

# PIONEER HALL

KETCHIKAN ALASKA

HISTORIC BUILDING ASSESSMENT

Prepared by  
PIONEERS OF ALASKA, KETCHIKAN  
HISTORIC KETCHIKAN, INC. &  
WELSH WHITELEY ARCHITECTS

for the  
Alaska Office of History & Archaeology  
and the  
Ketchikan Historic Commission  
City of Ketchikan







# PIONEER HALL

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K E T C H I K A N                      A L A S K A

## HISTORIC BUILDING ASSESSMENT

Prepared by the  
Pioneers of Alaska and Historic Ketchikan Project Team  
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Scott, Joe May, Keith Nelson, and Robbie Vincent

with guidance and archival research support of  
Anita Maxwell & Erika Brown  
City of Ketchikan Museum Department





*The historic Pioneer Hall, on a promontory once overlooking Tongass Narrows, is now surrounded by neighboring City Hall, Gilmore Hotel, Performing Arts Center and the police station. Pioneer Way connects the Hall to Front, Grant and Main streets.*



# ACKNOWLEDGEMENTS

The Pioneer Hall Historic Building Assessment was guided by the Alaska Office of History and Archaeology and the Ketchikan Historic Commission. The project was supported in great measure by the City of Ketchikan Museum Department.

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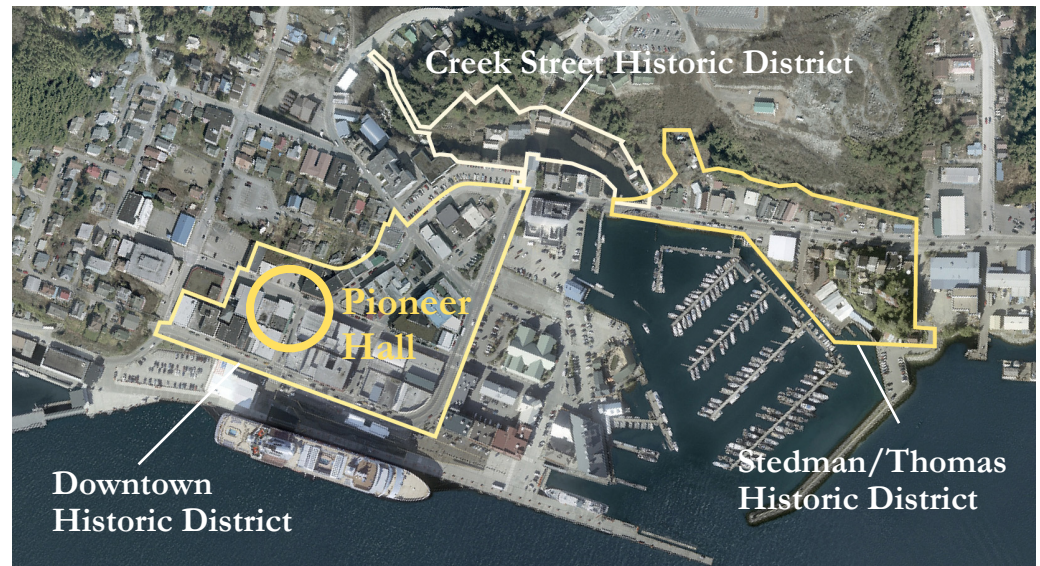
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*The Pioneer Hall is located in the heart of Ketchikan's Downtown Historic District and is the oldest building in Ketchikan's three historic districts.*

### A Brief History of the Pioneer Hall

Construction of the building began in 1899 and was completed in 1900 to serve as the US Customs House. Its prominent site overlooking the waterfront and 50' flagpole was a beacon for early seafarers coming to Ketchikan.

