIETY OF INTERPRETIVE THEMES AND METHODS.

• Educate the public through professional and active personal interpretation.

Objective: Offer regularly scheduled, professional tours that adhere to the outlined interpretive themes and subthemes.

- All interpretive staff, employees and volunteers, who are giving tours must be wearing the approved DPOR uniform.
- Post tour schedules and meeting locations throughout the park and on the website so visitors can easily participate.
- Develop interpretive training/orientation material including a personal interpretation guide that specifically outline issues such as conduct, appearance, interpretive themes, reading lists, and answers to frequently asked questions.
- Conduct annual interpreter training a minimum of one week prior to the opening of the IMSHP.
- Approve and provide training for a fee to all private tour companies prior to providing guided activities.

Objective: Integrate special event tours into the general annual offerings at IMSHP.

- Develop and perform three summer special event tours, one each month during the summer season. Possible specials tours are a "behind the scenes" tour of the curatorial space or an evening lantern tour during the fall.
- Advertise the special tours with partner organizations such as local visitors bureaus and tourist centers as well as local media partners and on website.
- Capture revenues received for special events and tours as appropriate to allow reinvestment in the infrastructure or interpretive program at IMSHP.

#### • Improve program and collections experiences and effectiveness of interpretive programs.

*Objective: Regularly evaluate, update, or change the personal interpretative programs, the program outline, delivery style and accuracy of the information as necessary or appropriate.* 

- Use program outlines provided to interpreters to evaluate the content of a presentation.
- Solicit comments from visitors at the conclusion of an interpretive program. Record all comments in an office log so comments can be reviewed and used to improve programs.
- Make exit questionnaires available to audience members participating in a guided tour or presentation to evaluate if program objectives are met and to solicit ideas for continued improvement.
- Position suggestion boxes with comment cards in strategic locations such as the visitor center, museum, and visitor orientation center to gather comments about the effectiveness of interpretation at the park.

*Objective:* Assess the effectiveness of non-personal interpretation such as panels, brochures, and cell phone interpretation at least every two years.

- Compare the content of interpretive panels and other media with outlined objectives to determine if the objectives are met and outline ways to improve the delivery of information.
- Distribute exit questionnaires to visitors to evaluate the effectiveness of non-personal interpretation to deliver the outlined interpretive programs objectives and determine if the interpretive themes are portrayed accurately. Solicit comments to improve theme delivery on the exit questionnaires.
- Periodically position staff or volunteers near interpretive exhibits to observe how visitors react to displays. Systematically record observations so they can be used to refine displays in the future.
- Position suggestion boxes with comment cards in strategic locations such as the visitor center, museum, and visitor orientation center to gather comments about the effectiveness of interpretation at the park.
- Offer opportunities for visitors to learn more about specific topics through hands-on experiences and enhanced educational opportunities.

*Objective: Create and distribute theme-specific interpretive brochures to enhance the public's comprehension of interpretive themes.* 

- Identify topics and themes that will be addressed such as geology, children at Independence Mine, Boomtown, area place names, Stoll family, and flora and fauna.
- Research identified topics and create simple brochures with in-house talent; create web versions of new brochures.
- Make specific topic brochures available at the museum and visitor center.
- Continue to brainstorm additional topics and keep a running list.

*Objective:* Implement a Junior Ranger/Conservator Program to foster an interest in the park and its historic resources that will translate into stewardship.

- Develop and implement junior programs for children between the ages of 7 and 12 to learn about the history of the park and how to conserve artifacts.
- Market the program to local schools to garner interest.
- Hold regularly scheduled programs throughout the year.
- After the program is proven to be successful, implement another junior program that targets children between the ages of 4 and 7.

Objective: Use a variety of media to entice people to visit IMSHP and appreciate its abundant resources.

- Create and maintain an up-to-date webpage that informs local users about special programs and opportunities while enticing new visitors to the park.
- Develop a brief interpretive film that introduces visitors to the history and significant resources of IMSHP. Show the film in the original theater room in Bunkhouse No. 2 after it is rehabilitated as the Visitor Orientation Center.
- Institute an artist-in-residence program to capture and promote the park through a wide variety of media.
- Update and reprint the 1982 book *Independence Mine and the Willow Creek District* by Kathryn Koutsky Cohen.

*Objective: Recruit knowledgeable volunteers and advocates as members of a reference team to help identify, research, photograph, and label items in the collection.* 

- Identify needed areas of expertise to effectively recruit team members.
- Develop a reference team orientation so team members understand how to properly handle items in the collection.
- Establish regularly scheduled reference team days at IMSHP.

#### • Develop improved and effective non-personal interpretive materials.

*Objective:* Use interpretive panels to supplement, not replace, personal programs.

- Routinely evaluate the number and condition of outdoor interpretive panels.
- Immediately replace damaged and worn panels with surplus panels stored on site.
- Update interior interpretive panels as new rooms and buildings are included in tours and accessed by visitors.

*Objective:* Supplement personal interpretation with non-personal interpretation as part of the tour.

- Develop and use an orientation brochure for Independence Mine SHP that includes a brief history of the mine camp and a map displaying recreational opportunities. Consider developing brochures in multiple languages.
- Produce podcasts and make them available on the website and at downloading stations in the park for visitors. Make podcasts available in a variety of languages.

#### GOAL 4: CREATE A POSITIVE INTELLECTUAL, PHYSICAL, AND EMOTIONAL VISITOR EXPERIENCE THROUGH ACTIVE MANAGEMENT AND INTERPRETATION, AND CONTINUOUS IMPROVEMENT OF THE PARK.

• Accurately depict the social and work life of residents at Independence Mine through displays, interpretation and other tools.

*Objective: Update the static and living displays at the Visitor Center, the first point of contact for visitors, to portray the life of mine management.* 

- Evaluate the current displays for effectiveness and delivery of message with the themes outlined in this plan.
- Develop and implement an interpretive site plan for the museum space in the Visitor Center.
- Restore the living room and arrange the furniture so it closely replicates the Stoll family's occupancy during the period of significance.
- Select merchandise for the gift shop related to mining history, Alaska history, and geology.

*Objective: Rehabilitate Bunkhouse No. 2 as the park's new Visitor Orientation Center and intended second visitor stop.* 

- Develop a space and rehabilitation plan that makes the first floor as accessible as possible for all visitors and users.
- Use the historic theater room as an education area that can be used to show an orientation film to visitors about Independence Mine as well as a space to hold special events such as trainings and classroom activities for organizations and individuals.
- After a second means of egress is established, furnish two to four bunk rooms on the second floor for interpretive purposes.
- Secure all areas of the building that do not have a current use.
- Place modern accommodations in the historic infirmary and first aid rooms so they can be used as interpreter office space.
- Develop and implement a plan that reuses the drying room as a place for rotating exhibits where visitors can learn more about Independence Mine while waiting for scheduled showings of the orientation film.

Objective: Rehabilitate the Apartment House for static interpretive display and storage.

- Restore and appropriately furnish the first floor of the two street side apartments to interpret the social and home life at Independence Mine.
- Rehabilitate the first floor of the non-street facing side and the entire second floor for storage.

- Rope off the stairs in the street facing apartments so no public access is available.
- Acquire furniture that accurately depicts the look and feel of the apartments during the periods of significance.
- Locate and install appropriate furniture and furnishings to accomplish the interpretive objective at this location.

*Objective:* Rehabilitate the Assay Office and arrange as a museum that demonstrates the assaying process used at Independence Mine and other similar locations during the period of significance.

- Develop Historic Structures Report. (Appendix K)
- Replace water damaged fiber board.
- Install appropriate light fixtures to adequately illuminate displays and objects.
- Refinish floors throughout the building.
- Develop an orientation panel with a map of the building located at the entrance.
- Update displays and interpretation to communicate the assaying process concisely.

*Objective:* Rehabilitate the Engineering/Commissary Building for interpretation until a future use is identified.

- Paint the exterior of the building.
- Restore the windows.
- Arrange the commissary and engineering offices for interpretation including panels and furnishings.
- Complete a Historic Structures Report that outlines potential uses. (Appendix K)

#### • Maintain displays so that all artifacts and facilities are clean and safe.

Objective: Photograph and label all artifacts in the collection using professionally qualified staff.

- Update and use PastPerfect to track all items in the collection.
- Use a tripartite numbering system for identification of artifacts. The first number will be the catalogued year, second number identifies the source of the collection, and the third number identifies the individual object within the year and series. (Example 2011.01.001.)
- During the inventory process, assess the condition of the artifacts and develop a management strategy for the each item.

*Objective:* Develop a yearly work schedule for cleaning and annual inventory of artifacts to ensure IMSHP is presentable and the historic resources are secure.

- Identify all yearly routine tasks such as cleaning rooms, collecting a sample inventory, grounds maintenance, bathroom maintenance, etc.
- Create a schedule that identifies when routine tasks must be completed and the position responsible for its completion.
- Evaluate the effectiveness of the schedule.

*Objective: Remove all lexan window panes and storm windows.* 

- Identify all locations that have lexan windows.
- Replace all lexan with real glass.

### • Continue to advance and evaluate landscaping, amenities and site planning throughout the core area of Independence Mine SHP.

*Objective:* Enhance the park through installation of amenities to improve the visitor experience.

• Locate and construct a new restroom facility at the south end of the park, possibly in the Mess Hall.

- Position benches throughout the park so visitors have resting places and locations to enjoy the history and scenery. As needed, remove or relocate for winter operations.
- Situate trash cans along the main trail corridor so visitors have places to leave garbage.

Objective: Improve year-round access to the park and its important historic resources.

- Protect the scattered cultural resources found through the park by extending the trail system.
- Immediately inventory resources in close proximity to social trails.
- Develop a partnership so the road to the park is accessible on a year-round basis.
- Develop budget for maintaining parks access road year-round and seek partners to help.

# CHAPTER 9: PRIORITIES

Based on professional guidance, public meetings, and the public opinion survey, numerous projects and action strategies were identified for Independence Mine SHP. All of the projects are important, but some of them are more urgent. Some tasks cannot take place until another is first accomplished. The following lists provide guidance for decisions pertaining to the historic preservation treatments and interpretation options for the historic resources at Independence Mine SHP.

#### **BUILDINGS AND STRUCTURES - PRIORITIES**

- Assay Office rehabilitation Paint remaining building exteriors
- Inventory and assess the collection
- Reconstruct Trestle
- Create curatorial/maintenance facility in the Bunkhouse/Warehouse
- Construct a Visitor Orientation Center in Bunkhouse No. 2
- Stabilize and preserve Mill Complex
- Stabilize and preserve Plumbing, Sheet Metal, Electrical, Framing, and Storage Shops
- Redesign Manager House Visitor Center and address interior accessibility
- Resolve egress and fire safety issues in Bunkhouse No. 2
- Repair and replace windows throughout the park
- Prepare Engineering/Commissary Building for interpretive use
- Prepare Apartment House for interpretive use

#### **INTERPRETATION - PRIORITIES**

- Fabricate interpretive displays in the Apartment House
- Update Assay Office museum
- Fabricate interpretive displays for Commissary/Engineer's Office
- Produce brochures and interpretive handouts
- Update interpretive panels and traffic flow in parking area
- Revise and re-publish the book, Independence Mine and the Willow Creek District
- Survey, map and interpret Boomtown

# CHAPTER 10: PLAN EVALUATION



This plan reflects DPOR's best efforts to analyze the resources of the park, to provide recreational and interpretive opportunities that enhance the visitor experience, and to protect the historical, cultural, archaeological, interpretive and anthropological values for which the park was established. This plan is expected to remain relevant to the park's management for approximately 20 years; however, intermediate reviews and appropriate modifications are expected and encouraged.

Personnel within in DPOR including the director, deputy director, the park superintendent, representatives from the Office of History and Archaeology, representatives from Design and Construction, and other staff as determined by the park superintendent should convene annually to discuss the progress made and identify work to be completed during the upcoming year that is consistent with the plan.

When evaluating this plan, the resulting quality of the visitor experience and resource protection—not the number of recommendations completed—should be used to assess the plan's effectiveness. Ideally, the plan would be re-evaluated every five years and updated as necessary to ensure its continued relevancy and usefulness. However, the director may initiate a review at any time, and it is strongly recommended that the plan be reviewed via a public process at least every 10 years.

## CHAPTER 11: REFERENCES CITED



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APPENDICES

APPENDIX A:

SITE FORMS

# Alaska Building Inventory Form AHRS #: ANC-0025 Associated District: ANC-0024

Historic Name:		Other Name:	Other Name:		
Assay Office		Building 7	Building 7		
Building Address:		City:	City:		
		Mat-Su Borough			
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitud	e, NAD83):				

#### **Historic Associations**

Historic Function and Sub-function:			
1. Industry/Processing/Extraction: Manufacturing Facility	2. Domestic: Institutional Housing	3.	4.
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2. Domestic: Institutional Housing	3.	4.
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer	r:	Original Owner:	
		Alaska-Pacific Consolidated Mining Co	mpany

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
10.11			
1941			
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
Building Site Structure	└ Object	1. Two	2.

Architectural Style:		Building Type:				
No Style			Industrial			
Number of Ancillary Structures:		Plan:		Cultural Affiliation:		
		Rectangular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Wood Posts	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
<ul> <li>Architectural Description (Include setting &amp; outbuildings):(use continuation sheets)</li> <li>The 11.6 meter (38') by 12.2 meter (40') Assay Office is a rectangular two-story, wood frame structure with a front gabled, metal roof and horizontal wood shiplap covered outer walls. A wooden footbridge extends from the central part of the mining camp to the primary entrance of the Assay Office on the south elevation. The primary entrance has a small, front gabled, enclosed entryway with a five panel wood door. An additional two panel wood door is located on the east elevation. Most of the windows on the building are six over six sash windows, but there are also some smaller, three over three sash windows. Water is damaging the wood posts of the foundation. The lower ends of the posts are rotten, though the upper portions are still structurally sound.</li> <li>The first floor of the Assay Office is currently used for interpretive displays and has many exhibits related to the extraction and assay process. The second floor has been recently used for employee housing.</li> </ul>		<ul> <li>2. 2.</li> <li>Statement of Significance: (use continuation sheets)</li> <li>The Assay Office is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974.</li> <li>The Assay Office was built in 1941 after a fire destroyed an earlier assay office in February 1941. The first floor had a retort room, furnace room, balance (weighing) room, bathroom, laboratory, bucking room, and a dark room. The second floor had living quarters for employees.</li> </ul>				
Eligibility:			Criteria Considerations:			
Yes No If yes: A B	C 🗌 D					
Prepared by:		Reviewed by Professional	al that meets the following Professional Qualifications: Date:		Date:	
		Architect Architect	ctural Historian 🗌 Historic Architect 🗌 None			
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
□ Need more information related to: □	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			



View of the primary (south) façade of the Assay Office (ANC-025).

### Alaska Building Inventory Form AHRS #: ANC-0026 Associated District: ANC-0024

Historic Name:		Other Name:	
Manager's House		Staff House, Building 17	
Building Address:		City:	
		Mat-Su Borough	
Current Owner's Name and Address:		• • • •	
Alaska State Parks			
USGS Quad Name and Map Sheet:	Section:	Township:	Range:
Anchorage D-7	28	20N	01E
GPS Coordinate (DD Latitude/Longitude	e, NAD83):		
Historic Associations			
Historic Function and Sub-function:			
1. Domestic: Institutional Housing	2.	3.	4.
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2. Other: Visitor Center/Headquarters	3. Commerce/Trade: Specialty Store	4. Domestic: Caretaker Apartment
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer:		Original Owner:	
Designed by Walter C. Stoll	Alaska-Pacific Consolidated Mining Company		mpany
Architectural Information:			

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1939			
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
🛛 Building 🗌 Site 🔲 S	Structure 🗌 Object	1. Two	2.

Architectural Style:		Building Type:				
No Style			Multi-Family			
Number of Ancillary Structures:		Plan:		Cultural Affil	iation:	
		Rectangular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Poured Concrete	1. Metal		1. Horizontal Wood Bevele	ed Siding	1.	
2.	2.		2. Vertical wood siding		2.	
<ul> <li>Z.</li> <li>Architectural Description (Include setting &amp; outbuildings):(use continuation sheets)</li> <li>The Manager's House (Staff House) is a 14.6 meter (48') by 9.8 meter (32') two- story, wood frame structure with a saltbox style, metal roof with a front facing gable. The exterior walls on the first and second floors are covered in horizontal wood beveled siding and the basement level is covered in vertical wood siding. The east and west elevations both have enclosed entrances on the first floor level. The east elevation entrance was changed by adding an accessible ramp. The west elevation entrance has stairs leading to the first floor. There is an entrance to the basement level on the southwest side of the west elevation.</li> <li>The building has fixed, sash, and casement windows. Some of them have a single sheet of plexiglass on the exterior, some have two sheets of plexiglass in a frame, and others have single or multiple light glass storm windows. A deck that is not original to the building extends approximately three-quarters of the width of the south elevation on the first floor level. Although the deck is not original, there is an original doorway at the deck location. The building has a half basement and a poured concrete foundation. The interior of the Manager's House has been rehabilitated for use as the park's visitor center and headquarters. The first floor has interpretative displays and exhibits, restrooms and a small gift shop. The second</li> </ul>		Statement of Significance: <i>(use continuation sheets)</i> The Manager's House (Staff House) is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The Manager's House was built in 1939 and was sometimes called the "Big House" by employees of the mine. It was originally used as a staff house for the mine manager's family, the director, and special visitors. In 1981-1982, the Manager's House was rehabilitated for use as Independence Mine State Historical Park's visitor center and headquarters. It is also used as housing for the park's caretaker. The outward appearance of the Manager's House was different from the rest of the buildings at the mine camp. It was painted tan with a red roof and red trim, while the rest of the camp buildings were painted silver with red trim and a bare metal roof.				
Eligibility:			Criteria Considerations:			
⊠ Yes □ No If yes: ⊠ A □ B □	C 🗌 D					
Prepared by:		Reviewed by Professional	al that meets the following Professional Qualifications: Date:		Date:	
			ural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
□ Need more information related to: □	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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Historic Name	AHRS Number	Associated Historic District	City/Town/Village
Manager's House	ANC-0026	ANC-0024	

2005 photograph of Manager's House looking southeast.

# Alaska Building Inventory Form AHRS #: ANC-0028 Associated District: ANC-0024

Historic Name: Other Name: Building 13 (AHRS Card erroneously labeled Bun		neously labeled Bunkhouse No. 1 as Building 11)			
Bunkhouse No. 1					
Building Address:		City:			
		Mat-Su Borough			
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitud	e, NAD83):				
Historic Associations					
Historic Function and Sub-function:					
1. Domestic: Institutional Housing	2.	3.	4.		
Current Function and Sub-function:					
1. Recreation and Culture: Museum	2.	3.	4.		
Significant Person(s):		Significant Dates			
1.	2.	1. 1934-1950	2.		
Architect, Builder, Contractor, Designer		Original Owner:	Original Owner:		
N. Lester Troast, AIA, and William A. Manley		Alaska-Pacific Consolidated	Alaska-Pacific Consolidated Mining Company		

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1938-1939			
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
		1 Three	2
			Ζ.

Architectural Style:		Building Type:				
No Style			Multi-Family: Multi-Story Apartment			
Number of Ancillary Structures:		Plan:	Cultural Affiliation:			
		Rectangular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Concrete	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
Architectural Description (Include setting & outbuildings):(use continuation sheets) The 19.2 meter (63') by 7.32 meter (24') Bunkhouse No. 1 is a three-story, wood frame structure with a side-gabled, corrugated metal roof and horizontal wood shiplap covered outer walls. There is a covered porch wrapping around the southwest corner of the building and an enclosed entryway. The enclosed entryway is separating from the central part of the structure. There is a mixture of fixed and sash windows on the building, but the majority are six-over-six sash windows. Some of the glass panes have been replaced with plexiglass or have been replaced with an inaccurate pattern of window lights. Fiberboard throughout the building shows water damage, mold, and vandalism. The first floor has a recreation room with two billiards tables, several historic photographs displayed on walls, a dry changing room, a washroom, and two bedrooms. The second and third floors both have 12 bedrooms, some that are partially furnished as interpretive displays.		<ul> <li>2. Use continuation sheets)</li> <li>Bunkhouse No. 1 is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974.</li> <li>Bunkhouse No. 1 was built in 1938-1939. It was the first of the three-story bunkhouses built in the camp. The first floor of the building had a recreation room, library room, two bedrooms, and a change and dry room with sinks, showers, toilets, and urinals. The second and third floors had a central hallway with 6 bedrooms on each side of the hall for a total of 12 bedrooms on each floor. The interior stairway was on the south side of the building.</li> </ul>				
Eligibility:			Criteria Considerations:			
Yes INo If yes: A B	C 🗌 D					
Prepared by:		Reviewed by Professional	al that meets the following Professional Qualifications: Date:		Date:	
Architect Architect			ural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
Need more information related to:	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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Historic Name	AHRS Number	Associated Historic District	City/Town/Village
Bunkhouse No. 1	ANC-0028	ANC-0024	

View of the south elevation of Bunkhouse No. 1 at left of the photo.

### Alaska Building Inventory Form AHRS #: ANC-0029 Associated District: ANC-0024

Historic Name:		Other Name:		
Bunkhouse No. 2		Building 11 (AHRS Card erroneously labeled Bunkhouse No. 2 as Building 13)		
Building Address:		City:		
		Mat-Su Borough		
Current Owner's Name and Address:				
Alaska State Parks				
USGS Quad Name and Map Sheet:	Section:	Township:	Range:	
Anchorage D-7	28	20N	01E	
GPS Coordinate (DD Latitude/Longitude, NAD83):				

### **Historic Associations**

Historic Function and Sub-function:			
1. Domestic: Institutional Housing	2. Recreation and Culture: Theater	3. Education: School	4.
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2.	3.	4.
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer:		Original Owner:	
Floyd A. Naramore and Clifton J. Brady		Alaska-Pacific Consolidated Mining Cor	npany

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1940			
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
Building Site Structure	Object	1. Three	2.

Architectural Style:			Building Type:			
No Style			Multi-Family: Multi-Story Apartment			
Number of Ancillary Structures:		Plan:		Cultural Affil	iation:	
	Rectangular					
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Concrete	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
<ul> <li>Z.</li> <li>Architectural Description (Include setting &amp; outbuildings):(use continuation sheets)</li> <li>The 10.4 meter (34') by 23.8 meter (78') Bunkhouse No. 2 is a three-story, wood frame structure with a side-gabled, corrugated metal roof and horizontal wood shiplap covered outer walls. There is a covered porch wrapped around the southeast corner of the building and the enclosed entryway is on the south elevation. The entrance was recently upgraded for accessibility. The north elevation has two emergency exit doors at the second and third floor levels and a wooden fire escape ladder attached to the building. There is a mixture of fixed and sash windows on the building, but most of them are six-over-six sash windows. Some of the windows are covered in plywood, but the glass is not broken.</li> <li>The interior shows evidence of multiple uses during the building's occupation. The first floor has had a movie room, a washroom and drying room, school room, first aid rooms, and living quarters. It has also been used to support a ski operation and there are currently some interpretive displays and rooms being used as storage. The second and third floors each have 10 small bedrooms, two big rooms, and one large room (apartment) at the end of the hallway. The</li> </ul>		<ul> <li>Statement of Significance: (use continuation sheets)</li> <li>Bunkhouse No. 2 is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974.</li> <li>Bunkhouse No. 2 was built in 1940 and was the second bunkhouse built in the camp. The first floor had concrete floors in the change and dry room, washroom, and furnace room. The first floor also had a school room/movie room, first aid room, hospital bedroom, nurse's quarters, and a small bathroom. The second and third floors each had a central hallway with five rooms on each side of the hallway, for a total of 20, two-person bedrooms. There was also one slightly larger bachelor apartment and one apartment with a bedroom, sitting room and bathroom on the second and third floors, there were emergency exit doors leading to the fire escape ladder on the north elevation.</li> </ul>				
Eligibility:			Criteria Considerations:			
Yes INo If yes: A B	C 🗌 D			🗌 E 🔲 F	G	
Prepared by:		Reviewed by Professional	that meets the following Pro	ofessional Qu	alifications:	Date:
		Architect Architect	ural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comment	s Include:					
□ Need more information related to: □	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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Historic Name	AHRS Number	Associated Historic District	City/Town/Village
Bunkhouse No. 2	ANC-0029	ANC-0024	

View of the east elevation of Bunkhouse No. 2.

# Alaska Building Inventory Form AHRS #: ANC-0030 Associated District: ANC-0024

Historic Name:		Other Name:	Other Name:		
General Offices and Camp Store		Engineering Office and Co	nmissary, Building 19		
Building Address:		City:			
		Mat-Su Borough	Mat-Su Borough		
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitude	e, NAD83):				

#### **Historic Associations**

Historic Function and Sub-function:			
1. Commerce/Trade: Professional	2. Commerce/Trade: Specialty Store	3. Domestic: Institutional Housing	4. Industry/Processing/Extraction: Industrial Storage
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2. Commerce/Trade: Warehouse	3.	4.
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer	:	Original Owner:	
		Alaska-Pacific Consolidated Mining Cor	npany

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1937			
Alteration Dates:			
1. 1940	2.	3.	4.
Resource Type:		Stories	
Building Site Structure	Object	1. Two	2.

Architectural Style:			Building Type:			
No Style			Commercial			
Number of Ancillary Structures:		Plan:		Cultural Affil	Cultural Affiliation:	
		Irregular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1.	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
Architectural Description (Include setting & outbuildings):(use continuation sheets) The 20.73 meter (68') by 12.19 meter (40') General Offices and Camp Store is a two-story, wood frame structure with a side-gable, corrugated metal roof and horizontal wood shiplap covered outer walls. The building has a full-width porch and four entrances on the primary (west) façade of the original portion of the structure. There is an additional entrance on the primary (west) façade of the 1940 addition on the north elevation. The building has many fixed windows, some that are covered in plywood on the exterior. The interior is currently used for storage of old interpretive signs and many artifacts associated with the old commissary are on display. There are some large machines and equipment in the building. Some of the rooms have retained linoleum and tiled floors and others have wood planks. Many of the fiberboard walls and the ceilings have large holes and water damage.		Statement of Significance: <i>(use continuation sheets)</i> The General Offices and Camp Store is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The General Offices and Camp Store was built in 1937 and originally had company offices on the north and south ends of the building with warehouse storage in the middle. The building also had a camp store, or commissary, on the east side of the building and space for a 12-bed bunkhouse. In 1940, a 20' x 22' addition was made on the north elevation to create more administrative and accounting office space and a new washroom and storage on the second floor.				
Eligibility:			Criteria Considerations:			
Yes No If yes: A B	C 🗌 D				G	
Prepared by:		Reviewed by Professional	I that meets the following Pro	ofessional Qu	alifications:	Date:
		Architect Architect	tural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comment	Minor Recommendations and Comments Include:					
□ Need more information related to: □	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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2005 photograph of General Offices and Camp Store looking southeast.

# Alaska Building Inventory Form AHRS #: ANC-0031 Associated District: ANC-0024

Historic Name:		Other Name:		
Apartment House		Independence Camp Four-Plex Apartment House, Building 15		
Building Address:		City:		
		Mat-Su Borough		
Current Owner's Name and Address:				
Alaska State Parks				
USGS Quad Name and Map Sheet:	Section:	Township:	Range:	
Anchorage D-7	28	20N	01E	
GPS Coordinate (DD Latitude/Longitud	e, NAD83):			
Historic Associations				
Historic Function and Sub-function:				
1. Domestic: Institutional	2.	3.	4.	
Current Function and Sub-function:				
1. Recreation and Culture: Museum	2.	3.	4.	
Significant Person(s):		Significant Dates		
1.	2.	1. 1934-1950	2.	
Architect, Builder, Contractor, Designer	:	Original Owner:		
		Alaska-Pacific Consolidated Mining Co	ompany	

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1937			
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
🛛 Building 🗌 Site 🗌 Structure	Object	1. One and One-Half	2.

Architectural Style:		Building Type:				
No Style			Multi-Family: Four-Plex			
Number of Ancillary Structures: Plan:		Plan:		Cultural Affiliation:		
Rectangular						
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Wood Posts	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
Architectural Description (Include setting & outbuildings):(use continuation sheets) The 8.53 meter (28') by 14.63 meter (48') Apartment House is a one and one- half story, wood frame structure with a front gable, corrugated metal roof. The north and south elevations have enclosed entryways with entrances to two apartments on each side. The building has a mixture of fixed and sash windows, some that have had glass panes replaced in inaccurate patterns. The four apartments are in various conditions. Some of the floors still have linoleum but most is torn and cracked. Some of the built-in cabinets or counters are missing or damaged. The fiberboard wall coverings have large holes, water damage and mold in many places. Holes have been cut in the upstairs walls so that one may access all four apartments from inside the building. Furnishings and accessories are on display in the apartments, but many of the items are torn and ragged.		Statement of Significance: <i>(use continuation sheets)</i> The Apartment House is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The Apartment House was built in 1937 with four identical apartments for the mine manager, mine foreman, mill foreman and shop foreman. Various alterations were made to each apartment during its occupation. Originally, two of the apartments had large attic spaces accessed by a ladder, but eventually stairs were built in all four apartments to access the upper floor that was subdivided into four rooms instead of two. Originally, there was only one window in each north and south gable end, but an additional window was added in each gable end. It is not known exactly when these changes were made.				
Eligibility:			Criteria Considerations:			
Yes No If yes: A B	C 🗌 D			🗌 E 🔲 F	G	
Prepared by:		Reviewed by Professional	I that meets the following Pro	ofessional Qu	alifications:	Date:
		Architect Architect	tural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not	t Concur)	Not Eligible (Concur)	ot Eligible (Do Not Concur)			
Minor Recommendations and Comment	Minor Recommendations and Comments Include:					
Need more information related to:	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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View of the north elevation of the Apartment House.

# Alaska Building Inventory Form AHRS #: ANC-0033 Associated District: ANC-0024

Historic Name:		Other Name:			
Camp Mess Hall		New Mess Hall, Mess Hall, Building 16			
Building Address:		City:	City:		
		Mat-Su Borough	Mat-Su Borough		
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitud	de, NAD83):				
Historic Associations					
Historic Function and Sub-function:					
1. Commerce/Trade: Restaurant	2. Domestic: Institutional Housing	3.	4.		
Current Function and Sub-function:					
1. Recreation and Culture: Museum	2.	3.	4.		
Significant Person(s):		Significant Dates			
1.	2.	1. 1934-1950	2.		
Architect, Builder, Contractor, Designer:		Original Owner:			
Floyd A. Naramore and Clifton J. Brady		Alaska-Pacific Consolidated Mining Company			

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:			
1044						
1941						
Alteration Dates:	Alteration Dates:					
1.	2.	3.	4.			
Resource Type:		Stories				
🛛 Building 🗌 Site 🗌 Structure	Object	1. Two	2.			

Architectural Style:		Building Type:				
No Style			Other: Mess Hall			
Number of Ancillary Structures:		Plan:		Cultural Affil	Cultural Affiliation:	
		Crucifix-Shaped				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Concrete	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
Architectural Description (Include setting & outbuildings):(use continuation sheets) The Camp Mess Hall is a two-story, wood frame structure with a metal roof horizontal wood shiplap covered outer walls. The building has a crucifix-shaped plan with a small ell on the east side of the south elevation. The primary (north) entrance for the dining hall on the first floor and the second floor living quarters faces the mining camp. Most of the windows on the first floor are sash windows (six over six) but are covered in plywood on the exterior. Most of the second floor windows have not been covered but some glass panes were replaced with plexiglass. The building has a partial basement. The first (main) floor has nine rooms including the dining hall in the cross arms, the waiting area in the north end, and kitchen areas in the south end. Many of the industrial-sized machines, kitchen equipment, and cabinetry remain in the kitchen areas. The partial second floor on the north end of the structure has two, four-room apartments, and three bedroom quarters with a shared bathroom.		Statement of Significance: <i>(use continuation sheets)</i> The Camp Mess Hall is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The Camp Mess Hall was built in 1941 and replaced the smaller, old mess hall. The first (main) floor of the new mess hall had a fully equipped kitchen, bakery, scullery, butcher shop, refrigerated storage rooms, dry storage, a waiting room with coat and wash rooms, and a 160 person dining hall. The second floor provided living quarters for cooks and flunkies and there were two, four-room apartments for staff families.				
Eligibility:			Criteria Considerations:			
⊠ Yes □ No If yes: ⊠ A □ B □ C □ D						
Prepared by:		Reviewed by Professional that meets the following Professional Qualifications: Date:			Date:	
		Architect Architectural Historian Historian Historic Architect None				
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
🗌 Need more information related to: 🗌 Historic Context 🗌 Integrity 🗌 Architectural Description 🔲 Period of Significance						
Authorized Signature:			Date:			

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View of Camp Mess Hall looking southeast.

# Alaska Building Inventory Form AHRS #: ANC-0034 Associated District: ANC-0024

Historic Name:		Other Name:	Other Name:		
Engineering Office and Warehouse		Bunkhouse/Warehouse, E	Bunkhouse/Warehouse, Building 12		
Building Address:		City:	City:		
		Mat-Su Borough	Mat-Su Borough		
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitude, NAD83):					

#### **Historic Associations**

Historic Function and Sub-function:			
1. Industry/Processing/Extraction: Industrial Storage	2. Domestic: Institutional Housing	3. Education: School	4. Commerce/Trade: Professional
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2. Commerce/Trade: Warehouse	3.	4.
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer	:	Original Owner:	
		Alaska-Pacific Consolidated Mining Company	

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:			
1939						
Alteration Dates:						
1.	2.	3.	4.			
Resource Type:		Stories:				
🛛 Building 🗌 Site 🔲 Structure	Object	1. Three	2.			
Architectural Style:		Building Type:				
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------	---------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------	------------------	-------
No Style			Other: Multi-Use			
Number of Ancillary Structures:		Plan:		Cultural Affil	iation:	
		Rectangular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Poured Concrete	1. Corrugate	ed Metal	1. Horizontal Wood Shipla	p Siding	1.	
2.	2.		2.		2.	
Architectural Description (Include setting	g & outbuilding	<b>]S</b> ):(use continuation sheets)	Statement of Significance:	(use continuation	on sheets)	
The 9.75 meter (32') by 18.3 meter (60') Engineering Office and Warehouse (Warehouse/Bunkhouse) is a three-story, wood frame structure with a side-gabled, corrugated metal roof and horizontal wood shiplap covered outer walls. It is situated within the topography so that the primary façade has the appearance of two stories and the southeast elevation has three stories. At the basement level the windows are fixed, six light windows. The first floor has fixed twelve light windows. The second and third floors have six-over-six sash windows. The foundation is poured concrete. The building has a full-width porch and multiple entrances on the primary (northwest) façade.			The Engineering Office and Warehouse (Warehouse/Bunkhouse) is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The Engineering Office and Warehouse was built in 1939 and originally used as a 36-man bunkhouse and warehouse, but it housed many functions during the historic occupation. The basement had a furnace room, a dry change room and bathroom, and storage space. Part of the first floor was used for storage but it also had a drafting room and printing room for engineering offices and a foreman's office. The second floor had three bedrooms and space for the territorial school until 1940 when the school moved to another building. The second floor was used for storage and available for sleeping quarters.			
Eligibility:			Criteria Considerations:			
Yes INo If yes: A B	C 🗌 D			🗌 E 🔲 F	G	
Prepared by:		Reviewed by Professional	that meets the following Pro	ofessional Qua	alifications:	Date:
Architect Architect			ural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
Need more information related to:	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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View of southwest elevation and primary (northwest) façade of the Engineering Office and Warehouse (ANC-034).

# Alaska Building Inventory Form AHRS #: ANC-0577 Associated District: ANC-0024

Historic Name:		Other Name:	Other Name:		
Independence Mine Mill Complex		Buildings 2-6	Buildings 2-6		
Building Address:		City:			
		Mat-Su Borough			
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitud	de, NAD83):				
Historic Associations					
Historic Function and Sub-function:					
1. Industry/Processing/Extraction: Manufacturing Facility	2.	3.	4.		
Current Function and Sub-function:					
1. Recreation and Culture: Museum	2.	3.	4.		
Significant Person(s):		Significant Dates			
4	2	1 1024 1050	3		

1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer:		Original Owner:	
		Alaska-Pacific Consolidated Mining Com	npany

#### **Architectural Information:**

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1937			
Alteration Dates:			
1. 1938	2. 1939	3. 1940	4. 1941
Resource Type:		Stories	
🗌 Building 🛛 Site 🗌 Structure	Object	1.	2.

Architectural Style:		Building Type:				
No Style			Industrial			
Number of Ancillary Structures:		Plan:		Cultural Affil	iation:	
		Irregular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1.	1. Metal		1. Wood Siding		1.	
2.	2.		2.		2.	
<ul> <li>Architectural Description (Include setting &amp; outbuildings):(use continuation sheets)</li> <li>The Mill Complex contains the ruins of the coarse ore bins, sorting plant, fine ore bins, milling plant, and power house. Some of the window and door frames, walls, and rooflines are still intact, but the complex is severely and rapidly deteriorating.</li> <li>A wood trestle extends in a north-south arc above the upper section of the mill building. The north side of the trestle connected the water tunnel portal to the coarse oar bins and the south side of the trestle allowed trains to pass without detaching cars. The trestle is in poor condition with some of it in ruins and many of the supporting posts in the central portion are floating above ground.</li> </ul>		<ul> <li>2. 2.</li> <li>Statement of Significance: (use continuation sheets)</li> <li>The Independence Mine Mill Complex is one of the properties in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974.</li> <li>The Mill Complex was initially built of wood with a metal roof in 1937 on the site of an older mill, but it received many additions. In 1938, a north wing was added to the mill to house the cleanup room and assay office and a south wing was added to house the power house and machine shop. The machine shop was enlarged and provided space for a blacksmith shop in 1939. In 1940, the welding shop was added to the southern side of the complex and the ore sorting plant was built above and adjacent to the mill. An automobile repair shop and electrical shop were added to the complex in 1941.</li> </ul>				
Eligibility:			Criteria Considerations:			
Yes INo If yes: A B	C 🗌 D					
Prepared by:		Reviewed by Professional	that meets the following Pro	ofessional Qu	alifications:	Date:
		Architect Architect	ural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
□ Need more information related to: □	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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View of the Mill Complex ruins looking northwest.

# Alaska Building Inventory Form

## AHRS #: ANC-0578 Associated District: ANC-0024

Historic Name:		Other Name:	Other Name:		
Plumbing, Sheet Metal, Electrical, and	Plumbing, Sheet Metal, Electrical, and Storage Shops		Buildings 8-10		
Building Address:		City:	City:		
		Mat-Su Borough	Mat-Su Borough		
Current Owner's Name and Address:					
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitude, NAD83):					
Historic Associations		-			

Historic Function and Sub-function:			
1. Industry/Processing/Extraction: Manufacturing Facility	2. Industry/Processing/Extraction: Industrial Storage	3.	4.
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2.	3.	4.
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designe	r:	Original Owner:	
		Alaska-Pacific Consolidated Mining Co	mpany

## Architectural Information:

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1000			
1938			
Alteration Dates:			
1. 1939	2. 1940	3.	4.
Resource Type:		Stories	
□ Building ⊠ Site □ Structure	Object	1.	2.

Architectural Style:		Building Type:				
No Style			Industrial			
Number of Ancillary Structures: Plan:			Cultural Affiliation:			
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1.	1. Metal		1. Wood Siding		1.	
2.	2.		2.		2.	
Architectural Description (Include setting & outbuildings):(use continuation sheets) The Plumbing, Sheet Metal, Electrical, and Storage Shops were contiguous buildings but they are now in a state of ruins. The gable roof of the Plumbing Shop and a small extension with a shed roof on the east elevation are still discernable. The Sheet Metal and Electrical shops have collapsed. Part of the storage shed has also collapsed, but two sections of the structure, each with a shed roof are still standing. These two sections are leaning and badly deteriorated.		Statement of Significance: <i>(use continuation sheets)</i> The Plumbing, Sheet Metal, Electrical, and Storage Shops are some of the properties in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The shops were first built in 1938 for use as a framing shed. In 1939, an addition was made to house the electrical shop. When the timber work moved to a new framing shop in 1940, the original part of the structure was converted to a plumbing and sheet metal shop and storage. Also in 1940, a 20-foot by 40-foot, two-story addition was made to the hardware storage shed.				
Eligibility:			Criteria Considerations:			
🛛 Yes 🗌 No If yes: 🖾 A 🗌 B 🗌	C 🗌 D					
Prepared by:		Reviewed by Professional	I that meets the following Pro	ofessional Qua	alifications:	Date:
		Architect Architect	tural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comment	Minor Recommendations and Comments Include:					
Need more information related to:	] Historic Con	text 🗌 Integrity 🗌 Archite	ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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Historic Name	AHRS Number	Associated Historic District	City/Town/Village
Plumbing, Sheet Metal, Electrical, and Storage Shops	ANC-0578	ANC-0024	
	<image/>	<image/>	

View of the eastern section of the Plumbing, Sheet Metal, Electrical, and Storage Shops ruins looking southeast.

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Historic Name	AHRS Number	Associated Historic District	City/Town/Village
Storage Shops	ANC-0578	ANC-0024	
	<image/>	<image/>	

View of the central section Plumbing, Sheet Metal, Electrical, and Storage Shops ruins looking southeast.

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Historic Name	AHRS Number	Associated Historic District	City/Town/Village
Plumbing, Sheet Metal, Electrical, and Storage Shops	ANC-0578	ANC-0024	
	<image/>	<image/>	

View of the western section Plumbing, Sheet Metal, Electrical, and Storage Shops ruins looking southeast.

# Alaska Building Inventory Form

AHRS #: ANC-0579 Associated District: ANC-0024

Historic Name:		Other Name:			
Independence Mine Shops		Building 1			
Building Address:		City:			
		Mat-Su Borough	Mat-Su Borough		
Current Owner's Name and Address:		· · · · ·			
Alaska State Parks					
USGS Quad Name and Map Sheet:	Section:	Township:	Range:		
Anchorage D-7	28	20N	01E		
GPS Coordinate (DD Latitude/Longitude, NAD83):			-		
HISTORIC ASSOCIATIONS					
Historic Function and Sub-function:					
1. Industry/Processing/Extraction: Processing Site	2. Industry/Processing/Extraction: Industrial Storage	3.	4.		
Current Function and Sub-function:					

1. Recreation and Culture: Museum	2.	3.	4.	
Significant Person(s):		Significant Dates		
1.	2.	1. 1934-1950	2.	
Architect, Builder, Contractor, Designer:		Original Owner:		
		Alaska-Pacific Consolidated Mining Con	npany	

### **Architectural Information:**

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1940			
Alteration Dates:			
1. 1941	2.	3.	4.
Resource Type:		Stories	
🗌 Building 🛛 Site 🗌 Structure	Object	1.	2.

Architectural Style:		Building Type:				
No Style		Industrial				
Number of Ancillary Structures:		Plan:		Cultural Affil	iation:	
		Rectangular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1.	1. Corrugate	ed Metal	1. Horizontal Wood Siding	J	1.	
2.	2.		2.		2.	
2. Architectural Description (Include setting & outbuildings):(use continuation sheets) The Independence Mine Shops are a series of buildings in a state of ruins near the portal of the 2,000 level water tunnel. The roofs have collapsed the length of the structure and the walls of the center building have also collapsed. The wood floor is intact the length of the complex and some of the wooden walls on the north and south ends of the complex are standing in poor condition. There is a reconstructed rail track running the length of the mine shops on the east elevation.		Statement of Significance: <i>(use continuation sheets)</i> The Independence Mine Shops are among the properties in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. In 1940, a series of shops were built near the portal of the 2,000 level water tunnel, including a blacksmith shop, repair shop, and a battery charging room. A mine shop building was constructed in 1941 to house a small machine parts warehouse and a drill-sharpening shop.				
Eligibility:			Criteria Considerations:			
🛛 Yes 🗌 No If yes: 🖾 A 🗌 B 🗌	C 🗌 D		□ A □ B □ C □ D	🗌 E 🔲 F	<u> </u>	
Prepared by:		Reviewed by Professional	that meets the following Pro	ofessional Qua	alifications:	Date:
		Architect Architect	ural Historian 🗌 Historian	Historic A	rchitect 🗌 None	
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
□ Need more information related to: □ Historic Context □ Integrity □ Archite			ectural Description Deriod of Significance			
Authorized Signature:			Date:			

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View of Independence Mine Shops ruins (ANC-579) looking south.

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View of Independence Mine Shops ruins (ANC-579) looking north.

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View of Independence Mine Shops ruins (ANC-579) looking south.

# Alaska Building Inventory Form AHRS #: ANC-0580 Associated District: ANC-0024

Historic Name:		Other Name:	Other Name:			
Timber Framing Shop		Building 18	Building 18			
Building Address:		City:	City:			
		Mat-Su Borough	Mat-Su Borough			
Current Owner's Name and Address:						
Alaska State Parks						
USGS Quad Name and Map Sheet:	Section:	Township:	Range:			
ANC D-7	28	20N	01E			
GPS Coordinate (DD Latitude/Longitude, NAD83):						

#### **Historic Associations**

Historic Function and Sub-function:			
1. Industry/Processing/Extraction: Manufacturing Site	2. Industry/Processing/Extraction: Industrial Storage	3.	4.
Current Function and Sub-function:			
1. Recreation and Culture: Museum	2. Vacant/Not in Use	3.	4.
Significant Person(s):		Significant Dates	
1.	2.	1. 1934-1950	2.
Architect, Builder, Contractor, Designer	:	Original Owner:	
		Alaska-Pacific Consolidated Mining Cor	npany

#### **Architectural Information:**

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
1940-1941			
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
Building Site Structure	Object	1. One	2.

Architectural Style:		Building Type:				
No Style		Industrial				
Number of Ancillary Structures: Plan:			Cultural Affil	Cultural Affiliation:		
		Rectangular				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1. Wood Posts	1. Corrugate	ed Metal	1. Horizontal Wood Shiplap Siding 1.		1.	
2.	2.		2. 2.		2.	
<ul> <li>2. Architectural Description (Include setting &amp; outbuildings):(use continuation sheets)</li> <li>The Timber Framing Shop currently appears to be two small buildings with a wooden platform covered in debris between them. The platform between the two structures is the site of the original framing shop built in 1940 but the walls and roof have collapsed. In 1941, two additions were built northeast and southwest of the shop. These additions are the remaining part of the structure.</li> <li>The northeast addition is a small wood frame structure with a gable, corrugated metal roof and horizontal wood shiplap covered outer walls. All the windows on this addition are currently covered in plywood. There is an entrance on the northeast elevation and a small room attached to the southeast elevation.</li> <li>The southwest addition is also a small wood frame structure with a gable, corrugated metal roof and horizontal wood shiplap covered outer walls. The foundation has been compromised and the structure is shifting so that it is no longer stable. A two-panel door with six lights (no glass is currently in the frame) is on the northwest elevation.</li> </ul>		Statement of Significance: <i>(use continuation sheets)</i> The Timber Framing Shop is one of the buildings in the Independence Mine Historic District. In the early 1940s, the mine was the largest producing lode gold mining operation in the Willow Creek District, the second largest in Alaska, and the eleventh largest in the United States. The Independence Mine Historic District was listed in the National Register of Historic Places in 1974. The first part of the Framing Shop was an open platform built in 1940 for use during the construction of Bunkhouse No. 2. After the bunkhouse was completed, the platform was enclosed with walls and a roof to house the timber framing operation. The walls and roof of this part of the framing shop have collapsed. In 1941, two additions were built on the northeast and southwest sides of the original structure. The northeast addition provided covered storage for rough, unfinished lumber. The southwest addition provided covered storage for finished lumber.				
Eligibility:			Criteria Considerations:			
Yes INo If yes: A B	C 🗌 D			🗌 E 🔲 F	G	
Prepared by:		Reviewed by Professional	that meets the following Pro	ofessional Qua	alifications:	Date:
Architect Architectural Historian Historian Historic Architect None						
SHPO Response:						
Eligible (Concur) Eligible (Do Not Concur) Not Eligible (Concur) Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
□ Need more information related to: □ Historic Context □ Integrity □ Archited			ectural Description	od of Significa	nce	
Authorized Signature:			Date:			

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View of Timber Framing Shop in the foreground looking west.

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View of the northeast addition of the Timber Framing Shop.

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View of the southwest addition of the Timber Framing Shop.

APPENDIX B:

PRESERVATION BRIEF #10:

EXTERIOR PAINT PROBLEMS ON HISTORIC WOODWORK

## **Exterior Paint Problems on Historic Woodwork**

Kay D. Weeks and David W. Look, AIA

A cautionary approach to paint removal is included in the guidelines to the *Secretary of the Interior Standards for Rehabilitation.* Removing paints down to bare wood surfaces using harsh methods can permanently damage those surfaces; therefore such methods are not recommended. Also, total removal obliterates evidence of the historical paints and their sequence and architectural context.

This Brief expands on that advice for the architect, building manager, contractor, or homeowner by identifying and describing common types of paint surface conditions and failures, then recommending appropriate treatments for preparing exterior wood surfaces for repainting to assure the best adhesion and greatest durability of the new paint.

Although the Brief focuses on responsible methods of "paint removal," several paint surface conditions will be described which do not require any paint removal, and still others which can be successfully handled by limited paint removal. In all cases, the information is intended to address the concerns related to exterior wood. It will also be generally assumed that, because houses built before 1950 involve one or more layers of lead-based paint, the majority of conditions warranting paint removal will mean dealing with this toxic substance along with the dangers of the paint removal tools and chemical strippers themselves.



The paint on this exterior decorative feature is sound. Photo: NPS files.

## **Purposes of Exterior Paint**

Paint applied to exterior wood must withstand yearly extremes of both temperature and humidity. While never expected to be more than a temporary physical shield-requiring reapplication every 5 to 8 years--its importance should not be minimized. Because one of the main causes of wood deterioration is moisture penetration, a primary purpose for painting wood is to exclude such moisture, thereby slowing deterioration not only of a building's exterior siding and decorative features but, ultimately, its underlying structural members. Another important purpose for painting wood is, of course, to define and accent architectural features and to improve appearance.

## Treating Paint Problems in Historic Buildings

Exterior paint is constantly deteriorating through the processes of weathering, but in a program of regular maintenance--assuming all other building systems are functioning properly--surfaces can be cleaned, lightly scraped, and hand sanded in preparation for a new finish coat. Unfortunately, these are ideal conditions. More often, complex maintenance problems are inherited by owners of historic buildings, including areas of paint that have failed beyond the point of mere cleaning, scraping, and hand sanding (although much so-called "paint failure" is attributable to interior or exterior moisture problems or surface preparation and application mistakes with previous coats).

Although paint problems are by no means unique to historic buildings, treating multiple layers of hardened, brittle paint on complex, ornamental--and possibly fragile--exterior wood surfaces necessarily requires an extremely cautious approach. In the case of recent construction, this level of concern is not needed because the wood is generally less detailed and, in addition, retention of the sequence of paint layers as a partial record of the building's history is not an issue.

When historic buildings are involved, however, a special set of problems arises—varying in complexity depending upon their age, architectural style, historical importance, and physical soundness of the wood—which must be carefully evaluated so that decisions can be made that are altered. Photo: NPS files. sensitive to the longevity of the resource.



When the protective and decorative paint finish was removed and an inappropriate clear finish applied, the exterior character of the building was

## Justification for Paint Removal

At the outset of this Brief, it must be emphasized that removing paint from historic buildings--with the exception of cleaning, light scraping, and hand sanding as part of routine maintenance--should be avoided unless absolutely essential. **Once conditions** warranting removal have been identified the general approach should be to remove paint to the next sound layer using the gentlest means possible, then to repaint. Practically speaking as well, paint can adhere just as effectively to existing paint as to bare wood, providing the previous coats of paint are also adhering uniformly and tightly to the wood and the surface is properly prepared for repainting -- cleaned of dirt and chalk and dulled by sanding.

But, if painted exterior wood surfaces display continuous patterns of deep cracks or if they are extensively blistering and peeling so that bare wood is visible, then the old paint should be completely removed before repainting. The only other justification for removing all previous layers of paint is if doors, shutters, or windows have literally been "painted shut," or if new wood is being pieced-in adjacent to old painted wood and a smooth transition is desired.

## **Paint Removal Precautions**

Because paint removal is a difficult and painstaking process, a number of costly, regrettable experiences have occurred--and continue to occur--for both the historic building and the building owner. Historic buildings have been set on fire with blow torches; wood irreversibly scarred by sandblasting or by harsh mechanical devices such as rotary sanders and rotary wire strippers; and layers of historic paint inadvertently and unnecessarily removed. In addition, property owners, using techniques that substitute speed for safety, have been injured by toxic lead vapors or dust from the paint they were trying to remove or by misuse of the paint removers themselves.

Owners of historic properties considering paint removal should also be aware of the amount of time and labor involved. While removing damaged layers of paint from a door or porch railing might be readily accomplished within a reasonable period of time by one or two people, removing paint from larger areas of a building can, without professional assistance, easily become unmanageable and produce less than satisfactory results. The amount of work involved in any paint removal project must therefore be analyzed on a case-by-case basis. Hiring qualified professionals will often be a cost-effective decision due to the expense of materials, the special equipment required, and the amount of time involved. Further, paint removal companies experienced in dealing with the inherent health and safety dangers of paint removal should have purchased such protective devices as are needed to mitigate any dangers and should also be aware of State or local environmental and/or health regulations for hazardous waste disposal.

All in all, paint removal is a messy, expensive, and potentially dangerous aspect of rehabilitating or restoring historic buildings and should not be undertaken without careful thought concerning first, its necessity, and second, which of the available recommended methods is the safest and most appropriate for the job at hand.

## **Re-painting Historic Buildings for Cosmetic Reasons**

If existing exterior paint on wood siding, eaves, window sills, sash, and shutters, doors, and decorative features shows no evidence of paint deterioration such as chalking, blistering, peeling, or cracking, then there is no physical reason to repaint, much less remove paint! Nor is color fading, of itself, sufficient justification to repaint a historic building.

The decision to repaint may not be based altogether on paint failure. Where there is a new owner, or even where ownership has remained constant through the years, taste in colors often changes. Therefore, if repainting is primarily to alter a building's primary and accent colors, a technical factor of paint accumulation should be taken into consideration.



When the paint on the wood windows became too thick, it was removed and the window repainted. Photo: NPS files.

When paint builds up to a thickness of approximately 1/16" (approximately 16 to 30 layers), one or more extra coats of paint may be enough to trigger cracking and peeling in limited or even widespread areas of the building's surface. This results because excessively thick paint is less able to withstand the shrinkage or pull of an additional coat as it dries and is also less able to tolerate thermal stresses. Thick paint invariably fails at the weakest point of adhesion--the oldest layers next to the wood. Cracking and peeling follow. Therefore, if there are no signs of paint failure, it may be somewhat risky to add still another layer of unneeded paint simply for color's sake (extreme changes in color may also require more than one coat to provide proper hiding power and full color). When paint appears to be nearing the critical thickness, a change of accent colors (that is, just to limited portions of the trim) might be an acceptable compromise without chancing cracking and peeling of paint on wooden siding.

If the decision to repaint is nonetheless made, the "new" color or colors should, at a minimum, be appropriate to the style and setting of the building. On the other hand, where the intent is to restore or accurately reproduce the colors originally used or those from a significant period in the building's evolution, they should be based on the results of a paint analysis.

## Identification of Exterior Paint Surface Conditions/Recommended Treatments

It is assumed that a preliminary check will already have been made to determine, first, that the painted exterior surfaces are indeed wood--and not stucco, metal, or other wood substitutes--and second, that the wood has not decayed so that repainting would be superfluous. For example, if any area of bare wood such as window sills has been exposed for a long period of time to standing water, wood rot is a strong possibility. Repair or replacement of deteriorated wood should take place before repainting. After these two basic issues have been resolved, the surface condition identification process may commence.

The historic building will undoubtedly exhibit a variety of exterior paint surface conditions. For example, paint on the wooden siding and doors may be adhering firmly; paint on the eaves peeling; and paint on the porch balusters and window sills cracking and alligatoring. The accurate identification of each paint problem is therefore the first step in planning an appropriate overall solution.

Paint surface conditions can be grouped according to their relative severity: CLASS I conditions include minor blemishes or dirt collection and generally require no paint removal; CLASS II conditions include failure of the top layer or layers of paint and generally require limited paint removal; and CLASS III conditions include substantial or multiple-layer failure and generally require total paint removal. It is precisely because conditions will vary at different points on the building that a careful inspection is critical. Each item of painted exterior woodwork (i.e., siding, doors, windows, eaves, shutters, and decorative elements) should be examined early in the planning phase and surface conditions noted.



The problem evidenced here by mossy growth and deteriorated wood must be resolved and the wood allowed to dry out before the wood is repainted. Photo: NPS files.

## CLASS I Exterior Surface Conditions Generally Requiring No Paint Removal

## Dirt, Soot, Pollution, Cobwebs, Insect Cocoons, etc.

#### **Cause of Condition**

Environmental "grime" or organic matter that tends to cling to painted exterior surfaces and, in particular, protected surfaces such as eaves, do not constitute a paint problem unless painted over rather than removed prior to repainting. If not removed, the surface deposits can be a barrier to proper adhesion and cause peeling.

#### **Recommended Treatment**

Most surface matter can be loosened by a strong, direct stream of water from the nozzle of a garden hose. Stubborn dirt and soot will need to be scrubbed off using I/2 cup of household detergent in a gallon of water with a medium soft bristle brush. The cleaned surface should then be rinsed thoroughly, and permitted to dry before further inspection to determine if repainting is necessary. Quite often, cleaning provides a satisfactory enough result to postpone repainting.

#### Mildew

#### Cause of Condition

Mildew is caused by fungi feeding on nutrients contained in the paint film or on dirt adhering to any surface. Because moisture is the single most important factor in its

growth, mildew tends to thrive in areas where dampness and lack of sunshine are problems such as window sills, under eaves, around gutters and downspouts, on the north side of buildings, or in shaded areas near shrubbery. It may sometimes be difficult to distinguish mildew from dirt, but there is a simple test to differentiate: if a drop of household bleach is placed on the suspected surface, mildew will immediately turn white whereas dirt will continue to look like dirt.

#### **Recommended Treatment**

Because mildew can only exist in shady, warm, moist areas, attention should be given to altering the environment that is conducive to fungal growth. The area in question may be shaded by trees which need to be pruned back to allow sunlight to strike the building; or may lack rain gutters or proper drainage at the base of the building. If the shady or moist conditions can be altered, the mildew is less likely to reappear. A recommend solution for removing mildew consists of one cup non-ammoniated detergent, one quart household bleach, and one gallon water. When the surface is scrubbed with this solution using a medium soft brush, the mildew should disappear; however, for particularly stubborn spots, an additional quart of bleach may be added. After the area is mildew-free, it should then be rinsed with a direct stream of water from the nozzle of a garden hose, and permitted to dry thoroughly. When repainting, specially formulated "mildew-resistant" primer and finish coats should be used.

## **Excessive Chalking**

#### Cause of Condition

Chalking--or powdering of the paint surface--is caused by the gradual disintegration of the resin in the paint film. (The amount of chalking is determined both by the formulation of the paint and the amount of ultraviolet light to which the paint is exposed.) In moderation, chalking is the ideal way for a paint to "age," because the chalk, when rinsed by rainwater, carries discoloration and dirt away with it and thus provides an ideal surface for repainting. In excess, however, it is not desirable because the chalk can wash down onto a surface of a different color beneath the painted area and cause streaking as well as rapid disintegration of the paint film itself. Also, if a paint contains too much pigment for the amount of binder (as the old white lead carbonate/oil paints often did), excessive chalking can result.

#### **Recommended Treatment**

The chalk should be cleaned off with a solution of I/2 cup household detergent to one gallon water, using a medium soft bristle brush. After scrubbing to remove the chalk, the surface should be rinsed with a direct stream of water from the nozzle of a garden hose, allowed to dry thoroughly, (but not long enough for the chalking process to recur) and repainted, using a non-chalking paint.

## Staining

#### **Cause of Condition**

Staining of paint coatings usually results from excess moisture reacting with materials

within the wood substrate. There are two common types of staining, neither of which requires paint removal. The most prevalent type of stain is due to the oxidation or rusting of iron nails or metal (iron, steel, or copper) anchorage devices. A second type of stain is caused by a chemical reaction between moisture and natural extractives in certain woods (red cedar or redwood) which results in a surface deposit of colored matter. This is most apt to occur in new replacement wood within the first 10-15 years.

#### **Recommended Treatment**

In both cases, the source of the stain should first be located and the moisture problem corrected.

When stains are caused by rusting of the heads of nails used to attach shingles or siding to an exterior wall or by rusting or oxidizing iron, steel, or copper anchorage devices adjacent to a painted surface, the metal objects themselves should be hand sanded and coated with a rust-inhibitive primer followed by two finish coats. (Exposed nail heads should ideally be countersunk, spot primed, and the holes filled with a high quality wood filler except where exposure of the nail head was part of the original construction system or the wood is too fragile to withstand the countersinking procedure.)

Discoloration due to color extractives in replacement wood can usually be cleaned with a solution of equal parts denatured alcohol and water. After the affected area has been rinsed and permitted to dry, a "stainblocking primer" especially developed for preventing this type of stain should be applied (two primer coats are recommended for severe cases of bleeding prior to the finish coat). Each primer coat should be allowed to dry at least 48 hours.

## CLASS II Exterior Surface Conditions Generally Requiring Limited Paint Removal

## Crazing



Crazing--or surface cracking--is an exterior surface condition which can be successfully treated by sanding and painting. Photo: Courtesy, National Decorating

#### Cause of Condition

Products Assocation.

Crazing--fine, jagged interconnected breaks in the top layer of paint--results when paint that is several layers thick becomes excessively hard and brittle with age and is consequently no longer able to expand and contract with the wood in response to changes in temperature and humidity. As the wood swells, the bond between paint layers is broken and hairline cracks appear. Although somewhat more difficult to detect as opposed to other more obvious paint problems, it is well worth the time to scrutinize all surfaces for crazing. If not corrected, exterior moisture will enter the crazed surface, resulting in further swelling of the wood and, eventually, deep cracking and alligatoring, a Class III condition which requires total paint removal.

#### **Recommended Treatment**

Crazing can be treated by hand or mechanically sanding the surface, then repainting. Although the hairline cracks may tend to show through the new paint, the surface will be protected against exterior moisture penetration.

## **Intercoat Peeling**

#### Cause of Condition



Here, a latex top coat was applied directly over old oil paint, resulting in intercoat peeling. The latex was unable to adhere. If latex is used over oil, an oil-base primer should be applied first. Photo: Mary L. Oehrlein, AIA.

Intercoat peeling can be the result of improper surface preparation prior to the last repainting. This most often occurs in protected areas such as eaves and covered porches because these surfaces do not receive a regular rinsing from rainfall, and salts from airborne pollutants thus accumulate on the surface. If not cleaned off, the new paint coat will not adhere properly and that layer will peel.

Another common cause of intercoat peeling is incompatibility between paint types. For example, if oil paint is applied over latex paint, peeling of the top coat can sometimes result since, upon aging, the oil paint becomes harder and less elastic than the latex paint. If latex paint is applied over old, chalking oil paint, peeling can also occur because the latex paint is unable to penetrate the chalky surface and adhere.

#### **Recommended Treatment**

First, where salts or impurities have caused the peeling, the affected area should be washed down thoroughly after scraping, then wiped dry. Finally, the surface should be hand or mechanically sanded, then repainted.

Where peeling was the result of using incompatible paints, the peeling top coat should be scraped and hand or mechanically sanded. Application of a high quality oil type exterior primer will provide a surface over which either an oil or a latex topcoat can be successfully used.

## **Solvent Blistering**

#### **Cause of Condition**

Solvent blistering, the result of a less common application error, is not caused by moisture, but by the action of ambient heat on paint solvent or thinners in the paint film. If solventrich paint is applied in direct sunlight, the top surface can dry too quickly and, as a result, solvents become trapped beneath the dried paint film. When the solvent vaporizes, it forces its way through the paint film, resulting in surface blisters. This problem occurs more often with dark colored paints because darker colors absorb more heat than lighter ones. To distinguish between solvent blistering and blistering caused by moisture, a blister should be cut open. If another layer of paint is visible, then solvent blistering is likely the problem whereas if bare wood is revealed, moisture is probably to blame. Solvent blisters are generally small.

#### **Recommended Treatment**

Solvent-blistered areas can be scraped, hand or mechanically sanded to the next sound layer, then repainted. In order to prevent blistering of painted surfaces, paint should not be applied in direct sunlight.

## Wrinkling

#### Cause of Condition

Another error in application that can easily be avoided is wrinkling. This occurs when the top layer of paint dries before the layer underneath. The top layer of paint actually moves as the paint underneath (a primer, for example) is drying. Specific causes of wrinkling include: (1) applying paint too thick; (2) applying a second coat before the first one dries; (3) inadequate brushing out; and (4) painting in temperatures higher than recommended by the manufacturer.

#### **Recommended Treatment**



Wrinkled layers can generally be removed by scraping and sanding as opposed to total paint removal. Photo: Courtesy, National Decorating Products Association.

The wrinkled layer can be removed by scraping followed by hand or mechanical sanding to provide as even a surface as possible, then repainted following manufacturer's application instructions.

## CLASS III Exterior Surface Conditions Generally Requiring Total Paint Removal

If surface conditions are such that the majority of paint will have to be removed prior to

repainting, it is suggested that a small sample of intact paint be left in an inconspicuous area either by covering the area with a metal plate, or by marking the area and identifying it in some way. (When repainting does take place, the sample should not be painted over). This will enable future investigators to have a record of the building's paint history.

## Peeling

#### Cause of Condition



Extensively deteriorated paint needs to be removed to bare wood, then primed and repainted. Photo: NPS files. Peeling to bare wood is most often caused by excess interior or exterior moisture that collects behind the paint film, thus impairing adhesion. Generally beginning as blisters, cracking and peeling occur as moisture causes the wood to swell, breaking the adhesion of the bottom layer.

#### **Recommended Treatment**

There is no sense in repainting before dealing with the moisture problems because new paint will simply fail. Therefore, the first step in treating peeling is to locate and remove the source or sources of the moisture, not only because moisture will jeopardize the protective coating of paint but because, if left unattended, it can ultimately cause permanent damage to the wood. Excess interior moisture should be removed from the building through installation of exhaust fans and vents. Exterior moisture

should be eliminated by correcting the following conditions prior to repainting: faulty flashing; leaking gutters; defective roof shingles; cracks and holes in siding and trim; deteriorated caulking in joints and seams; and shrubbery growing too close to painted wood. After the moisture problems have been solved, the wood must be permitted to dry out thoroughly. The damaged paint can then be scraped off with a putty knife, hand or mechanically sanded, primed, and repainted.

## Cracking/Alligatoring

#### **Cause of Condition**

Cracking and alligatoring are advanced stages of crazing. Once the bond between layers has been broken due to intercoat paint failure, exterior moisture is able to penetrate the surface cracks, causing the wood to swell and deeper cracking to take place.

This process continues until cracking, which forms parallel to grain, extends to bare wood. Ultimately, the cracking becomes an overall pattern of horizontal and vertical breaks in the paint layers that looks like reptile skin; hence, "alligatoring." In advanced stages of cracking and alligatoring, the surfaces will also flake badly.

#### **Recommended Treatment**

If cracking and alligatoring are present only in the top layers they can probably be

scraped, hand or mechanically sanded to the next sound layer, then repainted. However, if cracking and/or alligatoring have progressed to bare wood and the paint has begun to flake, it will need to be totally removed. Methods include scraping or paint removal with the electric heat plate, electric heat gun, or chemical strippers, depending on the particular area involved. Bare wood should be primed within 48 hours then repainted.

## Selecting the Appropriate/Safest Method to Remove Paint

After having presented the "hierarchy" of exterior paint surface conditions--from a mild condition such as mildewing which simply requires cleaning prior to repainting to serious conditions such as peeling and alligatoring which require total paint removal--one important thought bears repeating: if a paint problem has been identified that warrants either limited or total paint removal, the gentlest method possible for the particular wooden element of the historic building should be selected from the many available methods.

The treatments recommended--based upon field testing as well as onsite monitoring of Department of Interior grant-in-aid and certification of rehabilitation projects--are therefore those which take three overriding issues into consideration (1) the continued protection and preservation of the historic exterior woodwork; (2) the retention of the sequence of historic paint layers; and (3) the health and safety of those individuals performing the paint removal. By applying these criteria, it will be seen that no paint removal method is without its drawbacks and all recommendations are qualified in varying degrees.

## **Methods for Removing Paint**

After a particular exterior paint surface condition has been identified, the next step in planning for repainting--if paint removal is required--is selecting an appropriate method for such removal.

The method or methods selected should be suitable for the specific paint problem as well as the particular wooden element of the building. Methods for paint removal can be divided into three categories (frequently, however, a combination of the three methods is used). Each method is defined below, then discussed further and specific recommendations made:

**Abrasive**--"Abrading" the painted surface by manual and/or mechanical means such as scraping and sanding. Generally used for surface preparation and limited paint removal.

**Thermal**--Softening and raising the paint layers by applying heat followed by scraping and sanding. Generally used for total paint removal.

**Chemical**--Softening of the paint layers with chemical strippers followed by scraping and sanding. Generally used for total paint removal.

## Abrasive Methods (Manual)

If conditions have been identified that require limited paint removal such as crazing, intercoat peeling, solvent blistering, and wrinkling, scraping and hand sanding should be the first methods employed before using mechanical means. Even in the case of more serious conditions such as peeling--where the damaged paint is weak and already sufficiently loosened from the wood surface --scraping and hand sanding may be all that is needed prior to repainting.

#### Recommended Abrasive Methods (Manual)

**Putty Knife/Paint Scraper:** Scraping is usually accomplished with either a putty knife or a paint scraper, or both. Putty knives range in width from one to six inches and have a beveled edge. A putty knife is used in a pushing motion going under the paint and working from an area of loose paint toward the edge where the paint is still firmly adhered and, in effect, "beveling" the remaining layers so that as smooth a transition as possible is made between damaged and undamaged areas.

Paint scrapers are commonly available in 1-5/16, 2-1/2, and 3-1/2 inch widths and have replaceable blades. In addition, profiled scrapers can be made specifically for use on moldings. As opposed to the putty knife, the paint scraper is used in a pulling motion and works by raking the damaged areas of paint away.

The obvious goal in using the putty knife or the paint scraper is to selectively remove the affected layer or layers of paint; however, both of these tools, particularly the paint scraper with its hooked edge, must be used with care to properly prepare the surface and to avoid gouging the wood.

**Sandpaper/Sanding Block/Sanding sponge:** After manually removing the damaged layer or layers by scraping, the uneven surface (due to the almost inevitable removal of varying numbers of paint layers in a given area) will need to be smoothed or "feathered out" prior to repainting. As stated before, hand sanding, as opposed to harsher mechanical sanding, is recommended if the area is relatively limited. A coarse grit, open-coat flint sandpaper--the least expensive kind--is useful for this purpose because, as the sandpaper clogs with paint it must be discarded and this process repeated until all layers adhere uniformly.

Blocks made of wood or hard rubber and covered with sandpaper are useful for handsanding flat surfaces. Sanding sponges--rectangular sponges with an abrasive aggregate on their surfaces--are also available for detail work that requires reaching into grooves because the sponge easily conforms to curves and irregular surfaces. All sanding should be done with the grain.

#### Summary of Abrasive Methods (Manual)

Recommended: Putty knife, paint scraper, sandpaper, sanding block, sanding sponge.

Applicable areas of building: All areas. For use on: Class I, Class II, and Class III conditions.

Health/Safety factors: Take precautions against lead dust, eye damage; dispose of lead paint residue properly.

## Abrasive Methods (Mechanical)

If hand sanding for purposes of surface preparation has not been productive or if the affected area is too large to consider hand sanding by itself, mechanical abrasive methods, i.e., power-operated tools may need to be employed; however, it should be noted that the majority of tools available for paint removal can cause damage to fragile wood and must be used with great care.

#### Recommended Abrasive Methods (Mechanical)

**Orbital sander**: Designed as a finishing or smoothing tool--not for the removal of multiple layers of paint--the orbital sander is thus recommended when limited paint removal is required prior to repainting. Because it sands in a small diameter circular motion (some models can also be switched to a back-and-forth vibrating action), this tool is particularly effective for "feathering" areas where paint has first been scraped. The abrasive surface varies from about 3x7 inches to 4x9 inches and sandpaper is attached either by clamps or sliding clips. A medium grit, open-coat aluminum oxide sandpaper should be used; fine sandpaper clogs up so quickly that it is ineffective for smoothing paint.

**Belt sander**: A second type of power tool--the belt sander--can also be used for removing limited layers of paint but, in this case, the abrasive surface is a continuous belt of sandpaper that travels at high speeds and consequently offers much less control than the orbital sander. Because of the potential for more damage to the paint or the wood, use of the belt sander (also with a medium grit sandpaper) should be limited to flat surfaces and only skilled operators should be permitted to operate it within a historic preservation project.

#### Not Recommended

**Rotary Drill Attachments**: Rotary drill attachments such as the rotary sanding disc and the rotary wire stripper should be avoided. The disc sander--usually a disc of sandpaper about 5 inches in diameter secured to a rubber based attachment which is in turn connected to an electric drill or other motorized housing--can easily leave visible circular depressions in the wood which are difficult to hide, even with repainting. The rotary wire stripper--clusters of metals wires similarly attached to an electric drill-type unit--can actually shred a wooden surface and is thus to be used exclusively for removing corrosion and paint from metals.

**Waterblasting**: Waterblasting above 600 p.s.i. to remove paint is not recommended because it can force water into the woodwork rather than cleaning loose paint and grime from the surface; at worst, high pressure waterblasting causes the water to penetrate exterior sheathing and damages interior finishes. A detergent solution, a medium soft bristle brush, and a garden hose for purposes of rinsing, is the gentlest method involving water and is recommended when cleaning exterior surfaces prior to repainting.

**Sandblasting**: Finally--and undoubtedly most vehemently "not recommended"-sandblasting painted exterior woodwork will indeed remove paint, but at the same time can scar wooden elements beyond recognition. As with rotary wire strippers, sandblasting erodes the soft porous fibers (spring wood) faster than the hard, dense fibers (summer wood), leaving a pitted surface with ridges and valleys. Sandblasting will also erode projecting areas of carvings and moldings before it removes paint from concave areas. Hence, this abrasive method is potentially the most damaging of all possibilities, even if a contractor promises that blast pressure can be controlled so that the paint is removed without harming the historic exterior woodwork. (For Additional Information, See Preservation Briefs 6, "Dangers of Abrasive Cleaning to Historic Buildings".)

#### Summary of Abrasive Methods (Mechanical)

Recommended: Orbital sander, belt sander (skilled operator only).

Applicable areas of building: Flat surfaces, i.e., siding, eaves, doors, window sills.

For use on: Class II and Class III conditions.

Health/Safety factors: Take precautions against lead dust and eye damage; dispose of lead paint residue properly.

Not Recommended: Rotary drill attachments, high pressure waterblasting, sandblasting.

## **Thermal Methods**

Where exterior surface conditions have been identified that warrant total paint removal such as peeling, cracking, or alligatoring, two thermal devices--the electric heat plate and the electric heat gun--have proven to be quite successful for use on different wooden elements of the historic building. One thermal method--the blow torch--is not recommended because it can scorch the wood or even burn the building down!

Recommended Thermal Methods



A heat plate was used on the cornice to remove paint. Photo: NPS files.

Electric heat plate: The electric heat plate operates between 500 and 800 degrees Fahrenheit (not hot enough to vaporize lead paint), using about 15 amps of power. The plate is held close to the painted exterior surface until the layers of paint begin to soften and blister, then moved to an adjacent location on the wood while the softened paint is scraped off with a putty knife (it should be noted that the heat plate is most successful when the paint is very thick!). With practice, the operator can successfully move the heat plate evenly across a flat surface such as wooden siding or a window sill or door in a continuous motion, thus lessening the risk of scorching the wood in an attempt to reheat the edge of the paint sufficiently for effective removal. Since the electric heat plate's coil is "red hot," extreme caution should be taken

to avoid igniting clothing or burning the skin. If an extension cord is used, it should be a
heavy-duty cord (with 3-prong grounded plugs). A heat plate could overload a circuit or, even worse, cause an electrical fire; therefore, it is recommended that this implement be used with a single circuit and that a fire extinguisher always be kept close at hand.

**Electric heat gun**: The electric heat gun (electric hot-air gun) looks like a hand-held hairdryer with a heavy-duty metal case. It has an electrical resistance coil that typically heats between 500 and 750 degrees Fahrenheit and, again, uses about 15 amps of power which requires a heavy-duty extension cord. There are some heat guns that operate at higher temperatures but they should not be purchased for removing old paint because of the danger of lead paint vapors.

The temperature is controlled by a vent on the side of the heat gun. When the vent is closed, the heat increases. A fan forces a stream of hot air against the painted woodwork, causing a blister to form. At that point, the softened paint can be peeled back with a putty knife. It can be used to best advantage when a paneled door was originally varnished, then painted a number of times. In this case, the paint will come off quite easily, often leaving an almost pristine varnished surface behind. Like the heat plate, the heat gun works best on a heavy paint buildup. (It is, however, not very successful on only one or two layers of paint or on surfaces that have only been varnished. The varnish simply becomes sticky and the wood scorches.)

Although the heat gun is heavier and more tiring to use than the heat plate, it is particularly effective for removing paint from detail work because the nozzle can



The nozzle on the electric heat gun permits hot air to be aimed into cavities on solid decorative surfaces, such as this carriage house door. After the paint has been sufficiently softened, it can be carefully removed with a scraper. Photo: NPS files.

be directed at curved and intricate surfaces. Its use is thus more limited than the heat plate, and most successfully used in conjunction with the heat plate. For example, it takes about two to three hours to strip a paneled door with a heat gun, but if used in combination with a heat plate for the large, flat area, the time can usually be cut in half. Although a heat gun seldom scorches wood, it can cause fires (like the blow torch) if aimed at the dusty cavity between the exterior sheathing and siding and interior lath and plaster. A fire may smolder for hours before flames break through to the surface. Therefore, this thermal device is best suited for use on solid decorative elements, such as molding, balusters, fretwork, or "gingerbread."

#### Not Recommended

**Blow Torch**: Blow torches, such as hand-held propane or butane torches, were widely used in the past for paint removal because other thermal devices were not available. With this technique, the flame is directed toward the paint until it begins to bubble and loosen from the surface. Then the paint is scraped off with a putty knife. Although this is a relatively fast process, at temperatures between 3200 and 3800 degrees Fahrenheit the open flame is not only capable of burning a careless operator and causing severe damage to eyes or skin, it can easily scorch or ignite the wood. The other fire hazard is more insidious. Most frame buildings have an air space between the exterior sheathing and siding and interior lath and plaster. This cavity usually has an accumulation of dust

which is also easily ignited by the open flame of a blow torch. Finally, leadbase paints will vaporize at high temperatures, releasing toxic fumes that can be unknowingly inhaled. Therefore, because both the heat plate and the heat gun are generally safer to use--that is, the risks are much more controllable--the blow torch should definitely be avoided!

#### Summary of Thermal Methods

Recommended: Electric heat plate, electric heat gun.

Applicable areas of building: Electric heat plate--flat surfaces such as siding, eaves, sash, sills, doors. Electric heat gun--solid decorative molding, balusters, fretwork, or "gingerbread."

For use on: Class III conditions.

Health/Safety factors: Take precautions against eye damage and fire. Dispose of lead paint residue properly.

Not Recommended: Blow torch.

# **Chemical Methods**

With the availability of effective thermal methods for total paint removal, the need for chemical methods--in the context of preparing historic exterior woodwork for repainting--becomes quite limited. Solvent-base or caustic strippers may, however, play a supplemental role in a number of situations, including:

- Removing paint residue from intricate decorative features, or in cracks or hard to reach areas if a heat gun has not been completely effective;
- Removing paint on window muntins because heat devices can easily break the glass;
- Removing varnish on exterior doors after all layers of paint have been removed by a heat plate/heat gun if the original varnish finish is being restored;
- Removing paint from detachable wooden elements such as exterior shutters, balusters, columns, and doors by dip stripping when other methods are too laborious.

#### Recommended Chemical Methods

#### (Use With Extreme Caution)

Because all chemical paint removers can involve potential health and safety hazards, no wholehearted recommendations can be made from that standpoint. Commonly known as "paint removers" or "strippers," both solvent-base or caustic products are commercially available that, when poured, brushed, or sprayed on painted exterior woodwork are capable of softening several layers of paint at a time so that the resulting "sludge"-- which should be remembered is nothing less than the sequence of historic paint layers-can be removed with a putty knife. Detachable wood elements such as exterior shutters can also be "dip-stripped."

**Solvent-base Strippers**: The formulas tend to vary, but generally consist of combinations of organic solvents such as methylene chloride, isopropanol, toluol, xylol, and methanol; thickeners such as methyl cellulose; and various additives such as paraffin wax used to prevent the volatile solvents from evaporating before they have time to soak through multiple layers of paint. Thus, while some solvent-base strippers are quite thin and therefore unsuitable for use on vertical surfaces, others, called "semi-paste" strippers, are formulated for use on vertical surfaces or the underside of horizontal surfaces.

However, whether liquid or semi-paste, there are two important points to stress when using any solvent-base stripper: First, the vapors from the organic chemicals can be highly toxic if inhaled; skin contact is equally dangerous because the solvents can be absorbed; second, many solvent-base strippers are flammable. Even though application out-of-doors may somewhat mitigate health and safety hazards, a respirator with special filters for organic solvents is recommended and, of course, solvent-base strippers should never be used around open flames, lighted cigarettes, or with steel wool around electrical outlets.

Although appearing to be the simplest for exterior use, a particular type of solvent-base stripper needs to be mentioned here because it can actually cause the most problems. Known as "water-rinsable," such products have a high proportion of methylene chloride together with emulsifiers. Although the dissolved paint can be rinsed off with water with a minimum of scraping, this ultimately creates more of a problem in cleaning up and properly disposing of the sludge. In addition, these strippers can leave a gummy residue on the wood that requires removal with solvents. Finally, water-rinsable strippers tend to raise the grain of the wood more than regular strippers.

On balance, then, the regular strippers would seem to work just as well for exterior purposes and are perhaps even better from the standpoint of proper lead sludge disposal because they must be hand 'scraped as opposed to rinsed off (a coffee-can with a wire stretched across the top is one effective way to collect the sludge; when the putty knife is run across the wire, the sludge simply falls into the can. Then, when the can is filled, the wire is removed, the can capped, and the lead paint sludge disposed of according to local health regulations).

**Caustic strippers**: Until the advent of solvent-base strippers, caustic strippers were used exclusively when a chemical method was deemed appropriate for total paint removal prior to repainting or refinishing. Now, it is more difficult to find commercially prepared caustic solutions in hardware and paint stores for homeowner use with the exception of lye (caustic soda) because solvent-base strippers packaged in small quantities tend to dominate the market.

Most commercial dip stripping companies, however, continue to use variations of the caustic bath process because it is still the cheapest method available for removing paint. Generally, dip stripping should be left to professional companies because caustic solutions can dissolve skin and permanently damage eyes as well as present serious disposal problems in large quantities.

If exterior shutters or other detachable elements are being sent out for stripping in a caustic solution, it is wise to see samples of the company's finished work. While some companies do a first-rate job, others can leave a residue of paint in carvings and grooves. Wooden elements may also be soaked too long so that the wood grain is raised

and roughened, requiring extensive hand sanding later. In addition, assurances should be given by these companies that caustic paint removers will be neutralized with a mild acid solution or at least thoroughly rinsed with water after dipping (a caustic residue makes the wood feel slippery). If this is not done, the lye residue will cause new paint to fail.

#### Summary of Chemical Methods

Recommended, with extreme caution: Solvent-base strippers, caustic strippers.

Applicable areas of buildings: decorative features, window muntins, doors, exterior shutters, columns, balusters, and railings.

For use on: Class III Conditions.

Health/Safety factors: Take precautions against inhaling toxic vapors; fire; eye damage; and chemical poisoning from skin contact. Dispose of lead residue properly

### **General Paint Type Recommendations**



Decorative features were painted with a traditional oil-based paint as a part of the rehabilitation. Photo: NPS files.

Based on the assumption that the exterior wood has been painted with oil paint many times in the past and the existing top coat is therefore also an oil paint, it is recommended that for CLASS I and CLASS II paint surface conditions, a top coat of high quality oil paint be applied when repainting. The reason for recommending oil rather than latex paints is that a coat of latex paint applied directly over old oil paint is more apt to fail. The considerations are twofold. First, because oil paints continue to harden with age, the old surface is sensitive to the added stress of shrinkage which occurs as a new coat of paint dries. Oil paints shrink less upon drying than latex paints and thus do not have as great a tendency to pull the old paint loose.

Second, when exterior oil paints age, the binder releases pigment particles, causing a chalky surface. Although for best results, the chalk (or dirt, etc.) should always be cleaned off prior to repainting, a coat of new oil paint is more able to penetrate a chalky residue and adhere than is latex paint. Therefore, unless it is possible to thoroughly clean a heavily chalked surface, oil paints--on balance--give better adhesion.

If however, a latex top coat is going to be applied over several layers of old oil paint, an oil primer should be applied first (the oil primer creates a flat, porous surface to which the latex can adhere). After the primer has thoroughly dried, a latex top coat may be applied. In the long run, changing paint types is more time consuming and expensive. An application of a new oil-type top coat on the old oil paint is, thus, the preferred course of action.

If CLASS III conditions have necessitated total paint removal, there are two options, both of which assure protection of the exterior wood: (1) an oil primer may be applied followed by an oil-type top coat, preferably by the same manufacturer; or (2) an oil primer may be applied followed by a latex top coat, again using the same brand of paint. It should also be noted that primers were never intended to withstand the effects of weathering; therefore, the top coat should be applied as soon as possible after the primer has dried.

## CONCLUSION

The recommendations outlined in this Brief are cautious because at present there is no completely safe and effective method of removing old paint from exterior woodwork. This has necessarily eliminated descriptions of several methods still in a developmental or experimental stage, which can therefore neither be recommended nor precluded from future recommendation. With the ever-increasing number of buildings being rehabilitated, however, paint removal technology should be stimulated and, in consequence, existing methods refined and new methods developed which will respect both the historic wood and the health and safety of the operator.

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Washington, D.C. September, 1982

Home page logo: Peeling paint on historic wood siding. Photo: ©John Leeke, 2002.

This publication has been prepared pursuant to the National Historic Preservation Act of 1966, as amended, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Technical Preservation Services (TPS), Heritage Preservation Services Division, National Park Service prepares standards, guidelines, and other educational materials on responsible historic preservation treatments for a broad public.

APPENDIX C:

PRESERVATION BRIEF #9:

THE REPAIR OF HISTORIC WOODEN WINDOWS

# The Repair of Historic Wooden Windows John H. Myers

#### The windows on many historic buildings are an important aspect of the architectural character of those

**buildings.** Their design, craftsmanship, or other qualities may make them worthy of preservation. This is selfevident for ornamental windows, but it can be equally true for warehouses or factories where the windows may be the most dominant visual element of an otherwise plain building. Evaluating the significance of these windows and planning for their repair or replacement can be a complex process involving both objective and subjective considerations. *The Secretary of the Interior's Standards for Rehabilitation* and the accompanying guidelines, call for respecting the significance of original materials and features, repairing and retaining them wherever possible, and when necessary, replacing them in kind. This Brief is based on the issues of significance and repair which are implicit in the standards, but the primary emphasis is on the technical issues of planning for the repair of windows including evaluation of their physical condition, techniques of repair, and design considerations when replacement is necessary.

Much of the technical section presents repair techniques as an instructional guide for the do-it-yourselfer. The information will be useful, however, for the architect, contractor, or developer on large-scale projects. It presents a methodology for approaching the evaluation and repair of existing windows, and considerations for replacement, from which the professional can develop alternatives and specify appropriate materials and procedures.

#### **Architectural or Historical Significance**

Evaluating the architectural or historical significance of windows is the first step in planning for window treatments, and a general understanding of the function and history of windows is vital to making a proper evaluation. As a part of this evaluation, one must consider four basic window functions: admitting light to the interior spaces, providing fresh air and ventilation to the interior, providing a visual link to the outside world, and enhancing the appearance of a building. No single factor can be disregarded when planning window treatments;



Windows are frequently important visual focal points, especially on simple facades such as this mill building. Replacement of the multi-pane windows with larger panes could dramatically alter the appearance of the building. Photo: NPS files. for example, attempting to conserve energy by closing up or reducing the size of window openings may result in the use of *more* energy by increasing electric lighting loads and decreasing passive solar heat gains.

Historically, the first windows in early American houses were casement windows; that is, they were hinged at the side and opened outward. In the beginning of the eighteenth century single- and double-hung windows were introduced. Subsequently many styles of these vertical sliding sash windows have come to be associated with specific building periods or architectural styles, and this is an important consideration in determining the significance of windows, especially on a local or regional basis. Site-specific, regionally oriented architectural comparisons should be made to determine the significance of windows in question. Although such comparisons may focus on specific window types and their details, the ultimate determination of significance should be made within the context of the whole building, wherein the windows are one architectural element.

After all of the factors have been evaluated, **windows should be considered significant to a building if they: 1)** are original, **2)** reflect the original design intent for the building, **3)** reflect period or regional styles or building practices, **4)** reflect changes to the building resulting from major periods or events, or **5)** are examples of exceptional craftsmanship or design. Once this evaluation of significance has been completed, it is possible to proceed with planning appropriate treatments, beginning with an investigation of the physical condition of the windows.

#### **Physical Evaluation**

The key to successful planning for window treatments is a careful evaluation of existing physical conditions on a unit-by-unit basis. A graphic or photographic system may be devised to record existing conditions and illustrate the scope of any necessary repairs. Another effective tool is a window schedule which lists all of the parts of each window unit. Spaces by each part allow notes on existing conditions and repair instructions. When such a schedule is completed, it indicates the precise tasks to be performed in the repair of each unit and becomes a part of the specifications. In any evaluation, one should note at a minimum:

- 1) window location
- 2) condition of the paint
- 3) condition of the frame and sill
- 4) condition of the sash (rails, stiles and muntins)
- 5) glazing problems
- 6) hardware, and
- 7) the overall condition of the window (excellent, fair, poor, and so forth)

Many factors such as poor design, moisture, vandalism, insect attack, and lack of maintenance can contribute to window deterioration, but moisture is the primary contributing factor in wooden window decay. All window units should be inspected to see if water is entering around the edges of the frame and, if so, the joints or seams should be caulked to eliminate this danger. The glazing putty should be checked for cracked, loose, or missing sections which allow water to saturate the wood, especially at the joints. The back putty on the interior side of the pane should also be inspected, because it creates a seal which prevents condensation from running down into the joinery. The sill should be examined to insure that it slopes downward away from the building and allows water to drain off. In addition, it may be advisable to cut a dripline along the underside of the sill. This almost invisible treatment will insure proper water runoff, particularly if the bottom of the sill is flat. Any conditions, including poor original design, which permit water to come in contact with the wood or to puddle on the sill must be corrected as they contribute to deterioration of the window.

One clue to the location of areas of excessive moisture is the condition of the paint; therefore, each window should be examined for areas of paint failure. Since excessive moisture is detrimental to the paint bond, areas of paint blistering, cracking, flaking, and peeling usually identify points of water penetration, moisture saturation, and potential deterioration. Failure of the paint should not, however, be mistakenly interpreted as a sign that the wood is in poor condition and hence, irreparable. Wood is frequently in sound physical condition beneath unsightly paint. After noting areas of paint failure, the next step is to inspect the condition of the wood, particularly at the points identified during the paint examination.

Each window should be examined for operational soundness beginning with the lower portions of the frame and sash. Exterior rainwater and interior condensation can flow downward along the window, entering and collecting at points where the flow is blocked. The sill, joints between the sill and jamb, corners of the bottom rails and muntin joints are typical points where water collects and deterioration begins. The operation of the window (continuous opening and closing over the years and seasonal temperature changes) weakens the joints, causing movement and slight separation. This process makes the joints more vulnerable to water which is readily absorbed into the endgrain of the wood. If severe deterioration exists in these areas, it will usually be apparent on visual inspection, but other less severely deteriorated areas of the wood may be tested by two traditional methods using a small ice pick.



Deterioration of poorly maintained windows usually begins on horizontal surfaces and at joints, where water can collect and saturate the wood. Photo: NPS files.

An ice pick or an awl may be used to test wood for soundness. The

technique is simply to jab the pick into a wetted wood surface at an angle and pry up a small section of the wood. Sound wood will separate in long fibrous splinters, but decayed wood will lift up in short irregular pieces due to the breakdown of fiber strength.

Another method of testing for soundness consists of pushing a sharp object into the wood, perpendicular to the surface. If deterioration has begun from the hidden side of a member and the core is badly decayed, the visible surface may appear to be sound wood. Pressure on the probe can force it through an apparently sound skin to penetrate deeply into decayed wood. This technique is especially useful for checking sills where visual access to the underside is restricted.

Following the inspection and analysis of the results, the scope of the necessary repairs will be evident and a plan for the rehabilitation can be formulated. Generally the actions necessary to return a window to "like new" condition will fall into three broad categories: **1** routine maintenance procedures, **2**) structural stabilization, and **3**) parts replacement. These categories will be discussed in the following sections and will be referred to respectively as **Repair Class I**, **Repair Class II**, and **Repair Class III.** Each successive repair class represents an increasing level of difficulty, expense, and work time. Note that most of the points mentioned in Repair Class I are routine maintenance items and should be provided in a regular maintenance program for any building. The neglect of these routine items can contribute to many common window problems.

Before undertaking any of the repairs mentioned in the following sections all sources of moisture penetration should be identified and eliminated, and all existing decay fungi destroyed in order to arrest the deterioration process. Many commercially available fungicides and wood preservatives are toxic, so it is extremely important to follow the manufacturer's recommendations for application, and store all chemical materials away from children and animals. After fungicidal and preservative treatment the windows may be stabilized, retained, and restored with every expectation for a long service life.

#### **Repair Class I: Routine Maintenance**

Repairs to wooden windows are usually labor intensive and relatively uncomplicated. On small scale projects this allows the do-it-yourselfer to save money by repairing all or part of the windows. On larger projects it presents the opportunity for time and money which might otherwise be spent on the removal and replacement of existing windows, to be spent on repairs, subsequently saving all or part of the material cost of new window units. Regardless of the actual costs, or who performs the work, the evaluation process described earlier will provide the knowledge from which to specify an appropriate work program, establish the work element priorities, and identify the level of skill needed by the labor force.

The routine maintenance required to upgrade a window to "like new"



After removing paint from the seam between the interior stop and the jamb, the stop can be pried out and gradually worked loose using a pair of putty knives as shown. Photo: NPS files.

condition normally includes the following steps: 1) some degree of interior and exterior paint removal, 2) removal and repair of sash (including reglazing where necessary), 3) repairs to the frame, 4) weatherstripping and

reinstallation of the sash, and 5) repainting. These operations are illustrated for a typical double-hung wooden window, but they may be adapted to other window types and styles as applicable.

Historic windows have usually acquired many layers of paint over time. Removal of excess layers or peeling and flaking paint will facilitate operation of the window and restore the clarity of the original detailing. Some degree of paint removal is also necessary as a first step in the proper surface preparation for subsequent refinishing (if paint color analysis is desired, it should be conducted prior to the onset of the paint removal). There are several safe and effective techniques for removing paint from wood, depending on the amount of paint to be removed.

Paint removal should begin on the interior frames, being careful to remove the paint from the interior stop and the

parting bead, particularly along the seam where these stops meet the jamb. This can be accomplished by running a utility knife along the length of the seam, breaking the paint bond. It will then be much easier to remove the stop, the parting bead and the sash. The interior stop may be initially loosened from the sash side to avoid visible scarring of the wood and then gradually pried loose using a pair of putty knives, working up

and down the stop in small increments. With the stop removed, the lower or interior sash may be withdrawn. The sash cords should be detached from the sides of the sash and their ends may be pinned with a nail or tied in a knot to prevent them from falling into the weight pocket.



Sash can be removed and repaired in a convenient work area. Pain is being removed from this sash with a hot air gun. Photo: NPS files.

Removal of the upper sash on double-hung units is similar but the parting bead which holds it in place is set into a groove in the center of the stile and is thinner and more delicate than the interior stop. After removing any paint



This historic double-hung window has many layers of paint, some cracked and missing putty, slight separation at the joints, broken sash cords, and one cracked pane. Photo: NPS files.

along the seam, the parting bead should be carefully pried out and worked free in the same manner as the interior stop. The upper sash can be removed in the same manner as the lower one and both sash taken to a convenient work area (in order to remove the sash the interior stop and parting bead need only be removed from one side of the window). Window openings can be covered with polyethylene sheets or plywood sheathing while the sash are out for repair.

The sash can be stripped of paint using appropriate techniques, but if any heat treatment is used, the glass should be removed or protected from the sudden temperature change which can cause breakage. An overlay of aluminum foil on gypsum board or asbestos can protect the glass from such rapid temperature change. It is important to protect the glass because it may be historic and often adds character to the window. Deteriorated putty should be removed manually, taking care not to damage the wood along the rabbet. If the glass is to be removed, the glazing points which hold the glass in place can be extracted and the panes numbered and removed for cleaning and reuse in the same openings. With the glass panes out, the remaining putty can be removed and the sash can be sanded, patched, and primed with a preservative primer. Hardened putty in the rabbets may be softened by heating with a soldering iron at the point of removal. Putty remaining on the glass may be softened by soaking the panes in linseed oil, and then removed with less risk of breaking the glass. Before reinstalling the glass, a bead of glazing compound or linseed oil putty should be laid around the rabbet to cushion and seal the glass. Glazing compound should only be used on wood which has been brushed with linseed oil and primed with an oil based primer or paint. The pane is then pressed into place and the glazing points are pushed into the wood around the perimeter of the pane.

The final glazing compound or putty is applied and beveled to complete the seal. The sash can be refinished as desired on the inside and painted on the outside as soon as a "skin" has formed on the putty, usually in 2 or 3 days. Exterior paint should cover the beveled glazing compound or putty and lap over onto the glass slightly to complete a weather-tight seal. After the proper curing times have elapsed for paint and putty, the sash will be ready for reinstallation.

While the sash are out of the frame, the condition of the wood in the jamb and sill can be evaluated. Repair and refinishing of the frame may proceed concurrently with repairs to the sash, taking advantage of the curing times for the paints and putty used on the sash. One of the most common work items is the replacement of the sash



Following the relatively simple repairs, the window is weathertight, like new in appearance, and serviceable for many years to come. Photo: NPS files.

cords with new rope cords or with chains. The weight pocket is frequently accessible through a door on the face of the frame near the sill, but if no door exists, the trim on the interior face may be removed for access. Sash weights may be increased for easier window operation by elderly or handicapped persons. Additional repairs to the frame and sash may include consolidation or replacement of deteriorated wood. Techniques for these repairs are discussed in the following sections.

The operations just discussed summarize the efforts necessary to restore a window with minor deterioration to "like new" condition. The techniques can be applied by an unskilled person with minimal training and experience. To demonstrate the practicality of this approach, and photograph it, a Technical Preservation Services staff member repaired a wooden double-hung, two over two window which had been in service over ninety years. The wood was structurally sound but the window had one broken pane, many layers of paint, broken sash cords and inadequate, worn-out weatherstripping.

The staff member found that the frame could be stripped of paint and the sash removed quite easily. Paint, putty and glass removal required about one hour for each sash, and the reglazing of both sash was accomplished in about one hour. Weatherstripping of the sash and frame, replacement of the sash cords and reinstallation of the sash, parting bead, and stop required an hour and a half. These times refer only to individual operations; the entire process took several days due to the drying and curing times for putty, primer, and paint, however, work on other window units could have been in progress during these lag times.

#### **Repair Class II: Stabilization**

The preceding description of a window repair job focused on a unit which was operationally sound. Many windows will show some additional degree of physical deterioration, especially in the vulnerable areas mentioned earlier, but even badly damaged windows can be repaired using simple processes. Partially decayed wood can be waterproofed, patched, built-up, or consolidated and then painted to achieve a sound condition, good appearance, and greatly extended life. Three techniques for repairing partially decayed or weathered wood are discussed in this section, and all three can be accomplished using products available at most hardware stores.

One established technique for repairing wood which is split, checked or shows signs of rot, is to: 1) dry the wood, 2) treat decayed areas with a fungicide, 3) waterproof with two or three applications of boiled linseed oil (applications every 24 hours), 4) fill cracks and holes with putty, and 5) after a "skin" forms on the putty, paint the surface. Care should be taken with the use of fungicide which is toxic. Follow the manufacturers' directions and use only on areas which will be painted. When using any technique of building up or patching a flat surface, the finished surface should be sloped slightly to carry water away from the window and not allow it to puddle. Caulking of the joints between the sill and the jamb will help reduce further water penetration.



This illustrates a two-part epoxy patching compound used to fill the surface of a weathered sill and rebuild the missing edge. When the epoxy cures, it can be sanded smooth and painted to achieve a durable and waterproof repair. Photo: NPS files.

When sills or other members exhibit surface weathering they may also be built-up using wood putties or homemade mixtures such as sawdust and resorcinol glue, or whiting and varnish. These mixtures can be built up in successive layers, then sanded, primed, and painted. The same caution about proper slope for flat surfaces applies to this technique.

Wood may also be strengthened and stabilized by consolidation, using semirigid epoxies which saturate the porous decayed wood and then harden. The surface of the consolidated wood can then be filled with a semirigid epoxy patching compound, sanded and painted. Epoxy patching compounds can be used to build up missing sections or decayed ends of members. Profiles can be duplicated using hand molds, which are created by pressing a ball of patching compound over a sound section of the profile which has been rubbed with butcher's wax. This can be a very efficient technique where there are many typical repairs to be done. The process has been widely used and proven in marine applications; and proprietary products are available at hardware and marine supply stores. Although epoxy

materials may be comparatively expensive, they hold the promise of being among the most durable and long lasting materials available for wood repair. More information on epoxies can be found in the publication "Epoxies for Wood Repairs in Historic Buildings," cited in the bibliography.

Any of the three techniques discussed can stabilize and restore the appearance of the window unit. There are times, however, when the degree of deterioration is so advanced that stabilization is impractical, and the only way to retain some of the original fabric is to replace damaged parts.

#### **Repair Class III: Splices and Parts Replacement**

When parts of the frame or sash are so badly deteriorated that they cannot be stabilized there are methods which permit the retention of some of the existing or original fabric. These methods involve replacing the deteriorated parts with new matching pieces, or splicing new wood into existing members. The techniques require more skill and are more expensive than any of the previously discussed alternatives. It is necessary to remove the sash and/or the affected parts of the frame and have a carpenter or woodworking mill reproduce the damaged or missing parts. Most millwork firms can duplicate parts, such as muntins, bottom rails, or sills, which can then be incorporated into the existing window, but it may be necessary to shop around because there are several factors controlling the practicality of this approach. Some woodworking mills do not like to repair old sash because nails or other foreign objects in the sash can damage expensive knives (which cost far more than their profits on small repair jobs); others do not have cutting knives to duplicate muntin profiles. Some firms prefer to concentrate on larger jobs with more profit potential, and some may not have a craftsman who can duplicate the parts. A little searching should locate a firm which will do the job, and at a reasonable price. If such a firm does not exist locally, there are firms which undertake this kind of repair and ship nationwide. It is possible, however, for the advanced do-it-yourselfer or craftsman with a table saw to duplicate moulding profiles using techniques discussed by Gordie Whittington in "Simplified Methods for Reproducing Wood Mouldings," Bulletin of the Association for Preservation Technology, Vol. III, No. 4, 1971, or illustrated more recently in The Old House, Time-Life Books, Alexandria, Virginia, 1979.

The repairs discussed in this section involve window frames which may be in very deteriorated condition, possibly requiring removal; therefore, caution is in order. The actual construction of wooden window frames and sash is not complicated. Pegged mortise and tenon units can be disassembled easily, if the units are out of the building. The installation or connection of some frames to the surrounding structure, especially masonry walls, can complicate the work immeasurably, and may even require dismantling of the wall. It may be useful, therefore, to take the following approach to frame repair: **1**) conduct regular maintenance of sound frames to achieve the longest life possible, **2**) make necessary repairs in place, wherever possible, using stabilization and splicing techniques, and **3**) if removal is necessary, thoroughly investigate the structural detailing and seek appropriate professional consultation.

Another alternative may be considered if parts replacement is required, and that is sash replacement. If extensive replacement of parts is necessary and the job becomes prohibitively expensive it may be more practical to purchase new sash which can be installed into the existing frames. Such sash are available as exact custom reproductions, reasonable facsimiles (custom windows with similar profiles), and contemporary wooden sash which are similar in appearance. There are companies which still manufacture high quality wooden sash which would duplicate most historic sash. A few calls to local building suppliers may provide a source of appropriate replacement sash, but if not, check with local historical associations, the state historic preservation office, or preservation related magazines and supply catalogs for information.

If a rehabilitation project has a large number of windows such as a commercial building or an industrial complex, there may be less of a problem arriving at a solution. Once the evaluation of the windows is completed and the scope of the work is known, there may be a potential economy of scale. Woodworking mills may be interested in the work from a large project; new sash in volume may be considerably less expensive per unit; crews can be assembled and trained on site to perform all of the window repairs; and a few extensive repairs can be absorbed (without undue burden) into the total budget for a large number of sound windows. While it may be expensive for the average historic home owner to pay seventy dollars or more for a mill to grind a custom knife to duplicate four or five bad muntins, that cost becomes negligible on large commercial projects which may have several hundred windows.

Most windows should not require the extensive repairs discussed in this section. The ones which do are usually in buildings which have been abandoned for long periods or have totally lacked maintenance for years. It is necessary

to thoroughly investigate the alternatives for windows which do require extensive repairs to arrive at a solution which retains historic significance and is also economically feasible. Even for projects requiring repairs identified in this section, if the percentage of parts replacement per window is low, or the number of windows requiring repair is small, repair can still be a cost effective solution.

#### Weatherization

A window which is repaired should be made as energy efficient as possible by the use of appropriate weatherstripping to reduce air infiltration. A wide variety of products are available to assist in this task. Felt may be fastened to the top, bottom, and meeting rails, but may have the disadvantage of absorbing and holding moisture, particularly at the bottom rail. Rolled vinyl strips may also be tacked into place in appropriate locations to reduce infiltration. Metal strips or new plastic spring strips may be used on the rails and, if space permits, in the channels between the sash and jamb. Weatherstripping is a historic treatment, but old weatherstripping (felt) is not likely to perform very satisfactorily. Appropriate contemporary weatherstripping should be considered an integral part of the repair process for windows. The use of sash locks installed on the meeting rail will insure that the sash are kept tightly closed so that the weatherstripping will function more effectively to reduce infiltration. Although such locks will not always be historically accurate, they will usually be viewed as an acceptable contemporary modification in the interest of improved thermal performance.

Many styles of storm windows are available to improve the thermal performance of existing windows. The use of exterior storm windows should be investigated whenever feasible because they are thermally efficient, cost-effective, reversible, and allow the retention of original windows (see "Preservation Briefs: 3"). Storm window frames may be made of wood, aluminum, vinyl, or plastic; however, the use of unfinished aluminum storms should be avoided. The visual impact of storms may be minimized by selecting colors which match existing trim color. Arched top storms are available for windows with special shapes. Although interior storm windows appear to offer an attractive option for achieving double glazing with minimal visual impact, the potential for damaging condensation problems must be addressed. Moisture which becomes trapped between the layers of glazing can condense on the colder, outer prime window, potentially leading to deterioration. The correct approach to using interior storms is to create a seal on the interior storm while allowing some ventilation around the prime window. In actual practice, the creation of such a durable, airtight seal is difficult.

#### Window Replacement

Although the retention of original or existing windows is always desirable and this Brief is intended to encourage that goal, there is a point when the condition of a window may clearly indicate replacement. The decision process for selecting replacement windows should not begin with a survey of contemporary window products which are available as replacements, but should begin with a look at the windows which are being replaced. Attempt to understand the contribution of the window(s) to the appearance of the facade including: **1**) the pattern of the openings and their size; **2**) proportions of the frame and sash; **3**) configuration of window panes; **4**) muntin profiles; **5**) type of wood; **6**) paint color; **7**) characteristics of the glass; and **8**) associated details such as arched tops, hoods, or other decorative elements. Develop an understanding of how the window reflects the period, style, or regional characteristics of the building, or represents technological development.

Armed with an awareness of the significance of the existing window, begin to search for a replacement which retains as much of the character of the historic window as possible. There are many sources of suitable new windows. Continue looking until an acceptable replacement can be found. Check building supply firms, local

woodworking mills, carpenters, preservation oriented magazines, or catalogs or suppliers of old building materials, for product information. Local historical associations and state historic preservation offices may be good sources of information on products which have been used successfully in preservation projects.

Consider energy efficiency as one of the factors for replacements, but do not let it dominate the issue. Energy conservation is no excuse for the wholesale destruction of historic windows which can be made thermally efficient by historically and aesthetically acceptable means. In fact, a historic wooden window with a high quality storm window added should thermally outperform a new double-glazed metal window which does not have thermal breaks (insulation between the inner and outer frames intended to break the path of heat flow). This occurs because the wood has far better insulating value than the metal, and in addition many historic windows have high ratios of wood to glass, thus reducing the area of highest heat transfer. One measure of heat transfer is the U-value, the number of Btu's per hour transferred through a square foot of material. When comparing thermal performance, the lower the U-value the better the performance. According to ASHRAE 1977 Fundamentals, the U-values for single glazed wooden windows range from 0.88 to 0.99. The addition of a storm window should reduce these figures to a range of 0.44 to 0.49. A non-thermal break, double-glazed metal window has a U-value of about 0.6.

#### Conclusion

Technical Preservation Services recommends the retention and repair of original windows whenever possible. We believe that the repair and weatherization of existing wooden windows is more practical than most people realize, and that many windows are unfortunately replaced because of a lack of awareness of techniques for evaluation, repair, and weatherization. Wooden windows which are repaired and properly maintained will have greatly extended service lives while contributing to the historic character of the building. Thus, an important element of a building's significance will have been preserved for the future.

#### **Additional Reading**

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Washington, D.C. 1981

# **APPENDIX D:**

INTERPRETIVE PANEL INVENTORY

# **Interpretive Panel Inventory**

## PANELS DISPLAYED OUTDOORS

1. Welcome to Independence Mine State Historical Park (one below at parking and one in six-panel kiosk above near visitor center) presents a brief overview of Independence Mine's history and some activities that the park offers.





2. Hatcher Pass: provides the visitor with an orientation to the larger Hatcher Pass area, brief descriptions of three well-travelled trails and camping opportunities.



*3. Independence Mine through Time:* gives visitors a snapshot of history with a timeline that includes major worldwide events, major developments in Alaska and the history of Independence Mine.



4. *The Language of Mining:* provides definitions for mining-specific vocabulary with visual representations in the form of a matching game that indirectly encourages interaction among visitors.



*5. The Gold Flows In*: discusses the geological events that contributed to the formation of the goldbearing Talkeetna Mountains over millions of years.



6. Getting the Gold: provides an overview of the two methods of gold mining—placer and hard-rock.



7. Boomtown: tells of the settlement at Independence Mine that resulted from the mine's management accommodating married men and their families and of daily life in this growing family community.



8. The Big House: introduces the visitor to the building that is now used as a visitor contact center by providing the structure's background and acquainting the visitor with the mine's general manager and his family who once lived in the house.



*9. No.2 Bunkhouse:* describes how the prosperity of the mining enterprise at Independence resulted in the construction of a second bunkhouse accommodating 50 additional men and discusses the building's layout including the room on the first floor used as the camp's movie theater.



- 10. Framing Shop: describes the work done in this building in cutting and fitting large timbers for supporting the underground workings of the mine and other construction projects and the official and unofficial work of Lester Davis, the framing shop foreman, for both the mine and the community that grew around the mine.
- 11. No.1 Bunkhouse: describes the first bunkhouse constructed at Independence Mine and gives the visitor a glimpse into the leisure time of the mine workers accommodated there.



12. Engineering Office & Warehouse: emphasizes the work of the engineers who used this building and provides a short overview of other functions served by this building during the development of Independence camp.



13. School's in Session: tells the story of the need of a school for the children of the married miners, and the manner in which this need was met. It also gives the visitor a glimpse into daily life for families at Independence Mine.



14. People of the Independence: gives the visitor a glimpse of the people that lived and worked at Independence Mine over the course of its operation including general managers, miners and muckers, senior mining engineers, truckers, and mining foremen.



#### 15. Two Panels:

*A) Hidden:* orients the visitor to the natural and mining features on Skyscraper Peak and provides informational tidbits on each of the highlighted features.

*B) Histories:* orients the visitor to the natural and mining features on Granite Mountain and provides informational tidbits on each of the highlighted features.



#### 16. Two Panels:

A) Ounces of Gold from: verbally describes the gold extraction process that took place at the Mill Complex including ore sorting, ore crushing, amalgamation, and flotation

*B) Mountains of Rock:* visually describes the process of separating gold from waste rock and provides a short list of "Gold Facts" related to Independence mine.



17. Original Cookhouse & Bunkhouse: describes the significance of the construction of the original cookhouse in transforming Independence Min into a permanent, year-round operation and tells of the different uses of this building through the years until it burned down in the 1960s.



18. Mine Office & Commissary: covers the construction and the functions of this building in the general mining operations and administration and the role it played in the area's mining community.



*19. Apartment House:* gives the visitor a brief history of the apartment house including who built it, when it was built, who lived there, and what the apartments were like.



20. "New" Cookhouse & Mess Hall: explains the need for a "new" Cookhouse and Mess Hall and gives the visitor a vivid picture of the cookhouse's components and its daily operation along with a description of the food served daily to the mine workers and an appreciation for the importance of this building and the cooks who worked there.



21. Pipe Sheet Metal and Electric: describes a building that was adapted to function as pipe, sheet metal, and electric shops to help cut the cost and time of getting supplies shipped from Seattle, WA.



- 22. *Mine Shops:* details the work accomplished in the mine shops and the benefits these shops provided due to their location and the work that could be done there, as well as their ability to accommodate the locomotive near enough to expedite the loading and unloading of mining equipment.
- *23. The Powerhouse:* acquaints the visitor with the role of the Powerhouse in meeting the power demands of a mining complex that was both large and remote.
- 24. Sorting Ore Increased Profits: helps visitors appreciate the importance of the sorting plant to the success of Independence Mine and describes the process of sorting the coarse ore and fine ore, and the gold-bearing quartz and granitic waste rock.



25. Assay Office: succinctly explains the two main functions of this building in the mining process testing and retorting. The testing process, the workers, and the end product of the process at Independence Mine are also highlighted in this panel.



*26. Cool, Damp, Dark and Loud:* describes the underground work at Independence Mine—the mining and the mucking—, the underground conditions, and how the workers were compensated in terms of vacations and holidays.



27. *Mine Train:* explains the significance of the mine train to the productivity of the mine and its role in the mining operation contrasted to what had been done before the train and water tunnel were developed and implemented.



28. Sights, Sounds & Smells of the Independence: vividly describes the sensory experience of daily life at Independence Mine during its functioning years and tells of the silence that took over after the federal government effectively ended the area's mining operations during World War II.



29. Willow Creek Mining District: provides a synopsis of the mining history of the Willow Creek Mining District from establishment, through placer mining, and finally the placement and development of hard-rock mining claims.



*30. "Water Tunnel":* discusses what the water tunnel was, what its function was, how it affected the underground mining operation, and what its origin was.



*31. Echoes of Independence:* A brief history of Independence Mine from the discovery of gold through peak production and mine closure to present.



**APPENDIX E:** 

PUBLIC SCOPING SURVEY RESULTS DECEMBER 1, 2010 – JANUARY 30, 2011 (50 PARTICIPANTS)

	Very Important	Somewhat Important	Important	Neutral	Not Important	Not Useful to Interpret
Independence Mine Extraction Process	63%	10%	20%	8%	0%	0%
Building Restoration	62%	21%	13%	5%	0%	0%
<b>Recreational Use as a State Park</b>	59%	15%	13%	8%	5%	0%
Independence Mine Social Life	48%	25%	23%	5%	0%	0%
Area Use as a Ski Resort	33%	21%	15%	18%	13%	0%
Native Alaskan Area History	31%	15%	20%	23.%	5%	5%
World War II Impacts to Mining Industry	16%	30%	43%	11%	0%	0%
Native Alaska Land Use	28%	13%	18%	23%	10%	8%
Independence Mine Business Protocol	21%	23%	23%	26%	8%	3%
General Alaska Mining	18%	18%	41%	21%	3%	0%
General Political History of Alaska	10%	15%	33%	30%	5%	8%

Rate the importance of presenting the following historic themes at Independence Mine State Historical Park.

# Identify the most effective ways to communicate historic significance to visitors.

	Should not be used	Not Effective	Neutral	Somewhat Effective	Effective	Very Effective
Special Tours/Topics	3%	0%	10%	8%	35%	45%
Signs/Interpretive Panels	0%	3%	0%	15%	51%	31%
Personal Interpretation	0%	3%	8%	18%	29%	42%
Outreach to area schools	0%	5%	21%	10%	39%	26%
Web-based Devices	0%	5%	18%	28%	36%	13%
Brochures	5%	5%	15%	21%	41%	13%
Audio Devices	8%	8%	10%	33%	28%	13%

Specify the buildings with the greatest reuse potential. Reuse is in the broadest sense possible including possible commercial, visitor contact, rental, operational or seasonal use by Parks, contractors, and/or renters (highest possible rating average is 13).

	Lowest Reuse Potential	2	£	4	ß	9	7	Ø	6	10	11	12	Greatest Reuse Potential	Rating Average
Bunkhouse No. 1	0%	0%	4%	4%	4%	4%	7%	11%	4%	7%	21%	21%	14%	9.82
Manager's House	4%	4%	0%	0%	0%	11%	7%	18%	7%	7%	7%	4%	32%	9.43
Bunkhouse No. 2	7%	4%	4%	0%	4%	4%	11%	7%	7%	14%	14%	18%	7%	8.68
Assay Office	0%	0%	7%	3%	3%	14%	7%	14%	14%	14%	10%	14%	0%	8.34
Apartment Building	0%	11%	7%	7%	4%	4%	14%	4%	11%	11%	7%	4%	18%	7.96
Mess Hall	0%	4%	7%	4%	4%	18%	25%	11%	4%	4%	0%	11%	11%	7.64
Engineering Office	4%	0%	0%	7%	11%	14%	14%	18%	11%	7%	4%	7%	4%	7.54
Mine Office	0%	7%	7%	11%	15%	11%	4%	15%	15%	7%	4%	0%	4%	6.63
Mine Shops	0%	7%	22%	22%	7%	4%	4%	4%	22%	0%	4%	4%	0%	5.70
Mill Complex	16%	16%	24%	4%	12%	4%	4%	4%	0%	0%	4%	4%	8%	4.76
Framing Shop	14%	7%	10%	21%	24%	10%	3%	0%	3%	3%	0%	3%	0%	4.55
Trestle	19%	30%	4%	4%	15%	7%	0%	0%	4%	15%	4%	0%	0%	4.44
Water Tunnel	39%	14%	7%	11%	4%	0%	4%	0%	4%	4%	11%	4%	0%	4.04

	Lowest Reuse Potential	2	m	4	ы	9	7	œ	б	10	11	12	Greatest Reuse Potential	Rating Average
Mill Complex	4%	0%	4%	0%	11%	0%	7%	4%	11%	4%	4%	18%	36%	9.96
Assay Office	0%	4%	0%	4%	8%	4%	8%	8%	4%	0%	19%	23%	19%	9.73
Manager's House	0%	4%	11%	11%	4%	4%	11%	4%	15%	4%	11%	7%	15%	8.07
Engineering Office	0%	0%	0%	4%	27%	15%	8%	4%	8%	15%	15%	4%	0%	7.65
Mess Hall	0%	4%	8%	8%	8%	12%	8%	19%	8%	12%	4%	8%	4%	7.46
Trestle	7%	15%	7%	0%	7%	11%	0%	7%	11%	0%	15%	19%	0%	7.07
Mine Office	4%	8%	4%	8%	4%	4%	23%	12%	15%	12%	0%	8%	0%	7.04
Water Tunnel	19%	7%	7%	7%	4%	0%	4%	4%	7%	11%	11%	4%	15%	6.96
Mine Shops	11%	7%	15%	4%	0%	15%	7%	4%	4%	19%	4%	4%	7%	6.56
Bunkhouse No. 1	4%	15%	19%	4%	7%	7%	7%	11%	4%	4%	15%	4%	0%	6.04
Bunkhouse No. 2	11%	15%	11%	7%	4%	11%	11%	4%	4%	22%	0%	0%	0%	5.52
Framing Shop	8%	8%	4%	31%	12%	12%	4%	15%	0%	4%	4%	0%	0%	5.15
Apartment Building	22%	11%	7%	15%	4%	7%	4%	11%	11%	0%	4%	4%	0%	4.89

Specify the buildings with greatest value for interpretive purposes (highest possible rating average is 13).

# Identify appropriate uses for the following buildings/areas.

- Manager's House:(1) Lodging (2) Offices (3) Interpretation, Specials Schools for Avalanche and Snow Science (4) Interpretation (5) Visitor<br/>Center, Interpretation (6) Interpretation (7) Visitor Center (8) Information Center and Gift Shop (9) Visitor Center (10)<br/>Museum space (11) I do not know (12) Interpretation (13) Visitor Center (14) Visitor Center
- Mess Hall :(1) Interpretation and Commercial (2) Summer tourist spending time and money (3) Large events, Socials, Banquets,<br/>Restaurant and Classes (4) Meetings and dinners (5) Meeting rooms, bowling alley (6) Tours, interpretation, conferences<br/>(7) Interpretation , Season Operations for Parks, Commercial/Rental (8)This is part of the tour (9) Special events and

lecture hall (10) Interpretation (11) Restaurant (12) Reuse as a mess hall incorporating some original recipes used during mining operation (13) Event Space and Restaurant (14) Stop on the interpretive walk; interpretive signage (15) Restaurant, Day Lodge, Retreat Center, Dinner Theater

- Bunkhouse No. 1:(1) Interpretation and Lodging (2) Workers (3) Bus Tour Accommodations, Bed and Breakfast (4) Meeting space rentals<br/>(5) Meeting room, Youth hostel, overnight opportunities (6) Interpretation, displays, tours, housing groups (7)<br/>Interpretation, Parks Seasonal Operations, Commercial, Rental (8) Tours and Housing for special events (9)<br/>Hostel/Lodging for year-round guests (10) Lodging (11) Winter Hostel (12) Bunkhouse (13) Stop on interpretive walk; "no<br/>frills" lodging for skiers (14) Hostel, hotel or bed and breakfast
- Bunkhouse No. 2:(1) Lodging (2) Hikers and Skiers spending more time (3) Skiing Outings, Teen Summer Camp (4) Meeting room, Youth<br/>Hostel, Overnight Opportunities (5) Tours, Housing groups, Housing Park Staff, Meetings, Conference, Avalanche<br/>Training (5) Interpretation, Commercial/Rental, Seasonal Park Operations (6) Interpretation (7) Lodging (8) Winter Hostel<br/>(9) Bunkhouse (10) Stop on interpretive walk; "no frills" lodging for skiers (11) Hostel, overnight tour accommodations
- Framing Shop:(1) commercial (2) Rework to use as restoration headquarters (3) Interpretation (4) Interpretation (5) Probably junk (6)<br/>Interpretation (7) Store (8) Interpretation (9) Storage/Maintenance Shop (10) Interpretation
- Apartment House:(1) Lodging and Commercial (2) Same as Bunkhouse (3) Scientific Research (4) Interpretation (5) Interpretation, Seasonal<br/>Park Operations, Commercial/Rental (6) Tours (7) Visitor/Overnight Housing (8) Staff Quarters (9) Winter Hostel (10)<br/>Rental Unit (11) Interpretive Signage (12) Staff Apartments/Hotel
- Mine Office:(1) Interpretation (2) Have someone in charge of activities (3) Administrative Uses for all the Complex (4) Interpretation<br/>and Displays (5) Interpretation, Seasonal Park Operations, Commercial and Rental (6) Warehouse (7) Concessions/Food<br/>(8) Reuse as office to mange hostels and mess hall (9) Sandwich shop, Coffee House, Office Space, Retail (10) Outside<br/>and Inside stop on interpretive walks (11) Museum, Administrative Offices, Tour Office, Realtor's Office
- Assay Office: (1) Interpretation (2) Not much unless mining is permitted (3) Use of Geology/Mineralogy Education (4) Mining, Gold Weighing, History (5) Interpretive Displays (6) Interpretation and Parks Seasonal Operations (7) Tours (8) Interpretation, education, science related aspects(show people how assaying minerals was done "back in the day") (9) Interpretation (10) Interpretation, Office Space, Retail (11) Outside and Inside stop on Interpretive walk (12) Interactive science/imaginarium, museum
| Mine Shops:   | <ol> <li>Interpretation (2) Educating tourist with visual posters for sale (3) Rebuild to original specifications (4) This is another area that people hope to see – part of the draw to the mine (5) What could people buy (6) Interpretation and Displays (7) Concession area and Gift Shop (8) Interpretation and Education (9) Interpretation (10) Sandwich Shop, Coffee House, Office Space, Retail (11) Interpretive Signage (12) Resort Style Shops</li> </ol>                                                                                                                                                                                                        |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water Tunnel: | (1) Interpretation (2) Upgrade Water System and Roads (3) Access to underground tours (4) Potential tour revenue if<br>repaired – could be a regular train attraction (5) Interpretation (6) Underground Tours (7) Interpretation (8)<br>Underground tour to paying customers (9) Interpretation (10) Let people explore the inside (11) none (12) Interpretive<br>Signage                                                                                                                                                                                                                                                                                                   |
| Mill Complex: | (1) Interpretation (2) Rebuild for Interpretive Uses (3) This is an area people really hope to see – part of the draw to the mine (4) Interpretation of milling process (5) Interpretation (6) This should be stabilized immediately every winter I wonder if it will collapse the rest of the way. I have been all through it and there is a lot of machinery left inside to show visitors how they produced gold (7) Gold panning exhibit/experience area (8) Interpretation and Education (9) Should be restored to retain most important part (10) Let people mill (11) Interpretation (12) Interpretive Signage (13) Museum, Interactive Physics Concepts Demonstration |

#### Please specify other potential uses, ideas, or concepts that you feel are appropriate at Independence Mine.

(1) All for visitors (2) Upgrade all Plumbing, Heating, Water, Sewer and Electric Utilities to make it Code Compliant (3) Great location for winter warming uses for sledders and other visitors. Meeting room, overnight visiting - field trips, youth hostel - especially in the summer... (4) Engineering office and warehouse: use as seasonal equipment rental/storage, etc. Should determine if any (mine) tunnels are safe and offer tours and other mine recreation options. Should develop mountain biking, hiking, cross country skiing trails and other outdoor rec. options. Should work with local mining operations to offer tours of working small scale (post WWII) mines in the area. Helicopter tours would be really good!! The mining features on the ridge(s) should provide more interpretation options and be interesting to folks. Work with the cruise/tour providers to develop overnight excursion packets for the area. Something like bus to the park, lunch, self-guided tours, period style dinner, evening education seminar, overnight stay, breakfast, outdoor excursion in the Hatcher Pass area, lunch, back to town in the early pm. (5) winter ski hostels, summer camp space (history, outdoor exploration, geology, biology camps), special event rental space, interpretation, restaurants/food shops, ski rental/outdoor sports shop (6) plant identification walk with botanist; avalanche awareness classes; interpretive walk with a geologist; watercolors class painting workshop (7) group live action role playing games, mystery dinners, immersive tours, adventure tours, skiing, hiking/walking, nature walks/tours

	Not a Threat	Minor Threat	Major Threat	Terrifying
Neglect	0%	10%	35%	55%
Funding Needs	0%	0%	57%	43%
Weather	7%	20%	50%	23%
Maintenance Needs	0%	10%	48%	41%
Staffing Needs	4%	21%	61%	14%
Vandalism	7%	50%	27%	17%

Identify the greatest threats to historic resources at Independence Mine.

Identify the greatest needs at Independence Mine.

	Not Needed	Low Priority	Medium Priority	High Priority	Top Priority
Maintenance Funds	0%	0%	3%	40%	57%
<b>Building Rehabilitation</b>	0%	0%	10%	37%	53%
Maintenance Staff	0%	0%	37%	50%	23%
Interpretive/Management Staff	0%	3%	38%	36%	24%
Personal Visitor Contact	0%	13%	33%	33%	23%
Trail Maintenance	7%	17%	31%	38%	7%
New Building Uses	3%	20%	35%	31%	10%
Parking	10%	27%	43%	20%	0%
Special Events	3%	30%	43%	20%	3%

# **APPENDIX F:**

SECRETARY OF THE INTERIOR STANDARDS FOR PRESERVATION

## **Standards for Preservation**

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

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

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

### **Standards for Rehabilitation**

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

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

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

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

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

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

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

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

# **Standards for Restoration**

1. A property will be used as it was historically or be given a new use which reflects the property's restoration period.

2. Materials and features from the restoration period will be retained and preserved. The removal of materials or alteration of features, spaces, and spatial relationships that characterize the period will not be undertaken.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate and conserve materials and features from the restoration period will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Materials, features, spaces, and finishes that characterize other historical periods will be documented prior to their alteration or removal.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize the restoration period will be preserved.

6. Deteriorated features from the restoration period will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials.

7. Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence. A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically.

8. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

9. Archeological resources affected by a project will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

10. Designs that were never executed historically will not be constructed.

# **Standards for Reconstruction**

1. Reconstruction will be used to depict vanished or non-surviving portions of a property when documentary and physical evidence is available to permit accurate reconstruction with minimal conjecture and such reconstruction is essential to the public understanding of the property.

2. Reconstruction of a landscape, building, structure or object in its historic location will be preceded by a thorough archeological investigation to identify and evaluate those features and artifacts that are essential to an accurate reconstruction. If such resources must be disturbed, mitigation measures will be undertaken.

3. Reconstruction will include measures to preserve any remaining historic materials, features, and spatial relationships.

4. Reconstruction will be based on the accurate duplication of historic features and elements substantiated by documentary or physical evidence rather than on conjectural designs or the availability of different features from other historic properties. A reconstructed property will re-create the appearance of the nonsurviving historic property in materials, design, color and texture.

5. A reconstruction will be clearly identified as a contemporary re-creation.

6. Designs that were never executed historically will not be constructed.

# **APPENDIX G:**

ALASKA BUILDING INVENTORY FORM

# Alaska Building Inventory Form

Historic Name:		Other Name:		
Building Address:		City:		
Current Owner's Name and Address:				
USGS Quad Name and Map Sheet:	Section:	Township:	Range:	
GPS Coordinate (NAD83 Alaska):		UTM:		
		Zone Easting	Northing	
Historic Associations				
Historic Function and Sub-function:				
1	2.	3.	4.	
Current Function and Sub-function:				
1.	2.	3.	4.	
Significant Person(s):		Significant Dates		
1.	2.	1.	2.	
Architect, Builder, Contractor, Designer:		Original Owner:		
-		-		

#### **Architectural Information:**

Date of construction:	Date Moved:	Destruction Date:	Reconstruction Date:
Alteration Dates:			
1.	2.	3.	4.
Resource Type:		Stories	
Building Site Structure	Object	1.	2.

Architectural Style:		Building Type:				
Number of Ancillary Structures: Plan:		Cultural Affiliation:				
Foundation Materials:	Roof Materia	als:	Exterior Wall Materials:		Other Materials:	
1.	1.		1.		1.	
2.	2.		2.		2.	
Architectural Description (Include setting	g & outbuilding	<b>JS</b> ):(use continuation sheets)	Statement of Significance	: (use continuatio	on sheets)	
Eliaibility:			Criteria Considerations:			
Prepared by:		Reviewed by Professiona	I that meets the following Pr	ofessional Qu	alifications:	Date:
		Architect Architect	tural Historian 🔲 Historian	Historic A	rchitect 🗌 None	8/12/2010
SHPO Response:						
🗌 Eligible (Concur) 🔲 Eligible (Do Not Concur) 🔲 Not Eligible (Concur) 🔄 Not Eligible (Do Not Concur)						
Minor Recommendations and Comments Include:						
Need more information related to:	] Historic Con	text	ectural Description 🔲 Perio	od of Significa	nce	
Authorized Signature:			Date:	0		

# Alaska Building Inventory Form – Continuation Sheet

Page of

Historic Name	AHRS Number	Associated Historic District	City/Town/Village

# **APPENDIX H:**

CONDITION ASSESSMENT FORM

- 1. Common Name:
- 2. Historic Name:
- Designations: State Historical Landmark: National Register eligibility/listing: (code) ; date listed: Local listings:
- 4. State Park System Unit:
- 5. DPR Facility Number:
- 6. Borough:
- 7. USGS Quad (name, date, scale):
- 8. Township: Range: Base Meridian:
- 9. Land Grant:
- **10. UTM coordinates:** zone: m North; m East
- 11. Elevation:
- 12. Location/Address:
- 13.
   Surroundings:

   \_\_\_\_\_Open Land;
   \_\_\_\_\_Scattered Buildings;
   \_\_\_\_\_Densely Built-up
- 14. Approximate lot size (in feet):
- **15. Structure Dimensions (in feet):** long; wide; stories
- 16. Structure is: \_\_\_\_\_ on original site; \_\_\_\_\_ moved; \_\_\_\_\_ not known.
- 17. Architectural Style:

#### State of Alaska Department of Parks and Outdoor Recreation Condition Assessment Form

18. Briefly describe the present physical appearance and condition of the structure:

#### **19.** Alterations / Restorations:

- 20.
   Overall Condition (check one): \_\_\_\_Excellent; \_\_\_\_Good; \_\_\_\_Fair; \_\_\_\_Deteriorated; \_\_\_\_Ruins; \_\_\_\_Site only
- **21.** Threats to the structure (check all that apply): \_\_\_\_\_Deterioration; \_\_\_\_\_Fire; \_\_\_\_Pests; \_\_\_\_Collapse; \_\_\_\_Demolition; \_\_\_\_Vandalism; \_\_\_\_Intrusions; \_\_\_\_Other:

#### 22. Needed Maintenance and Repairs:

- 23. Related Structures or Outbuildings:
- 24. Architect:
- 25. Architectural Drawings:
- 26. Builder:
- 27. Construction Date:
- 28. Previous surveys, sources and references:

- 29. Present Use / Tenants:
- **30.** Historical Uses:

31. Briefly state historical and/or architectural importance (include dates, events, and persons associated with the site):

32. Main Theme of the historical resource (if more than one is checked, number in order of importance):

Architecture	Commerce	Social	Recreation
Agriculture	Technology	Education	Arts
Government	Mining	Exploration	Religion
Military	Industry	Settlement	other:

#### 33. Owner:

- 34. Recorded by:
- 35. Affiliation:

**36.** Attachments: \_\_\_\_Photographs; \_\_\_\_Site Location Map; \_\_\_\_Site/Lot Map; \_\_\_\_Floor Plan; \_\_\_\_Elevation(s); \_\_\_\_Architectural Supplement

#### ARCHITECTURAL SUPPLEMENT

#### 37. **Foundation Description:** Stone Brick Wood Concrete Mortared Unmortared Post Pier Continuous \_Skid \_\_\_Sill other: **Cellar Description:** 38. \_Stone, \_\_\_\_Concrete; Pit, lined with: \_Wood, \_\_\_\_Stairs; \_\_\_\_Ground level entrance from the \_\_\_\_\_ \_\_\_\_Remains of doorway present:

#### **39. Exterior Siding:**

- 40. Roof:
- 41. Windows:
- 42. Doors:

#### 43. Ceilings:

#### 44. Floors:

#### 45. Walls and Coverings:

#### 46. Paint Colors:

#### 47. Framing:

#### 48. Fireplaces:

#### 49. Built-in Features:

- **50. Hardware and Fixtures:**
- 51. Nail Types:
- **52. Lumber Dimensions:**
- 53. Brick Dimensions, Brands:
- 54. Furnishings and Artifacts:

55. Utilities:

- 56. Security Systems:
- 57. Landscaped Vegetation:
- 58. Gardens and Garden Furniture:
- 59. Natural Vegetation:

#### State of Alaska Department of Parks and Outdoor Recreation Condition Assessment Form

#### 60. Surface Modifications / Earthworks:

Dam	Ditch	Mound	Depression	Tunnel
Well	Trench	Terrace	Embankment	Pit
Retaining W	/all	Road		

#### 61. Walls and Fences:

#### 62. Pavement, Roads and Walkways:

63. Soil:

#### 64. Archaeological Deposits / Surface Artifacts:

65. Remarks:

66. Additional References:

67. Supplement Recorded By: Date:

# **APPENDIX I:**

**BUILDING SITE PLANS** 





Second Floor

5' 0 2.5' 5' 10' 20' Graphic Scale

Manager's House - Visitor Center Floor Plan



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Bunkhouse No. 2 - Visitor Orientation Center Floor Plan





Assay Office - Museum Floor Plan

# **APPENDIX J:**

UNIVERSITY OF ALASKA ANCHORAGE AGREEMENT

#### MEMORANDUM OF AGREEMENT

#### Between

The Alaska Division of Parks & Outdoor Recreation, Department of Natural Resources

and

The Archives & Manuscripts Department, University of Alaska Anchorage

Purpose:

This agreement is made for the long-term deposit of research materials relating to Independence Mine State Historical Park

The Alaska Division of Parks & Outdoor Recreation agrees to:

1. Place on long-term deposit with the Archives & Manuscripts Department those research papers, tapes, maps, photographs and negatives relating to Independence Mine State Historical Park.

The Archives & Manuscripts Department agrees to:

1. House the records under conditions that will provide for their security, provide archival care for them, and prepare an inventory to the collection before January 1, 1990. A copy of the inventory will be given to the Alaska Division of Parks & Outdoor Recreation.

2. Make the Independence Mine records accessible (during their regularly scheduled hours) to any employee of the Division of Parks & Outdoor Recreation and to members of the public who exhibit a worthwhile reason to want to use them.

3. Make copies for employees of the Division of Parks & Outdoor Recreation of any materials in the collection for research or administrative use at the cost of reproduction or duplication only. Should the Archives & Manuscripts Department establish a use fee for archival materials, the fee will be waived for use by employees of the Alaska Division of Parks & Outdoor Recreation for official purposes.

4. Return the records to the Division of Parks & Outdoor Recreation should the Archives & Manuscripts Department be discontinued, fail to provide proper archival care, or fail to meet the above conditions. If necessary to remove records, the Division of Parks & Outdoor Recreation will give the Archives & Manuscripts Department thirty (30) days notice and an explanation stating why the action is

thought necessary that gives the Archives & Manuscripts Department an opportunity to correct the situation.

5. Permit the Alaska Division of Parks & Outdoor Recreation to inspect the records for proper archival care.

This agreement will take effect upon signature by both parties.

For the Archives & Manuscripts Department:

Signature

DENNIS F. WALLE Printed name

Date Date Curator

pivision of Parks & Outdoor Recreation: ka Signature Date Printed name avts

# STATE OF ALASKA

#### DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS AND OUTDOOR RECREATION OFFICE OF HISTORY AND ARCHAEOLOGY

#### TONY KNOWLES, GOVERNOR

550 W. 7TH AVENUE, SUITE 1310 ANCHORAGE, ALASKA 99501-3565 PHONE: (907) 269-8721 FAX: (907) 269-8908

November 27, 2002

Re: 3130-2 Independence Mne

Dennis F. Walle, Archivist Archives and Manuscripts Department University of Alaska Anchorage Library 3211 Providence Dr. Anchorage, Alaska 99508

Dear Mr. Walle:

The Alaska Division of Parks and Outdoor Recreation is interested in a long-term deposit of two boxes of records relating to Independence Mine at the Archives and Manuscripts Department, University of Alaska Anchorage Library. These are in addition to Independence Mine records previously placed at the archives.

I understand that the Archives and Manuscript Department has agreed to provide for security and preservation of the records and to arrange and index them. As with our earlier agreements, I ask that these records be available to employees from the division during your regularly scheduled hours and that copies of any of the materials deposited with the archives be provided to division personnel for the cost of reproduction only. After the materials have been processed, they can be made available to researchers subject to any restrictions placed by law on certain materials such as personnel and medical records.

In the event the University of Alaska Anchorage Archives and Manuscripts Department is not staffed, or that the materials are not secure or provided proper archival care, the materials deposited by the Alaska Division of Parks and Outdoor Recreation will be returned to them by the University of Alaska Anchorage. If necessary to remove records, the Division of Parks and Outdoor Recreation will give the Archives and Manuscripts Department thirty days notice and an explanation stating why the action is thought necessary to give the the Archives and Manuscripts Department an opportunity to correct the situation. Dennis F. Walle November 27, 2002 Page 2

Please sign below and return one copy to the Alaska Office of History and Archaeology at the address above to acknowledge the receipt of two boxes of Independence Mine records and to indicate your agreement with the terms outlined above. I have provided a duplicate copy of the letter for your files.

I am pleased that valuable research materials are being preserved and made available to researchers. Thank you for working with the Division of Parks and Outdoor Recreation to do this.

If you have any questions about the records or this letter, please contact Rob Czarnezki at 907-745-3975 or Joan (Jo) Antonson at 907-269-8714.

Sincerely,

Director

cc: Dennis Heikes, Superintendent, Mat-Su/Valdez/Copper Basin Area, HC 32, Box 6706, Wasilla, AK 99654.

This acknowledges receipt of two boxes of Independence Mine records and agreement with the terms outlined in this letter.

Signature

E. 5, 200 J

DENNIS F. WALLE

Printed name

# **APPENDIX K:**

HISTORIC STRUCTURES REPORT

# 43 preservation Briefs

The Preparation and Use of Historic Structure Reports

#### **Deborah Slaton**



National Park Service U.S. Department of the Interior

Heritage Preservation Services

A historic structure report provides documentary, graphic, and physical information about a property's history and existing condition. Broadly recognized as an effective part of preservation planning, a historic structure report also addresses management or owner goals for the use or re-use of the property. It provides a thoughtfully considered argument for selecting the most appropriate approach to treatment, prior to the commencement of work, and outlines a scope of recommended work. The report serves as an important guide for all changes made to a historic property during a project-repair, rehabilitation, or restoration-and can also provide information for maintenance procedures. Finally, it records the findings of research and investigation, as well as the processes of physical work, for future researchers.



The Site of the Surrender-Yorktown

Figure 1. In the introduction to the first historic structure report in this country, Charles E. Peterson of the National Park Service wrote in 1935 "any architect who undertakes the responsibility of working over a fine old building should feel obligated to prepare a detailed report of his findings for the information of those who will come to study the structure in future years." Since then, thousands of historic structure reports (HSRs) have been prepared to help guide work on historic properties. Photo: National Parks and Conservation Association.



A historical "first." The first historic structure report prepared in the United States, The Moore House: The Site of the Surrender – Yorktown, was written by Charles E. Peterson of the National Park Service in the early 1930s (Fig. 1). In the decades since the Moore House report was completed, preservation specialists commissioned by owners and managers of historic properties have prepared thousands of reports of this type. Similar studies have also been used for many years as planning tools in France, Canada, Australia, and other countries, as well as in the United States. Although historic structure reports may differ in format depending upon the client, the producer of the report, the significance of the structure, treatment requirements, and budgetary and time restrictions, the essential historic preservation goal is the same.

> Just as an art conservator would not intervene in the life of an artistic artifact before obtaining a thorough knowledge of its history, significance, and composition, so those engaged in the preservation of buildings . . . should proceed only from a basis of knowledge. Too often in the past, the cultural integrity of countless buildings . . . has been compromised by approaches to restorations grounded on personal whim, willful romanticism, and expedient notions of repair . . . . The preparation of a historic structure report is the first step in adopting a disciplined approach to the care of a historic building.<sup>1</sup>

In response to the many inquires received on the subject, this Preservation Brief will explain the purpose of historic structure reports, describe their value to the preservation of significant historic properties, outline how reports are commissioned and prepared, and recommend an organizational format. The National Park Service acknowledges the variations that exist in historic

1

structure reports and in how these reports address the specific needs of the properties for which they have been commissioned. Thus, this Brief is written primarily for owners and administrators of historic properties, as well as architects, architectural historians, and other practitioners in the field, who have limited experience with historic structure reports. It also responds to the requests of practitioners and owners to help define the scope of a historic structure report study.





#### Guiding the Treatment of Significant Historic Properties

A historic structure report is generally commissioned by a property owner for an individual building and its site that has been designated as historically or architecturally significant, particularly buildings open to the public, such as state capitols, city halls, courthouses, libraries, hotels, theaters, churches, and house museums (Fig. 2). It is certainly possible, but is less common, to prepare a historic structure report for a privately owned residence.

Besides the building itself, a historic structure report may address immediate site or landscape features, as well as items that are attached to the building, such as murals, bas reliefs, decorative metalwork, wood paneling, and attached floor coverings. Non-attached items, including furniture or artwork, may be discussed in the historic structure report, but usually receive indepth coverage in a separate report or inventory. One significant property may include multiple buildings, for example, a house, barn, and outbuildings; thus, a single historic structure report may be prepared for several related buildings and their site.

Historic structure reports can be prepared for other historic resource types as well, including bridges, canals, ships, mines, and locomotives, which are categorized as structures by the National Register of Historic Places; sculpture and monuments, which are categorized as objects; and college campuses and industrial complexes, which are categorized as districts (Fig. 3). For battlefields, gardens, designed landscapes, and cemeteries, which are categorized as sites, parallel evaluation and investigation is usually undertaken through a separate document called a cultural landscape report.



Figure 2. Historic structure reports are prepared for many types of structures with various intended uses. Examples include courthouses and state capitols still serving their historic function (upper left, Wisconsin State Capitol, Madison); significant properties that are to be rehabilitated and adaptively reused (center left, New York Merchants' Exhange, from former bank headquarters to hotel); and properties that are to be restored as house museums (lower left, Willa Cather Childhood Home, Red Cloud, Nebraska). The scope of such studies includes the interior as well as exterior of the historic structure (lower right, Stanley Field Hall, Field Museum, Chicago). Photos: upper and lower left, Wiss, Janney, Elstner Associates, Inc.; center left, Jan Hird Pokorny Associates, Inc.; lower right, McGuire Igleski & Associates, Inc.



Figure 3. The University of Vermont has more than thirty contributing buildings in four historic districts listed in the National Register of Historic Places. The Campus Master Plan recognizes a commitment to respect and maintain the historic integrity of these facilities. Historic structure reports are available for many of the University's historic structures. Photo: University of Vermont Historic Preservation Program.

A team approach. With such an array of subject matter, it is not surprising that preparation of a historic structure report is almost always a multi-disciplinary task. For a small or simple project, the project team may include only one or two specialists. For a complex project, a team may involve historians, architectural historians, archeologists, architects, structural engineers, mechanical engineers, electrical engineers, landscape architects, conservators, curators, materials scientists, building code consultants, photographers, and other specialists. The disciplines involved in a specific historic structure report reflect the key areas or issues to be addressed for the particular property. The project leader or designated principal author for the report is responsible for coordinating and integrating the information generated by the various disciplines. Designation of a principal author may depend on the



Figure 4. For small or simple projects, the project team may include only one or two specialists while complex projects may involve a large number of investigators and specialists. For example, evaluation of this barn may primarily involve a historian, an architectural conservator, and a structural engineer. Photo: Wiss, Janney, Elstner Associates, Inc.

#### Value of the Historic Structure Report

The completed historic structure report is of value in many ways. It provides:

- A primary planning document for decisionmaking about preservation, rehabilitation, restoration, or reconstruction treatments
- Documentation to help establish significant dates or periods of construction
- A guide for budget and schedule planning for work on the historic structure
- A basis for design of recommended work
- A compilation of key information on the history, significance, and existing condition of the historic structure
- A summary of information known and conditions observed at the time of the survey
- A readily accessible reference document for owners, managers, staff, committees, and professionals working on or using the historic structure
- A tool for use in interpretation of the structure based on historical and physical evidence
- A bibliography of archival documentation relevant to the structure
- A resource for further research and investigation
- A record of completed work

goals of the historic structure report and on which disciplines are emphasized in the study.

**Benefits for large-scale and long-term projects.** In the development of any historic structure report, the scope of work and level of detail are necessarily adjusted to meet the requirements of a particular project, taking into account the property's significance, condition, intended use, and available funding. This does not mean that every significant historic property requires—or receives—a comprehensive investigation and detailed report. Some historic structure reports are of very limited scope. It may be necessary for a project to proceed without a historic structure report, either because of the cost of the report or a perceived need to expedite the work.

Most large-scale or long-term work projects would benefit greatly from the preparation of such a report—and not only from the value of the report as an efficient planning tool. (See box above.) If work proceeds without a historic structure report to guide it, it is possible that physical evidence important to understanding the history and construction of the structure may be destroyed or that inappropriate changes may be made. The preparation of a report prior to initiation of work preserves such information for future researchers. Even more importantly, prior



Figure 5. At the Hudson Opera House, a multi-arts center in Hudson, New York, the historic structure report was prepared incrementally. The first phase of the report focused on assessment and recommendations for repair of the roofing, the most critical issue in preservation of the building. Photo: Gary Schiro.

preparation of a report helps ensure that the history, significance, and condition of the property are thoroughly understood and taken into consideration in the selection of a treatment approach and development of work recommendations. One of the goals of a historic structure report is to reduce the loss of historic fabric or significance and to ensure the preservation of the historic character of the resource.

#### When to Prepare the Report

**Optimal first phase.** The historic structure report is an optimal first phase of historic preservation efforts for a significant building or structure, preceding design and implementation of preservation, rehabilitation, restoration, or reconstruction work. Information contained in the report documents existing conditions and serves as a basis for proposing physical changes. As additional information is learned relevant to the history of the building, and as work on the historic structure is implemented, the report can be amended and supplemented.

The length of time required to prepare a historic structure report and the budget established for its development will vary, depending on the complexity of the project, the extent and availability of archival documentation, and to what extent work has already been performed on the building. If the scope of a historic structure report for a simple building is limited to a brief overview of historic significance, a walkthrough condition assessment, and general treatment, the study and report may be completed within a few months' time by an experienced investigator. On the other hand, a historic structure report for a larger building with numerous past alterations and substantive problems will require extensive research and on-site study by a multidisciplinary team. This type of report can often take up to two years to complete.

#### Determining the Scope of Work

The following questions should be answered to determine the scope of work required for the study:

- Is the building's history well understood?
- Has the period of significance been established?
- Does the building represent a variety of periods of construction, additions, and modifications, not all of which may be significant?
- What archival documentation is available?
- Does the building have physical problems that require repair? What construction materials and systems are known to exhibit distress or deterioration?
- Does the building have code or functional problems that interfere with its use?
- Is the building in use? Is a new or more intensive use planned?
- Is funding available to commission the report needed to address these requirements? If not, can the scope of the report be reduced to answer critical questions in a limited report?
- Has the time frame for the overall project been established?

Incremental preparation. If budgetary constraints preclude completing the historic structure report as one project, it can be prepared incrementally (Fig. 5). The work recommendations should not be developed or implemented prior to completion of research and investigation, except for emergency stabilization to prevent immediate failure or damage, or temporary measures to address critical health and safety issues. A partial historic structure report can be completed in preparation for anticipated work that must be initiated to preserve or protect the building. This type of report includes analysis of only those building elements and systems that may be affected by the proposed work, and involves only the specialists needed to address the types of investigation and work planned. For example, research and documentation of existing interior finishes may be required before undertaking localized structural stabilization that will require removal of interior materials.

In undertaking such work prior to the completion of a historic structure report, caution should be taken not to alter or unnecessarily remove changes to the building that had occurred over time. The completed report may conclude that such changes to the building may have acquired significance in their own right and therefore merit preservation.

**Documenting past work.** Sometimes a historic structure report is initiated when repair or restoration work on the historic building has already been completed. Although it is always recommended that the study be done prior to new work, in this case, the report needs

to document—as fully as possible—the condition and appearance of materials, elements, and spaces as they existed *prior* to the work performed. The extent to which this can be achieved depends on the quality of archival documentation available and physical recording undertaken prior to the completed work. The report should describe the nature and extent of the past repair or restoration work, and, if possible, should also document research performed, reasons for design decisions made, and the construction process for the work already completed on the structures.

#### **Commissioning a Report**

Commissioning a historic structure report requires answering a series of questions to establish the scope of work. (See sidebar.) The goals of the report need to be defined and the report should be designed to support planning for the future of the historic structure. This effort may involve gathering information to answer questions about what is significant about the building and site; what uses are appropriate for the building, or whether existing uses need to be modified; what known conditions require repair and whether those repairs are urgent; and what short-term and long-term goals need to be addressed. Finally the available budget for the historic structure report project should be established before a request for proposals is issued.

The procedures for preparing a historic structure report and the outline of report content and organization can serve as the basis to develop a scope of work for the study and also to solicit proposals for a report that reflects the requirements of the specific structure, and, of course, the available budget. Although the request for proposals should always establish such a scope of work, firms may be invited to suggest adjustments to the scope of work based on their past experience. The request for proposals should require a qualifications submittal from each proposer. This submittal should include resumes for the principal investigators and a description of experience in preparing historic structure reports or similar studies, as well as experience with buildings of similar type, age, and construction to the subject of the study. References and samples of work may be requested from the proposer as part of this submittal. An interview with one or more candidates is highly recommended, both so that the proposers can present their project approach and qualifications, and so that the client can ask questions in response to the submitted proposal.

#### How Much Will It Cost?

The cost of undertaking a historic structure report is determined by numerous factors, some of which may be unique to a particular property. Common to most projects, however, are seven factors that help determine the cost of a report:

1. The *level of significance* of the property will certainly influence the cost. That is, a property that is nationally significant would likely require a greater effort than a property that is only locally significant.



Figure 6. Historical photographs are an invaluable aid and time saver in establishing a building's original construction and evolution; in guiding the replication of missing features; and even in understanding existing material deterioration. The availability of information, such as archival photographs, surviving original architectural drawings, or HABS documentation, has a direct bearing on the cost of preparing a historic structure report. In this circa 1890 photo of the Rancho San Andrés Castro Adobe, the "lumbering up" on the south end is a character-defining feature of adobe construction, rarely seen today. Photo: Historic photograph from the Historic Structure Report for Rancho San Andrés Adobe by Edna Kimbro, State Historian, California State Parks, Monterey District.

2. The *treatment and use* for which the historic structure report information provides a basis is an important cost consideration. If the decision is reached to maintain a building in its current form, the level of effort required in preparing a historic structure report would be less than where the intended treatment is a comprehensive restoration. A change in building use likewise may increase the level of effort; for example, the additional work involved in addressing different building code provisions.

3. The *availability of information* about the historic resource has a direct bearing on costs. Some historic structures are well researched, and drawings may have been prepared to exacting standards, while others may require considerable original research and investigation to establish the evolution of the structure (Fig. 6). On occasion, a property owner's in-house staff or volunteers may undertake further research in advance of a contracted study as a way to reduce the cost of the report.

4. The *location of and access to a historic building* is a cost factor for some studies. A property in a remote mountain location can involve high travel costs relative to properties in or near an urban area. A structure requiring special techniques for exterior physical inspection would involve higher access costs than a small residential structure (Fig. 7).



Figure 7. Numerous factors influence the cost of preparing a historic structure report including the level of significance, size, and complexity of the property; required treatment and use; existing condition; and the location and access to the structure. Historic structure reports were prepared for several small lighthouses along the Oregon coast, including the Coquille River Lighthouse, shown here. Photo: Wiss, Janney, Elstner Associates, Inc.

#### **Collecting Information for the Report**

A typical study involves:

- Preliminary walk through
- Research and review of archival documentation
- Oral histories
- An existing condition survey (including exterior and interior architectural elements, structural systems, mechanical and electrical systems, etc.)
- Measured drawings following the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation
- Record photography
- Selected materials studies (e.g., mortar analysis, finishes analysis, etc.)
- Evaluation of significance
- Discussion with the owner and users about current and future intended uses for the structure
- Selection and rationale for the most appropriate treatment approach (preservation, rehabilitation, restoration, or reconstruction)
- Development of specific work recommendations

5. The *size and architectural character* of a property affect the time required to prepare a historic structure report. A simple four-room vernacular structure would usually involve less effort than a complicated high-style courthouse with many significant spaces.

6. The *physical condition of the structure* and also the *extent of physical fabric that is accessible for study* will be cost determinants as well. Obviously, a property in good condition is usually less problematic than one in a deteriorated state. For a structure that was continuously occupied and where alterations cover earlier fabric, the opportunity to extract information from physical fabric dating to early periods may be limited without extensive removals that are usually beyond the scope of the historic structure report study. Even where buildings are vacant, there are instances where certain physical investigations may need to be limited because of the destructive impact that will occur to historic fabric.

7. The *type of final report* that is required can significantly affect the cost of the project, but is an area where costs can readily be controlled. Historic structure reports do not necessarily need to be professionally bound and printed. In-house desktop publishing has become commonplace, and a formal work product can often be obtained without excessive costs. Overly sophisticated printing and binding efforts represent a misplaced funding allocation for most historic properties. There are distinct advantages to having a report prepared in an appropriate electronic form, thus reducing the number of hard copies and facilitating future updates and additions to the report. For most properties where historic structure reports are prepared, ten or so hard copies should suffice. Providing one copy of the report in a three-ring binder is a helpful and inexpensive way to furnish the owner with a "working" copy of the document.

Suggested steps for collecting information prior to configuring the data into the actual report are as follows:

**Preliminary walk through.** A preliminary walk through of the building and its site with the owner or site manager, appropriate building staff representatives, and key members of the historic structure report team is important to review the project scope of work. During the walk through, a brief review of existing conditions can be performed to highlight user concerns and gather information about distress and deterioration observed. Building staff may also be able to provide information on recent repairs, current maintenance procedures, and specific areas of active deterioration. A brief review of existing documentation available on site is also useful. Site personnel may be able to recommend additional archival resources.

**Historical research.** Archival research should be directed toward gathering information on the building's history, original construction and later modifications, occupancies, and uses over time (Fig. 8). Research for the report is not intended to produce a large compendium of historical and genealogical material, but rather selected information necessary to understand the evolution of the structure, its significance, and justification for the treatment selected. For significant sites where other types of studies such as archeological investigations or a cultural landscape report have been completed or are underway, coordination is required to ensure that research information is shared and that the research effort is not duplicated.

If a National Register nomination or other inventory has already been completed for the building and its site, the bibliography of that document may suggest possible sources for further research. In addition, a completed National Register nomination can serve as a starting point for development of the historic structure report sections on history and significance, and can be included in the appendix of the report.

Public and university libraries, and state and local historical societies, are likely sources of relevant materials. Municipal records collections often contain deed and building permit information that is useful in developing a chronology of ownership and construction. Architectural, engineering, and construction documents, shop drawings, repair documents, and maintenance records are valuable sources of information. The original



Figure 8. Historical research is directed toward gathering information on a structure's history, original construction and later modifications, occupancies, and uses over time. Research may range from national repositories such as the Library of Congress to local collections or private family records. Old newspapers, architectural journals, and even manufacturing trade catalogs can be surprising sources of historical accounts and illustrations. This circa 1902 photograph of New York's Flatiron Building is of the construction in progress; such photographs are useful in understanding building chronology as well as concealed conditions of as-built construction such as building framing. Photo: Library of Congress, LC-D401-14278. The interior photograph of the former Bemir Drug Store in Rochester, New York, showcases a rubber tile floor as illustrated in a 1925 publication by the United States Rubber Company.



drawings and specifications, if extant, may be kept at the archives of the historic building but may also have been retained by the firm that designed the building or successor firms. Building records and other archival documentation may have remained with the structure or site, with previous owners, or with related properties.

Historic photographs are invaluable in developing a chronology of building changes and in determining the character and detailing of missing elements (Fig 9). Photographs in private collections, not intended as formal documentation, can often be useful. For example, family photographs taken outdoors can document a building that appears in the background. Renderings and paintings can also be useful, but these images must be carefully analyzed and compared with other information to ensure accurate interpretation. Correspondence and oral histories can be important additions to the overall information, but may be unreliable and should be confirmed, when possible, by comparison with photographic documentation and physical evidence.

Fire insurance maps, such as Sanborn maps, can provide information on type of construction materials. When maps from different years are available, these can be useful in developing a chronology of additions and other changes to the structure.

**Existing condition survey.** A survey is performed to document physical spaces and elements, and to assess the current condition of building materials and systems. In conjunction with historical research, the condition survey helps determine the historic integrity of a structure. The survey and inspection should address the building's exterior and interior materials, features and



Figure 10. Archeological studies may be valuable in uncovering important evidence of changes to a historic structure. Following historical research and after several archeological soil probes, a decision was made to excavate an area in front of a mid-nineteenth century fireplace, revealing the original dirt floor and hearth undetected by earlier restoration efforts. Photo: Kaaren Staveteig, National Park Service.

finishes; structural systems; interior spaces; mechanical, electrical, and plumbing systems; and fire detection and security systems. Further study may be required such as non-intrusive or intrusive investigation, field testing, sample removal, and laboratory testing and analysis of materials.



Figure 9. A CADD perspective analysis facilitated study of the location of a long removed interior bulkhead wall. The bulkhead appears in a historic exterior photograph of a man seated in the door entrance to a mid-nineteenth century plantation dependency. Drawing: John Volz & Associates, Inc.; historic photo: National Park Service files.
Archeological investigations can provide information on the locations of building foundations and other sub-grade building elements, and can also assist in developing information on the function of adjacent site areas, building elements, and previously unfinished floor spaces (Fig. 10). The survey may also address the immediate site landscape, if this is not covered in a separate cultural landscape report.

Information gathered during the survey can be documented with field notes on baseline drawings consisting of field sketches or measured drawings. In addition, documentation can include photographs (35-mm, large format, digital, perspective-corrected, and scale-rectified photographs; photogrammetry; and laser techniques), sketches and measured drawings, computer-aided design and drafting (CADD), video records, and written notes and field measurements. Depending upon project requirements, documentation may need to be prepared to archival standards regarding paper, photographs and negatives, electronic records, and backup data.

Measured drawings and record photography. The collection of the Historic American Building Survey/ Historic American Engineering Record (HABS/HAER) archive at the Library of Congress should be searched in case the property has been previously documented through drawings and photographs. While many historic properties have been documented since the start of this invaluable collection in the 1930s, it is still more likely that this type of documentation does not exist for a property for which a historic structure report is being undertaken. Preparation of such documentation to portray the current condition of a property can be an invaluable addition to the historic structure report. Besides serving as a documentary record of a structure, the recording documents can serve another purpose such as an easement document, information for catastrophic loss protection, interpretive drawings, or baseline drawings for proposed work. If undertaken as part of the current building study, the measured drawings and record photography should follow the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation.

**Materials investigation and testing.** Field examination and testing of building material may include nondestructive (non-intrusive) or, where necessary, destructive (intrusive) examination and/or testing of materials, components, and systems (Fig. 11). Examples of non-destructive methods of field examination and testing include field microscopy, the use of a metal detector to locate concealed metal elements, and Xray techniques to assess concealed conditions. Some examples of destructive methods of field examination and testing include structural testing, strain relief testing, and inspection openings (probes). Instruments such as a borescope, through which concealed conditions can be viewed through a small hole, permit



Figure 11. The use of special access methods may be necessary for close-up investigation of building elements. At the Wisconsin State Capitol, project architects and engineers used rappelling techniques. Photo: Wiss, Janney, Elstner Associates, Inc.



enhanced examination while limiting damage to the existing building fabric.

Depending upon existing conditions and the results of the site inspection, field monitoring may be required. Field monitoring can include humidity and temperature monitoring, documentation of structural movement and vibrations, light level monitoring, and other environmental monitoring.

In addition, materials samples may be removed for laboratory studies. A wide range of laboratory testing may be appropriate to establish the composition of various construction materials, determine causes of deterioration, and identify and assess appropriate conservation and repair measures (Fig. 12). Materials analysis may also be helpful in dating changes to the structure and in developing a chronology of construction (Fig. 13). For example, mortar analysis may be performed to determine the composition of original and repointing mortars and to provide information for use in designing a mortar mix for repointing. As another example, paint and other coatings may be analyzed to determine finish types and composition, and original and subsequent color schemes, using special analysis techniques and comparison with color standard systems. Samples should generally be returned to the owner and retained in case future testing is required. In some cases, it may be appropriate to reinstall the samples after materials studies have been completed.

Sample removal and analysis may also be required to identify hazardous materials, which are present in many historic buildings. For example, lead and other heavy metals are components of many older paints and coatings, and asbestos is a constituent of some roofing materials, claddings, sealants, and insulation. Mold and mildew may be present and require special treatment; in this case a consulting industrial hygienist may need to be included in the project team. Analysis may be performed to confirm the materials present, determine the nature of the hazard, and help identify methods of remediation or management.

As buildings constructed during recent decades become "historic," newer materials require study and analysis as part of historic structure reports. For example, curtain wall components and joint sealants may require analysis to determine their composition, identify causes



Figure 12. Field and laboratory studies of construction materials may be performed as part of a historic structure report. Laboratory studies of samples removed from the building may include a range of chemical and physical testing and evaluation. Here, a petrographer uses a stereomicroscope to examine concrete specimens. Photo: Wiss, Janney, Elstner Associates, Inc.



Figure 13. Paint studies may not only help establish the chronology of paints and paint colors used on a building but also may aid in the dating of existing architectural features. Examination of the paint layers on these modillions utilizing a hand-held microscope enabled an investigating team to confirm in the field which modillions were original and which were later replacements. Photo: Charles Fisher, National Park Service.

of deterioration, and select appropriate replacement sealants. Composite materials and plastics, present in post-World War II buildings, may also require special effort to determine repair techniques or appropriate materials for replacement.

All of the information gathered during the physical investigation, and through field testing and laboratory analysis, should be documented in field notes, sketches, photographs, and test reports. This information is incorporated in the historic structure report and provides a basis for the development of treatment recommendations.

**Evaluation of significance**. The process of evaluation occurs throughout the study of the historic structure as information is gathered, compared, and reviewed. Historical data and physical evidence are reviewed to help evaluate the historical, architectural, engineering, and cultural significance of the property, its construction and use, and occupants or other persons associated with its history and development. This evaluation includes determination of the period(s) of primary significance. An overview of the building's history and an assessment of its significance are included in the report.

Depending on the historical significance of the property, and whether a detailed history has already been written,

# The Secretary of the Interior provides four distinct but interrelated approaches to the treatment of historic properties.

**Preservation** focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.

**Rehabilitation** acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

**Restoration** is undertaken to depict a property at a particular period of time in its history, while removing evidence of other periods.

**Reconstruction** re-creates vanished or nonsurviving portions of a property for interpretive purposes.

a brief or more detailed history may be appropriate. A chronology of construction and changes to the building, developed through historic and physical research, is an effective approach to identifying original building elements, as well as modifications that have occurred over time. If a comprehensive National Register nomination or other inventory has been prepared, the significance may already be defined. In other cases, the significance of a building and even its treatment may have been established through authorizing legislation or through the charter of an organization or foundation that owns the historic property. Where appropriate, however, the building's significance should be reevaluated in light of research performed for the historic structure report.

The results of the research, investigation, and field and laboratory testing are reviewed as a basis for developing specific work recommendations. The history and significance of the building and its site are evaluated to understand what spaces, elements, and finishes are of architectural or historical importance, and to confirm the overall project goals and treatment direction. The physical condition of the building and its systems is evaluated with regard to existing deterioration and distress, and needed repairs, as well as changes required to meet treatment goals. Attention is given to identification of life safety issues and code considerations. Conditions are also identified that could lead to future safety risks, loss of historic fabric, or loss of performance.

Selection of a treatment approach. Once the building's history, significance, and physical condition have been researched and investigated, an appropriate treatment is usually selected (Fig. 14). Depending upon the intended use of a property, funding prospects, and the findings of the investigation, it may be necessary in some cases to identify and discuss an alternate treatment as well. For example, a building currently occupied by caretakers that is a candidate for restoration and use as a museum may require such ambitious funding support that, for the foreseeable future, a more practical treatment could be to preserve the building and retain the caretakers. In this case, the treatment recommendation would be to restore the property and project work relevant to the



Figure 14. The treatment approach selected for a building usually is determined by the intended use of a property, funding prospects, and the findings of an investigation. The Wolf Creek Inn, operated by the Oregon Parks and Recreation Department, is among the most intact and oldest active travelers' inns in Oregon. The historic structure report outlined a rehabilitation treatment which included such work recommendations as repairs to specific historic fabric, landscape restoration and site improvements, and upgrading of the building's mechanical and electrical systems. Photo: Historic American Building Survey, 1934.

restoration would be described. However, the alternate treatment (in this instance an interim one) of preserving the building in its current form would also be described, including discussion of work appropriate to preservation such as repairing the existing roof and installing a monitored fire detection system.

In selecting an appropriate treatment, the Secretary of the Interior's Standards for the Treatment of Historic Properties can be particularly helpful. (See sidebar.) In use for more than twenty-five years, the Standards are a widely accepted means of planning for and undertaking project work in a manner that preserves historic materials and elements. The Secretary's Standards have been adopted by many state and local review entities for review of work proposals on historic structures.

The Standards and their accompanying Guidelines describe four different options for treatment and list recommended techniques for exterior and interior work consistent with each option. One treatment (preservation, rehabilitation, restoration, or reconstruction) is usually selected and followed





Figure 15. The historic structure report for the Hotel Florence, shown here in 1886 (upper), 1963 (center), and 2004 (lower) views, provided a basis for stabilization and repair work which has been completed. Initial phases of work addressed preservation of the building envelope, structural repairs, and limited mechanical and electrical improvements. The report also provided recommendations for future rehabilitation work that will be implemented in phases as funding becomes available. Photos: upper and center, Historic American Building Survey; lower, Wiss, Janney, Elstner Associates, Inc. throughout the course of a project involving a particular building. Application of a single treatment approach helps to avoid inappropriate combinations of work, such as restoring a building's appearance to an earlier time in history while simultaneously constructing a new addition.

Development of work recommendations. The work recommendations are a central feature of the report. They are developed only after the research and investigation has been completed and the overall project goal established as to whether a particular building should be preserved, rehabilitated, restored, or reconstructed. The specific work recommendations need to be consistent with the selected treatment. If analysis performed during the study suggests that the approach or use initially proposed would adversely affect the materials, character, and significance of the historic building, then an alternate approach with a different scope of work or different use may need to be developed. The process of developing work recommendations also needs to take into account applicable laws, regulations, codes, and functional requirements with specific attention to life safety, fire protection, energy conservation, abatement of hazardous materials, and accessibility for persons with disabilities.

In addition to project goals, the proposed work is also guided by the building's condition. The scope of recommended work may range from minor repairs to structural stabilization to extensive restoration. In addition, the scope of work may be very narrow (e.g., priming and painting of woodwork and repair of deteriorated roof flashings), or very extensive (e.g., stabilization of timber framing or major repair and repointing of exterior masonry walls). The result of implementing (or not implementing) the recommended work needs to be considered as the recommendations are developed.

Of course, the available project budget is also a factor in determining the extent of recommended work and whether it must be accomplished in several phases or projects. Whether or not available budget is the primary factor in determining the extent of work that can be performed, it is often useful to prioritize recommended work items. The recommended tasks can be examined in terms of relative importance and the time required for implementation. Prioritizing repairs can be critical where immediate or short-term work is needed to stabilize a building or structure, eliminate safety hazards, make the building weather tight, and protect it against further deterioration (Fig. 15).

Appropriate procedures for undertaking the recommended work items are described in the historic structure report and are intended to serve as a basis for planning the repair, rehabilitation, or restoration design. The level of detail to which the work items are defined should be limited in the historic structure report, as these recommendations serve as the foundation for, rather than in place of, design and construction documents for the work. For example, baseline drawings annotated with existing condition notes can later serve as a starting place for development of construction drawings. Outline procedures provided in the report for recommended work items can be used later to develop specifications for the work. Finally, a general opinion of probable costs associated with the recommended work is often prepared. A cost estimate is useful to building owners and managers in budget planning and also assists in prioritizing the work. For large or complex projects, the services of a professional cost estimator may be helpful in this effort.

**Report Preparation.** Upon completion of the research, physical investigation, evaluation, and work recommendations, the historic structure report is compiled. The principal investigator may submit an outline of the report for owner review at the beginning of the report preparation. A draft report may also be submitted for review when the report is partially complete, especially if there are many new research findings, significant physical distress conditions to be addressed, or complicated choices to be made in determining the treatment.

The report should be prepared in a style and format that is readily accessible and user-friendly; however, it is not essential that a standardized method or format be followed for all historic structure reports. The report can be primarily narrative or graphic, but is most typically a combination of these formats. Ease and economy of report preparation should be considered but should not take precedence over clarity and thoroughness of documentation.

Meetings and presentations. In addition to meetings with site personnel early in the study process, it is helpful for the project team to meet at key points during the research, investigation, and development of the historic structure report. For example, it is useful for the project team members performing archival research to meet with site personnel to review documents and findings, and to help ensure that important archival sources have not been overlooked. Project team members may also walk through the building with site personnel during the investigation phase to review and discuss existing conditions and possible recommendation approaches. When the report is in draft form, a meeting of the project team with those personnel who will be reviewing and using the report is useful to discuss overall goals, treatments, and recommendations as these are being developed. Finally, when the study is complete, a presentation of the completed study by the project team helps to familiarize the owner and building personnel with the report, highlight key issues, answer questions, and provide a transition to the use of the report as a working document by the building's caretakers.

#### **Report Organization**

The scope of the study—historical research, condition survey, investigation and testing, evaluation, selection of appropriate treatment, and development of specific work recommendations—generates a wealth of information about the history and condition of the building and the specific work needed to preserve, rehabilitate, restore, or reconstruct it. This information is typically a combination of historical and technical data obtained by different members of the project team and presented as an integrated report in text, photographs, drawings, and tables (Fig.16). The project leader or principal author must guide the development of the report so that key issues are addressed, information is





Figure 16. The historic structure report for the Noland House in Independence, Missouri, a vernacular house that is significant as part of the context of Harry S Truman's life and family in Independence, Missouri, includes photographs and measured drawings to record existing features and conditions of the building. The measured drawings will also provide a basis for construction documents for future preservation work. This photograph and drawing illustrate the front elevation of the house. Photo and drawing: Bahr Vermeer Haecker Architects. documented and assimilated in the report findings and discussion, recommendations are clearly presented, and no information is lost or misinterpreted in the compilation process.

In order to integrate the many pieces of information into a coherent and comprehensive whole, the historic structure report is generally organized into two principal sections preceded by a brief introduction that summarizes overall findings and recommendations and provides project administrative data. The main sections of the report consist of (1) a narrative that documents the evolution of the building, its physical description, existing condition, and an evaluation of significance; and (2) a discussion of historic preservation objectives, together with recommendations for an overall treatment approach and for specific work. The report is usually supplemented with footnotes or endnotes, bibliography, and appendices of historical documentation and technical data.

It is highly recommended that a post project record of all work performed later be added as a supplement to the historic structure report. This record may consist of annotated drawings, photographs, and other documentation of the work performed. Site personnel may help coordinate this supplement or record if the principal author of the report is not involved in the later construction phase. Some organizations and government agencies consider the post project record to be a third part of a historic structure report and not just a supplement.

When physical evidence is discovered during the course of the construction work or when new documentary evidence is discovered as research continues after completion of the report, this also should be recorded and incorporated into the historic structure report or in an appendix to the report. An important goal of the historic structure report process is to maintain the report as an active and working document, both to facilitate the use of information compiled in the report and to permit the report to accommodate new information readily as it becomes available.

#### **Report Production and Availability**

The historic structure report is most often prepared in the form of a printed, illustrated manuscript. In recent years, attention has been given to creating or transforming the historic structure report into an electronic document as well. In electronic format, the report can easily be shared with interested parties and is readily updated.

However, because historic structure reports are still mostly produced in printed format (although sometimes concurrently with an electronic document), it is important that, after production, one or more copies be provided to the property owner and also made available to the project team. As the basis for design and construction documents, the historic structure report needs to be readily available and extensively used during implementation of the work. At least one site copy should be maintained in a physical format that can be readily updated, such as a three-ring notebook to which additional documentation can easily be added. Field documentation materials, including photographs and negatives, measured field drawings, condition reports and surveys, materials test reports, and other information gathered during the study can be stored in an archive by the building owner for future reference.

An archival copy should also be provided to the owner, and a minimum of one archival copy kept at the project site and at an appropriate local or regional archive, such as a state historical library. Copies of the historic structure report may also be provided to a local historical organization or university and the state historic preservation agency or historical society. In addition, a copy may be given to the National Trust for Historic Preservation Library at the University of Maryland at College Park, which has established a reference collection of historic structure reports.

#### Summary

Various agencies and organizations have employed historic structure reports as planning tools for many years, for example, the National Park Service, General Services Administration, New York State Office of Parks, Recreation and Historic Preservation, and the Society for the Preservation of New England Antiquities. These and other agencies and organizations may have specific requirements and procedures for reports prepared for properties under their stewardship that differ from those described in this Preservation Brief. All historic structure reports, however, share a common goal—the careful documentation and appropriate treatment of significant historic structures.

The historic structure report is an optimal first phase of historic preservation efforts for a significant building, preceding design and implementation of its preservation, rehabilitation, restoration, or reconstruction. If work proceeds without a historic structure report as a guide, physical evidence important to understanding the history and construction of the building may be destroyed. The preparation of a report prior to initiation of work provides documentation for future researchers. Even more importantly, prior preparation of a report helps ensure that the history, significance, and condition of the property are thoroughly understood and taken into consideration in the selection of an appropriate treatment and in the development of work recommendations. A well prepared historic structure report is an invaluable preservation guide.

#### **Content and Organization of Report**

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Chronology of Development and Use
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Evaluation of Significance
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Historic Preservation Objectives
Requirements for Work
Work Recommendations and Alternatives
Bibliography
Appendices
Supplemental Record of Work Performed
(section often added later)
Completion Report
Technical Data (on work completed)

**Introduction**. This section includes a concise account of research and investigation findings and recommendations for treatment and use, and a record of project administrative data.

- Study Summary a brief statement of the purpose, findings, and recommendations of the study, including major research findings, key issues addressed by the study, and a summary of recommendations for treatment and use.
- Project Data a summary of project administrative data (e.g., location, ownership, and landmark status of property) and the methodology and project participants.

**Part 1 Developmental History.** This section consists of a narrative report based on historical research and physical examination documenting the evolution of the building, its current condition and causes of deterioration, and its significance.

- Historical Background and Context a brief history of the building and its context, its designers and builders, and persons associated with its history and development.
- Chronology of Development and Use a description of original construction, modifications, and uses, based on historical documentation and physical evidence.
- Physical Description a description of elements, materials, and spaces of the building, including significant and nonsignificant features of the building.
- Evaluation of Significance a discussion of significant features, original and non-original materials and elements, and identification of the period(s) of significance (if appropriate).
- Condition Assessment a description of the condition of building materials, elements, and systems and causes

of deterioration, and discussion of materials testing and analysis (if performed as part of this study).

**Part 2 Treatment and Work Recommendations**. This section presents the historic preservation objective and selected treatment (preservation, rehabilitation, restoration, or reconstruction), requirements for work, and recommended work that corresponds with the defined treatment goal.

- Historic Preservation Objectives a description and rationale for the recommended treatment and how it meets the project goals for use of the building, e.g., rehabilitation for a new use, restoration for interpretive purposes, etc.
- Requirements for Work an outline of the laws, regulations, and functional requirements that are applicable to the recommended work areas (e.g., life safety, fire protection, energy conservation, hazardous materials abatement, and handicapped accessibility).
- Work Recommendations and Alternatives a presentation of tasks recommended to realize the proposed treatment approach; evaluation of proposed solutions; and description of specific recommendations for work, including alternate solutions, if appropriate.

#### Notes, Bibliography and Appendices

- Footnotes or endnotes
- Bibliography, annotated if possible
- List of sources of information (e.g., archives, photograph collections)
- Appendices (e.g., figures, tables, drawings, historic and current photographs, reference documents, materials analysis reports, etc.)
- Index (if the report is particularly long or complex)

**Supplemental Record of Work Performed**. This section documents work performed, which may include planning studies, technical studies such as laboratory testing or structural analysis, or other investigation work that was not part of the scope of the original historic structure report, and records physical work on the building (construction documents, annotated drawings, photographs). The section is usually added later to update the report, as most historic structure reports are issued prior to implementation of the recommended treatment approach and specific work. It is sometimes referred to as Part 3 of the report.

- Completion Report a record of the work accomplished, physical evidence discovered during construction, and how findings affect interpretation of the building.
- Technical Data a collection of field reports, material data sheets, field notes, correspondence, and construction documents.

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<sup>1</sup> From the introduction to the *University of Virginia, Pavilion 1, Historic Structure Report,* Mesick Cohen Waite Hall Architects, 1988.

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# APPENDIX L: ACCESSIBILITY

# 32 PRESERVATION BRIEFS

Making Historic Properties Accessible Thomas C. Jester and Sharon C. Park, AIA



U.S. Department of the Interior National Park Service Cultural Resources

Heritage Preservation Services

Historically, most buildings and landscapes were not designed to be readily accessible for people with disabilities. In recent years, however, emphasis has been placed on preserving historically significant properties, and on making these properties—and the activities within them—more accessible to people with disabilities. With the passage of the Americans with Disabilities Act in 1990, access to properties open to the public is now a civil right.

This Preservation Brief introduces the complex issue of providing accessibility at historic properties, and underscores the need to balance accessibility and historic preservation. It provides guidance on making historic properties accessible while preserving their historic character; the Brief also provides examples to show that independent physical accessibility at historic properties can be achieved with careful planning, consultation, and sensitive design. While the Brief focuses primarily on making buildings and their sites accessible, it also includes a section on historic landscapes. The Brief will assist historic property owners, design professionals, and administrators in evaluating their historic properties so that the highest level of accessibility can be provided while minimizing changes to historic materials and features. Because many projects encompassing accessibility work are complex, it is advisable to consult with experts in the fields of historic preservation and accessibility before proceeding with permanent physical changes to historic properties.

Modifications to historic properties to increase accessibility may be as simple as a small, inexpensive ramp to overcome one entrance step, or may involve changes to exterior and interior features. The Brief does not provide a detailed explanation of local or State accessibility laws as they vary from jurisdiction to jurisdiction. A concise explanation of several federal accessibility laws is included on page 13.

#### **Planning Accessibility Modifications**

Historic properties are distinguished by features, materials, spaces, and spatial relationships that contribute to their historic character. Often these elements, such as steep terrain, monumental steps, narrow or heavy doors,



decorative ornamental hardware, and narrow pathways and corridors, pose barriers to persons with disabilities, particularly to wheelchair users (See Figure 1).

A three-step approach is recommended to identify and implement accessibility modifications that will protect the integrity and historic character of historic properties:

- 1) Review the historical significance of the property and identify character-defining features;
- 2) Assess the property's existing and required level of accessibility; and
- 3) Evaluate accessibility options within a preservation context.

#### 1) Review the Historical Significance of the Property

If the property has been designated as historic (properties that are listed in, or eligible for listing in the National Register of Historic Places, or designated under State or local law), the property's nomination file should be reviewed to learn about its significance. Local preservation commissions and State Historic Preservation Offices can usually provide



Figure 1. It is important to identify the materials, features, and spaces that should be preserved when planning accessibility modifications. These may include stairs, railings, doors, and door surrounds. Photo: National Park Service files.

copies of the nomination file and are also resources for additional information and assistance. Review of the written documentation should always be supplemented with a physical investigation to identify which characterdefining features and spaces must be protected whenever any changes are anticipated. If the level of documentation for a property's significance is limited, it may be necessary to have a preservation professional identify specific historic features, materials, and spaces that should be protected.

For most historic properties, the construction materials, the form and style of the property, the principal elevations, the major architectural or landscape features, and the principal public spaces constitute some of the elements that should be preserved. Every effort should be made to minimize damage to the materials and features that convey a property's historical significance when making modifications for accessibility. Very small or highly significant properties that have never been altered may be extremely difficult to modify.

Secondary spaces and finishes and features that may be less important to the historic character should also be identified; these may generally be altered without jeopardizing the historical significance of a property. Nonsignificant spaces, secondary pathways, later additions, previously altered areas, utilitarian spaces, and service areas can usually be modified without threatening or destroying a property's historical significance.

# 2) Assess the Property's Existing and Required Level of Accessibility

A building survey or assessment will provide a thorough evaluation of a property's accessibility. Most surveys identify accessibility barriers in the following areas: building and site entrances; surface textures, widths and slopes of walkways; parking; grade changes; size, weight and configuration of doorways; interior corridors and path of travel restrictions; elevators; and public toilets and amenities (See Figure 2). Simple audits can be completed by property owners using readily available checklists (See Further Reading). Accessibility specialists can be hired to assess barriers in more complex properties, especially those with multiple buildings, steep terrain, or interpretive programs. Persons with disabilities can be particularly helpful in assessing specific barriers.



Figure 2. Surveys of historic properties can identify accessibility barriers. Persons with disabilities and accessibility consultants should participate whenever possible. Photo: Thomas Jester.

All applicable accessibility requirements—local codes, State codes and federal laws— should be reviewed carefully before undertaking any accessibility modification. Since many States and localities have their own accessibility regulations and codes (each with their own requirements for dimensions and technical requirements), owners should use the most stringent accessibility requirements when implementing modifications. The Americans with Disability Act Accessibility Guidelines (ADAAG) is the document that should be consulted when complying with the Americans with Disabilities Act (ADA) requirements.

# 3) Identify and Evaluate Accessibility Options within a Preservation Context

Once a property's significant materials and features have been identified, and existing and required levels of accessibility have been established, solutions can be developed (See Figure 3). Solutions should provide the greatest amount of accessibility without threatening or destroying those materials and features that make a property significant. Modifications may usually be phased over time as funds are available, and interim solutions can be considered until more permanent solutions are implemented. A team comprised of persons with disabilities, accessibility and historic preservation professionals, and building inspectors should be consulted as accessibility solutions are developed.

Modifications to improve accessibility should generally be based on the following priorities:

- Making the main or a prominent public entrance and primary public spaces accessible, including a path to the entrance;
- 2) Providing access to goods, services, and programs;
- 3) Providing accessible restroom facilities; and,
- 4) Creating access to amenities and secondary spaces.

All proposed changes should be evaluated for conformance with the Secretary of the Interior's "Standards for the Treatment of Historic Properties," which were created for property owners to guide preservation work. These Standards stress the importance of retaining and protecting the materials and features that convey a property's historical significance. Thus, when new features are incorporated for accessibility, historic materials and features should be retained whenever possible. Accessibility modifications should be in scale with the historic property, visually compatible, and, whenever possible, reversible. Reversible means that if the new feature were removed at a later date, the essential form and integrity of the property would be unimpaired. The design of new features should also be differentiated from the design of the historic property so that the evolution of the property is evident. See Making Historic Buildings Accessible on page 9.

In general, when historic properties are altered, they should be made as accessible as possible. However, if an owner or a project team believes that certain modifications would threaten or destroy the significance of the property, the State Historic Preservation Officer should be consulted to determine whether or not any special accessibility provisions may be used. Special accessibility provisions for historic properties will vary depending on the applicable accessibility requirements.







B.



C.

Figure 3. Before implementing accessibility modifications, owners should consider the potential effect on their historic property. At the Derby House in Salem, Massachusetts, several solutions to make the entrance accessible were considered, including regrading (a); a lift (b); and a ramp (c). The solution, an entrance on a secondary elevation, preserves the building's architectural significance and is convenient to designated parking. Drawings: National Park Service Files..

In some cases, programmatic access may be the only option for extremely small or unaltered historic properties, such as a two-story house museum with no internal elevator. Programmatic access for historic properties refers to alternative methods of providing services, information, and experiences when physical access cannot be provided. It may mean offering an audio-visual program showing an inaccessible upper floor of a historic house museum, providing interpretive panels from a vista at an inaccessible terraced garden, or creating a tactile model of a historic monument for people with visual impairments.

#### **Accessibility Solutions**

The goal in selecting appropriate solutions for specific historic properties is to provide a high level of accessibility without compromising significant features or the overall character of the property. The following sections describe accessibility solutions and offer guidance on specific historic property components, namely the building site, entrances, interiors, landscapes, amenities, and new additions. Several solutions are discussed in each section, referencing dimensions and technical requirements from the ADA's accessibility guidelines, ADAAG. State and local requirements, however, may differ from the ADA requirements. Before making any modification owners should be aware of all applicable accessibility requirements.

#### **The Building Site**

An accessible route from a parking lot, sidewalk, and public street to the entrance of a historic building or facility is essential. An accessible route, to the maximum extent possible, should be the circulation route used by the general public. Critical elements of accessible routes are their widths, slopes, cross slopes, and surface texture. Each of these route elements must be appropriately designed so that the route can be used by everyone, including people with disabilities. The distance between the arrival and destination points should also be as short as possible. Sites containing designed landscapes should be carefully evaluated before making accessibility modifications. Historic landscapes are described in greater detail on pages 10 and 11.

**Providing Convenient Parking.** If parking is provided, it should be as convenient as possible for people with disabilities. Specially designated parking can often be created to improve accessibility (See Figure 4). Modifications to parking configurations and pathways should not alter significant landscape features.

**Creating an Accessible Route.** The route or path through a site to a historic building's entrance should be wide enough, generally at least 3 feet (91 cm), to accommodate visitors



Figure 4. Parking designated for people with disabilities is provided near an accessible entrance to the Springfield Library in Springfield, Massachusetts. Photo: William Smith.

with disabilities and must be appropriately graded with a stable, firm, and slip-resistant surface. Existing paths should be modified to meet these requirements whenever possible as long as doing so would not threaten or destroy significant materials and features.

Existing surfaces can often be stabilized by providing a new base and resetting the paving materials, or by modifying the path surface. In some situations it may be appropriate to create a new path through an inaccessible area. At large properties, it may be possible to regrade a slope to less than 1:20 (5%), or to introduce one or more carefully planned ramps. Clear directional signs should mark the path from arrival to destination.

#### Entrances

Whenever possible, access to historic buildings should be through a primary public entrance. In historic buildings, if this cannot be achieved without permanent damage to character-defining features, at least one entrance used by the public should be made accessible. If the accessible entrance is not the primary public entrance, directional signs should direct visitors to the accessible entrance (See Figure 5). A rear or service entrance should be avoided as the only mean of entering a building.



Figure 5. A universal access symbol clearly marks the Arts and Industries Building in Washington, D.C., and a push plate (right) engages the automatic door-opener. Photo: Thomas Jester.

Creating an accessible entrance usually involves overcoming a change in elevation. Steps, landings, doors, and thresholds, all part of the entrance, often pose barriers for persons with disabilities. To preserve the integrity of these features, a number of solutions are available to increase accessibility. Typical solutions include regrading, incorporating ramps, installing wheelchair lifts, creating new entrances, and modifying doors, hardware, and thresholds.

**Regrading an Entrance.** In some cases, when the entrance steps and landscape features are not highly significant, it may be possible to regrade to provide a smooth entrance into a building. If the existing steps are historic masonry, they should be buried, whenever possible, and not removed (See Figure 6).

**Incorporating Ramps**. Permanent ramps are perhaps the most common means to make an entrance accessible. As a new feature, ramps should be carefully designed and appropriately located to preserve a property's historic character (See Figure 7). Ramps should be located at public





Figure 6. Entrances can be regraded to make a building accessible as long as no significant landscape features will be destroyed and as long as the building's historic character is preserved. The Houghton Chapel (a) in Wellesley, Massachusetts, was made accessible by regrading over the historic steps (b). Photos: Carol R. Johnson & Associates.



*Figure 7. This ramp is convenient for visitors with disabilities and preserves the building's historic character. The design is also compatible in scale with the building. Photo: William Smith.* 

entrances used by everyone whenever possible, preferably where there is minimal change in grade. Ramps should also be located to minimize the loss of historic features at the connection points—porch railings, steps, and windows—and should preserve the overall historic setting and character of the property. Larger buildings may have below grade areas that can accommodate a ramp down to an entrance (See Figure 8). Below grade entrances can be considered if the ramp leads to a publicly used interior, such as an auditorium, or if the building is serviced by a public elevator. Ramps can often be incorporated behind



Figure 8. A new below-grade ramp provides access to Lake MacDonald Lodge in Glacier National Park. Photo: Thomas Jester

historic features, such as cheek-walls or railings, to minimize the visual effect (See Figure 9).

The steepest allowable slope for a ramp is usually 1:12 (8%), but gentler slopes should be used whenever possible to accommodate people with limited strength. Greater changes in elevation require larger and longer ramps to meet accessibility scoping provisions and may require an intermediate landing. Most codes allow a slightly steeper ramp for historic buildings to overcome one step.

Ramps can be faced with a variety of materials, including wood, brick, and stone. Often the type and quality of the materials determines how compatible a ramp design will be with a historic property (See Figure 10). Unpainted pressure-treated wood should not be used to construct ramps because it usually appears temporary and is not visually compatible with most historic properties. Railings



Figure 9. This ramp was created by infilling the window-well and slightly modifying the historic railing. The ramp preserves this building's historic character. Photo: Thomas Jester.



Figure 10. This brick ramp provides access to St. Anne's Episcopal Church in Annapolis, Maryland. Its design is compatible with the historic building. Photo: Charity V. Davidson.

should be simple in design, distinguishable from other historic features, and should extend one foot beyond the sloped area (See Figure 11).

Ramp landings must be large enough for wheelchair users, usually at least 5 feet by 5 feet (152.5 cm by 152.5 cm), and the top landing must be at the level of the door threshold. It may be possible to reset steps by creating a ramp to accommodate minor level changes and to meet the threshold without significantly altering a property's historic character. If a building's existing landing is not wide or deep enough to accommodate a ramp, it may be



Figure 11. Simple, contemporary railings that extend beyond the ramp slope make this ramp compatible with the industrial character of this building. Photo: Thomas Jester.

necessary to modify the entry to create a wider landing. Long ramps, such as switchbacks, require intermediate landings, and all ramps should be detailed with an appropriate edge and railing for wheelchair users and visually impaired individuals.

Temporary or portable ramps are usually constructed of light-weight materials and, thus, are rarely safe or visually compatible with historic properties. Moreover, portable ramps are often stored until needed and, therefore, do not meet accessibility requirements for independent access. Temporary and portable ramps, however, may be an acceptable interim solution to improve accessibility until a permanent solution can be implemented (See Figure 12).



elevation ranging from three to 10 feet (.9 m-3 m) in height. However, many States have restrictions on the use of wheelchair lifts, so all applicable codes should be reviewed carefully before installing one. Figure 12. The Smithsonian Institution Inclined stair lifts, which carry a wheelchair on a platform up a flight of stairs, may be

**Installing Wheelchair** Lifts. Platforms lifts and inclined stair lifts,

accommodate only one person, can be used to overcome changes of

employed selectively.

both of which

installed a temporary ramp on its visitor's center to allow adequate time to design an appropriate permanent ramp. Photo: Thomas Jester.

They tend to be visually intrusive, although they are relatively reversible. Platform lifts can be used when there is inadequate space for a ramp. However, such lifts should be installed in unobtrusive locations and under cover to minimize maintenance if at all possible (See Figure 13). A similar, but more expensive platform lift has a retracting railing that lowers into the ground, minimizing the visual effect to historic properties (See Figure 14). Mechanical lifts have drawbacks at historic properties with high public visitation because their capacity is limited, they sometimes cannot be operated independently, and they require frequent maintenance.

Considering a New Entrance. When it is not possible to modify an existing entrance, it may be possible to develop a new entrance by creating an entirely new opening in an appropriate location, or by using a secondary window for an opening. This solution should only be considered after exhausting all possibilities for modifying existing entrances (See Figure 15).

Retrofitting Doors. Historic doors generally should not be replaced, nor should door frames on the primary elevation

be widened, as this may alter an important feature of a historic design. However, if a building's historic doors have been removed, there may be greater latitude in designing a compatible new entrance. Most accessibility standards require at least a 32" (82 cm) clear opening with manageable door opening pressures. The most desirable preservation solution to improve accessibility is retaining historic doors and upgrading the door pressure with one of several devices. Automatic door openers



Figure 13. Platform lifts like the one used on this building require minimal space and can be removed without damaging historic materials. Shielded with lattice work, this lift is also protected by the roof eaves. Approach path should be stable, firm, and slip resistant. Photo: Sharon Park.

#### **Readily Achievable Accessibility** Modifications



Many accessibility solutions can be implemented easily and inexpensively without destroying the significance of historic properties. While it may not be possible to undertake all of the modifications listed below, each change will improve accessibility.

#### **Sites and Entrances**

- Creating a designated parking space.
- Installing ramps.
- Making curb cuts.

#### Interiors

- Repositioning shelves.
- Rearranging tables, displays, and furniture.
- Repositioning telephones.
- Adding raised markings on elevator control buttons.
- Installing flashing alarm lights.
- Installing offset hinges to widen doorways.
- Installing or adding accessible door hardware.
- Adding an accessible water fountain, or providing a paper cup dispenser at an inaccessible water fountain.

#### Restrooms

- Installing grab bars in toilet stalls.
- Rearranging toilet partitions to increase maneuvering space.
- Insulating lavatory pipes under sinks to prevent burns.
- Installing a higher toilet seat.
- Installing a full-length bathroom mirror.
- Repositioning the paper towel dispenser.



Figure 14. At the Lieutenant Governor's Mansion in Frankfort, Kentucky, a retracting lift (b) was installed to minimize the visual effect on this historic building when not in use (a). Photos: Aging Technology Incorporated.





Figure 15. A new entrance to the elevator lobby replaces a window at Faneuil Hall in Boston, Massachusetts. The new entrance is appropriately differentiated from the historic design. Photo: Paul Holtz.

(operated by push buttons, mats, or electronic eyes) and power-assisted door openers can eliminate or reduce door pressures that are accessibility barriers, and make single or double-leaf doors fully operational (See Figure 16).

Adapting Door Hardware. If a door opening is within an inch or two of meeting the 32" (81 cm) clear opening requirement, it may be possible to replace the standard hinges with off-set hinges to increase the size of the door opening as much as 1 1/2" (3.8 cm). Historic hardware can be retained in place, or adapted with the addition of an automatic opener, of which there are several types. Door hardware can also be retrofitted to reduce door pressures. For example, friction hinges can be retrofitted with ballbearing inserts, and door closers can be rethreaded to reduce the door pressure.

Altering Door Thresholds. A door threshold that exceeds the allowable height, generally 1/2'' (1.3 cm), can be altered or removed with one that meets applicable accessibility



Figure 16. During the rehabilitation of the Rookery in Chicago, the original entrance was modified to create an accessible entrance. Two revolving doors were replaced with a new one flanked by new doors, one of which is operated with a push-plate door opener. Photo: Thomas Jester.

requirements. If the threshold ... deemed to be significant, a bevel can be added on each side to reduce its height (See Figure 17). Another solution is to replace the threshold with one that meets applicable accessibility requirements and is visually compatible with the historic entrance.

#### **Moving Through Historic Interiors**

Persons with disabilities should have independent access to all public areas and facilities inside historic buildings. The extent to which a historic interior can be modified depends on the significance of its materials, plan, spaces, features, and finishes. Primary spaces are often more difficult to modify without changing their character. Secondary spaces may generally be changed without compromising a building's historic character. Signs should clearly mark the route to accessible restrooms, telephones, and other accessible areas.

**Installing Ramps and Wheelchair Lifts.** If space permits, ramps and wheelchair lifts can also be used to increase accessibility inside buildings (See Figures 18 & 19). However, some States and localities restrict interior uses of wheelchair lifts for life-safety reasons. Care should be taken to install these new features where they can be readily accessed. Ramps and wheelchair lifts are described in detail on pages 4–6.

**Upgrading Elevators.** Elevators are an efficient means of providing accessibility between floors. Some buildings have existing historic elevators that are not adequately accessible for persons with disabilities because of their size, location, or detailing, but they may also contribute to the historical significance of a building. Significant historic elevators can usually be upgraded to improve accessibility. Control panels can be modified with a "wand" on a cord to make the control panel accessible, and timing devices can usually be adjusted.

**Retrofitting Door Knobs**. Historic door knobs and other hardware may be difficult to grip and turn. In recent years, lever-handles have been developed to replace door knobs. Other lever-handle devices can be added to existing hardware. If it is not possible or appropriate to retrofit existing door knobs, doors can be left open during operating hours (unless doing so would violate life safety codes), and power-assisted door openers can be installed. It may only be necessary to retrofit specific doorknobs to create an accessible path of travel and accessible restrooms.



Figure 17. Thresholds that exceed allowable heights can be modified several ways to increase accessibility. Source: Uniform Federal Accessibility Standard (UFAS) Retrofit Manual.

**Modifying Interior Stairs.** Stairs are the primary barriers for many people with disabilities. However, there are some ways to modify stairs to assist people who are able to navigate them. It may be appropriate to add hand railings if none exist. Railings should be 1 1/4'' (3.8 cm) in diameter and return to the wall so straps and bags do not catch. Color-contrasting, slip-resistant strips will help people with visual impairments. Finally, beveled or closed risers are recommended unless the stairs are highly significant, because open risers catch feet (See Figure 20).

#### **Building Amenities**

Some amenities in historic buildings, such as restrooms, seating, telephones, drinking fountains, counters, may contribute to a building's historic character. They will often require modification to improve their use by persons with disabilities. In many cases, supplementing existing amenities, rather than changing or removing them, will increase access and minimize changes to historic features and materials.

**Upgrading Restrooms**. Restrooms may have historic fixtures such as sinks, urinals, or marble partitions that can

be retained in the process of making modifications. For example, larger restrooms can sometimes be reconfigured by relocating or combining partitions to create an accessible toilet stall. Other changes to consider are adding grab bars around toilets, covering hot water pipes under sinks with insulation to prevent burns, and providing a sink, mirror, and paper dispenser at a height suitable for wheelchair users. A unisex restroom may be created if it is technically infeasible to create two fully accessible restrooms, or if doing so would threaten or destroy the significance of the building. It is important to remember that restroom fixtures, such as sinks, urinals, and partitions, may be historic, and therefore, should be preserved whenever possible.

Modifying Other Amenities. Other amenities inside historic buildings may require modification. Seating in a theater, for example, can be made accessible by removing some seats in several areas (See Figure 21). New seating that is accessible can also be added at the end of existing rows, either with or without a level floor surface. Readily removable seats may be installed in wheelchair spaces when the spaces are not required to accommodate wheelchair users. Historic water fountains can be retained and new, two-tiered fountains installed if space permits. If public telephones are provided, it may be necessary to install at least a Text Telephone (TT), also known as a Telecommunication Device for the Deaf (TDD) (See Figure 22). Historic service counters commonly found in banks, theaters, and hotels generally should not be altered. It is preferable to add an accessible counter on the end of a historic counter if feasible. Modified or new counters should not exceed 36" (91.5 cm) in height.



Figure 18. Symmetrical ramps at the Mayflower Hotel in Washington, D.C., provide access to the hotel's lower level. The design for the ramps respects the historic character of this landmark building. Photo: Thomas Jester.

## MAKING A HISTORIC BUILDING ACCESSIBLE











The Orange County Courthouse (a), located in Santa Ana, California, was rehabilitated in the late 1980s as a county museum. As part of the rehabilitation, the architect sensitively integrated numerous modifications to increase accessibility. To preserve the building's primary elevation, a new public entrance was created on the rear elevation where parking spaces are located. A ramp (b) leads to the accessible entrance that can be opened with a push-plate automatic door-opener (c). Modifications to interior features also increased accessibility. To create an accessible path of travel, offset hinges (d) were installed on doors that were narrower than 32 inches (81.3 cm). Other doors were rethreaded to reduce the door pressure. Beveling the 1" high thresholds (e) reduced their height to approximately 1/4 inch (.64 cm). The project architect also converted a storeroom into an accessible restroom (f). The original stairway, which has open grillwork, was made more accessible by applying slip-resistant pressure tape to the marble steps (g). And the original elevator was upgraded with raised markings, alarm lights, and voice floor indicators. Photos: Milford Wayne Donaldson, FAIA.

### MAKING HISTORIC LANDSCAPES ACCESSIBLE

To successfully incorporate access into historic landscapes, the planning process is similar to that of other historic properties. Careful research and inventory should be undertaken to determine which materials and features convey the landscape's historical significance. As part of this evaluation, those features that are character-defining (topographical variation, vegetation, circulation, structures, furnishings, objects) should be identified. Historic finishes, details, and materials that also contribute to a landscape's significance should also be documented and evaluated prior to determining an approach to landscape accessibility. For example, aspects of the pedestrian circulation system that need to be understood include walk width, aggregate size, pavement pattern, texture, relief, and joint details. The context of the walk should be understood including its edges and surrounding area. Modifications to surface textures or widths of pathways can often be made with minimal effect on significant landscape features (a) and (b).

Additionally, areas of secondary importance such as altered paths should be identified -- especially those where the accessibility modifications will not destroy a landscape's significance. By identifying those features that are contributing or non-contributing, a sympathetic circulation experience can then be developed.

After assessing a landscape's integrity, accessibility solutions can be considered. Full access throughout a historic landscape may not always be possible. Generally, it is easier to provide accessibility to larger, more open



(a.) To improve accessibility in Boston's Emerald Necklace Parks, standard asphalt paving was replaced in selected areas with an imbedded aggregate surface that is more in keeping with the landscape's historic appearance. Photo: Charles Birnbaum.



(b.) The Friendly Garden at Ranchos Los Alamitos, a historic estate with designed gardens in southern California, was made accessible with limited widening of its existing approach path. Photo: Ranchos Los Alamitos Foundation.

sites where there is a greater variety of public experiences. However, when a landscape is uniformly steep, it may only be possible to make discrete portions of a historic landscape accessible, and viewers may only be able to experience the landscape from selected vantage points along a prescribed pedestrian or vehicular access route. When defining such a route, the interpretive value of the user experience should be considered; in other words, does the route provide physical or visual access to those areas that are critical to understand the meaning of the landscape?

- The following accessibility solutions address three common landscape situations: 1) structures with low integrity landscapes; 2) structures and landscapes of equal significance; and, 3) landscapes of primary significance with inaccessible terrain.
- 1. The Hunnewell Visitors Center at the Arnold Arboretum in Jamaica Plain, Massachusetts, was constructed in 1892. Its immediate setting has changed considerably over time (c). Since the existing landscape immediately surrounding this structure has little remaining integrity, the new accessibility solution has the latitude to integrate a broad program including site orientation, circulation, interpretation, and maintenance.

The new design, which has few ornamental plants, references the original planting design principles, with a strong emphasis on form, color, and texture. In contrast with the earlier designs, the new plantings were set away from the facade of this historic building,



(c.) Hunnewell Visitor's Center before rehabilitation, revealing the altered landscapes. Photo: Jennifer Jones, Carol R. Johnson and associates.



(d.) Hunnewell Visitors Center's entrance following rehabilitation, integrating an accessible path (left), platform, and new steps. Photo: Charles Birnbaum.

allowing the visitor to enjoy its architectural detail. A new walk winds up the gentle earthen berm and is vegetated with plantings that enhance the interpretive experience from the point of orientation (d). The new curvilinear walks also provide a connection to the larger arboretum landscape for everyone.

- 2. The Eugene O'Neill National Historic Site overlooks the San Ramon Valley, twenty-seven miles east of San Francisco, California. The thirteen-acre site includes a walled courtyard garden on the southeast side of the Tao House, which served as the O'Neill residence from 1937-44 (e). Within this courtyard are characterdefining walks that are too narrow by today's accessibility standards, yet are a character-defining element of the historic design. To preserve the garden's integrity, the scale and the characteristics of the original circulation were maintained by creating a wheelchair route which, in part, utilizes reinforced turf. This route allows visitors with disabilities to experience the main courtyard as well.
- 3. Morningside Park in New York City, New York, designed by Frederick Olmstead, Sr., and Calvert Vaux in 1879, is sited on generally steep, rocky terrain (f). Respecting these dramatic grade changes, which are only accessible by extensive flights of stone stairs, physical access cannot be provided without destroying the park's integrity. In order to provide some accessibility, scenic overlooks were created that provide broad visual access to the park.



(e.) This view shows the new reinforced turf path at the Eugene O'Neill National Historic Site that preserved the narrow Historic Path. Photo: Patricia M. O'Donnell.



(f.) Steep terrain at Morningside Park in New York City cannot be made accessible without threating or destroying this landscape's integrity. Photo: Quennell Rothschild Associates.



Figure 19. Inclined lifts can sometimes overcome interior changes of elevation where space is limited. This lift in Boston's Faneuil Hall created access to the floor and stage level of the State Room. Photo: Paul Holtz.

# Considering a New Addition as an Accessibility Solution

Many new additions are constructed specifically to incorporate modern amenities such as elevators, restrooms, fire stairs, and new mechanical equipment. These new additions often create opportunities to incorporate access for people with disabilities. It may be possible, for example, to create an accessible entrance, path to public levels via a ramp, lift, or elevator (See Figure 23). However, a new addition has the potential to change a historic property's appearance and destroy significant building and landscape features. Thus, all new additions should be compatible with the size, scale, and proportions of historic features and materials that characterize a property (See Figure 24).

New additions should be carefully located to minimize connection points with the historic building, such that if the addition were to be removed in the future, the essential form and integrity of the building would remain intact. On the other hand, new additions should also be conveniently located near parking that is connected to an accessible route for people with disabilities. As new additions are incorporated, care should be taken to protect significant landscape features and archeological resources. Finally, the design for any new addition should be differentiated from the historic design so that the property's evolution over time is clear. New additions frequently make it possible to increase accessibility, while simultaneously reducing the level of change to historic features, materials, and spaces.



Figure 20. In certain situations it may be appropriate to modify stair nosings for persons with mobility impairments. Whenever possible, stairs should be modified by adding new materials rather than removing historic materials. Source: UFAS Retrofit Manual.



Figure 22. Amenities such as telephones should be at height that wheelchair users can reach. Changes to many amenities can be adapted with minimal effect on historic materials, features, and spaces. Source: UFAS Retrofit Manual.



Figure 21. Seating in historic theaters and auditoriums can be changed to accommodate wheelchair users. Accessible seating areas should be connected to an accessible route from the building entrance. Source: UFAS Retrofit Manual.

#### **Federal Accessibility Laws**

Today, few building owners are exempt from providing accessibility for people with disabilities. Before making any accessibility modification, it is imperative to determine which laws and codes are applicable. In addition to local and State accessibility codes, the following federal accessibility laws are currently in effect:

#### Architectural Barriers Act (1968)

The Architectural Barriers Act stipulates that all buildings designed, constructed, and altered by the Federal Government, or with federal assistance, must be accessible. Changes made to federal buildings must meet the Uniform Federal Accessibility Standards (UFAS). Special provisions are included in UFAS for historic buildings that would be threatened or destroyed by meeting full accessibility requirements.

#### **Rehabilitation Act (1973)**

The Rehabilitation Act requires recipients of federal financial assistance to make their programs and activities accessible to everyone. Recipients are allowed to make their properties accessible by altering their building, by moving programs and activities to accessible spaces, or by making other accommodations.

#### Americans with Disabilities Act (1990)

Historic properties are not exempt from the Americans with Disabilities Act (ADA) requirements. To the greatest extent possible, historic buildings must be as accessible as non-historic buildings. However, it may not be possible for some historic properties to meet the general accessibility requirements.

Under Title II of the ADA, State and local governments must remove accessibility barriers either by shifting services and programs to accessible buildings, or by making alterations to existing buildings. For instance, a licensing office may be moved from a second floor to an accessible first floor space, or if this is not feasible, a mail service might be provided. However, State and local government facilities that have historic preservation as their main purpose—State-owned historic museums, historic State capitols that offer tours—must give priority to physical accessibility.

Under Title III of the ADA, owners of "public accommodations" (theaters, restaurants, retail shops, private museums) must make "readily achievable" changes; that is, changes that can be easily accomplished without much expense. This might mean installing a ramp, creating accessible parking, adding grab bars in bathrooms, or modifying door hardware. The requirement to remove barriers when it is "readily achievable" is an ongoing responsibility. When alterations, including restoration and rehabilitation work, are made, specific accessibility requirements are triggered.

Recognizing the national interest in preserving historic properties, Congress established alternative requirements for properties that cannot be made accessible without "threatening or destroying" their significance. A consultation process is outlined in the ADA's Accessibility Guidelines for owners of historic properties who believe that making specific accessibility modifications would "threaten or destroy" the significance of their property. In these situations, after consulting with persons with disabilities and disability organizations, building owners should contact the State Historic Preservation Officer (SHPO) to determine if the special accessibility provisions for historic properties may be used. Further, if it is determined in consultation with the SHPO that compliance with the minimum requirements would also "threaten or destroy" the significance of the property, alternative methods of access, such as home delivery and audio-visual programs, may be used.



Figure 23. New additions to historic buildings can be designed to increase accessibility. A new addition links two adjacent buildings used for the Albany, New York, Visitor's Center, and incorporates an accessible entrance, restrooms, and signage. Photo: Clare Adams.



Figure 24. Creating an accessible entrance with a new elevator tower requires a compatible design. This elevator addition blends in with the historic building's materials and provides access to all public levels. Photo: Sharon Park.

#### Conclusion

Historic properties are irreplaceable and require special care to ensure their preservation for future generations. With the passage of the Americans with Disabilities Act, access to historic properties open to the public is a now civil right, and owners of historic properties must evaluate existing buildings and determine how they can be made more accessible. It is a challenge to evaluate properties thoroughly, to identify the applicable accessibility requirements, to explore alternatives and to implement solutions that provide independent access and are consistent with accepted historic preservation standards. Solutions for accessibility should not destroy a property's significant materials, features and spaces, but should increase accessibility as much as possible. Most historic buildings are not exempt from providing accessibility, and with careful planning, historic properties can be made more accessible, so that all citizens can enjoy our Nation's diverse heritage.



Photo: Massachusetts Historical Commission.

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