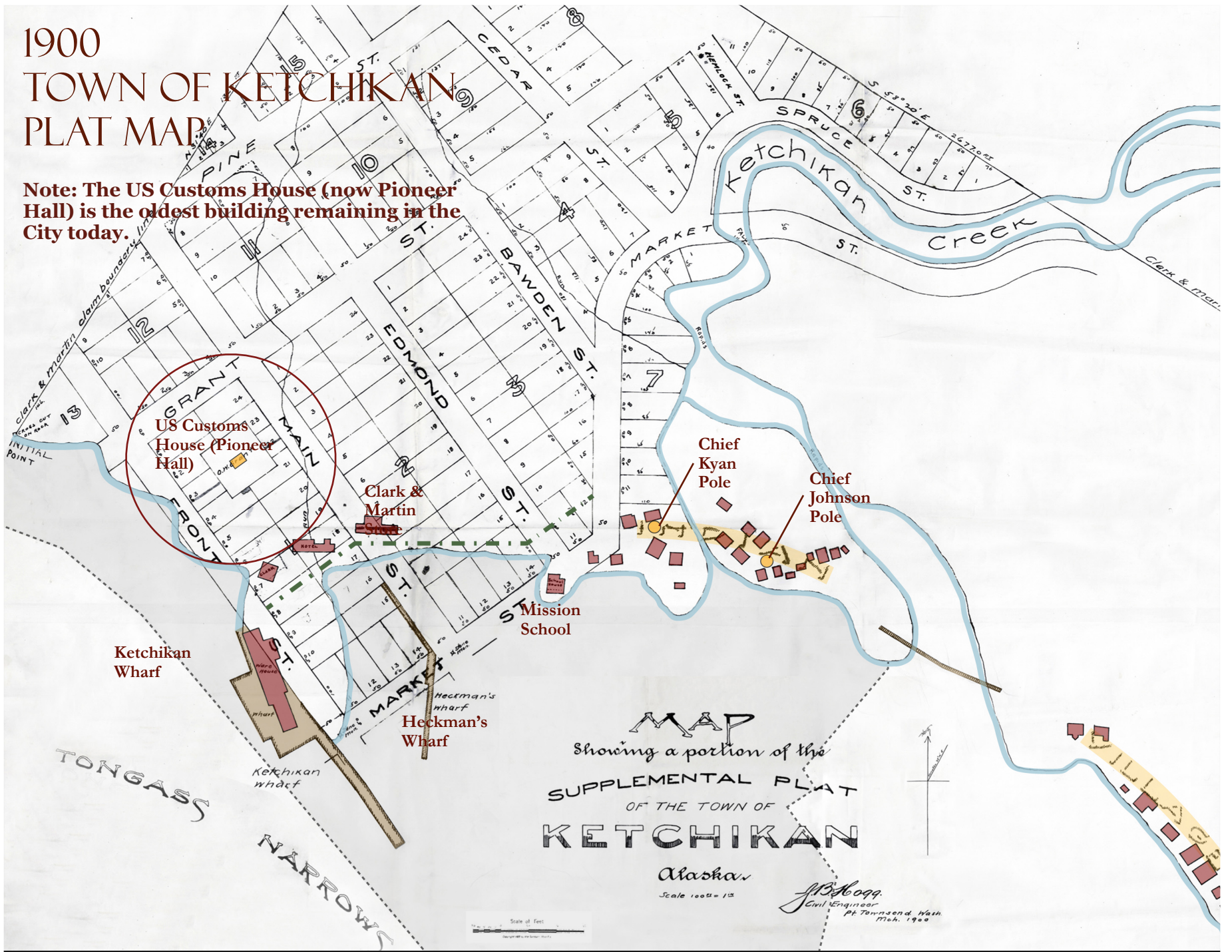
The building was "re-purposed" in 1907 to serve as a boarding house until ultimately in 1922 becoming the home of the Pioneers of Alaska Men's Igloo 16 and Women's Igloo 7. It has served this role for very close to 100 years. Both Igloo memberships have contributed to the Ketchikan community in meaningful ways and continue to do so. The Pioneers intend to continue to own and occupy the building for the foreseeable future.

Pioneer Hall is the oldest remaining building in the Downtown Historic District. It is a contributing building to the Historic District and may be individually eligible for the National Register of Historic Places. Careful historic restoration would enable the Pioneer Hall to become a centerpiece of Ketchikan's historic preservation efforts.



# 1900 TOWN OF KETCHIKAN PLAT MAP

**Note: The US Customs House (now Pioneer Hall) is the oldest building remaining in the City today.**



# PART ONE: BACKGROUND

## Introduction to the Assessment

The Pioneer Hall is an iconic Ketchikan landmark from the community's earliest days. It was the first Customs House located in Ketchikan (1900-1907) and has been a prominent landmark in the community since 1900. In 1922, it began a new life of serving the Pioneers of Alaska (Igloo No. 16 and Igloo 7). The Pioneers have continued to meet in this building over the ensuing nearly 100 years. This is the Downtown Historic District's oldest building and a contributing building to the District's National Register of Historic Places designation. While the building has been altered over the years, the Pioneer Hall may be individually eligible for the National Register by virtue of its place in Ketchikan's history.

It is a two-story, wood frame building on post foundations constructed over bedrock. The building footprint is approximately 1,786 sf. The building has been significantly altered on all four elevations and in its interior. Modifications were made to its Front Street facade in its early years and continued to be made to visible facades along Pioneer Way. An addition to the Main Street side of the building occurred in 1947 and this modified the building envelope. Many of the historic double-hung windows have been removed. Machine-grooved, cedar shingle siding covers original channel shiplap siding. Some original exterior details may remain under this "skin." Inside, little original detailing remains although, again, removal of more recent surface elements, such as the acoustic tiles, may reveal some original details.

The building needs attention to its foundation and to some structural deficiencies. A restoration would include upgrading of mechanical and electrical systems, installing a fire protection sprinkler system, meeting ADA access requirements, and restoring exterior and interior architectural features as described in this assessment.

The Pioneer Hall tells an important story about the roots of our community. The building has been recommended as eligible for the National Register of Historic Places by the State Historic Preservation Office, Ketchikan Historic Commission and Historic Ketchikan. Its eligibility is determined more by its place in history than the current condition of the building. It is also listed as a contributing building to the recently-established Downtown National Register Historic District .

With a grant from the Alaska Office of History and Archaeology, a team of local architects, engineers, code compliance specialists, historians and restoration specialists were brought together to provide this assessment in order to guide the development, restoration and use of the structure. The team has conducted this Historic Building Assessment in compliance with Secretary of Interior standards. The work has been carried out by the team in coordination with the Pioneer Hall leadership, the Ketchikan Historic Commission, the Historic Ketchikan Board, and the City of Ketchikan Museum. The City of Ketchikan, Historic Ketchikan and Women's Igloo #7 have also provided financial contributions.

Archival research was carried out by members of the Pioneers of Alaska to gather information on the building's history, original construction and later modifications, occupancies and uses over time. Historical photographs were gathered to develop a chronology of building changes and to determine the character and detailing of missing elements.

The team's work included building walkthroughs to examine structural integrity, mechanical and electrical systems, and exterior and interior materials. The resulting contributions of the team's individual experts provide documentary, graphic and physical information about the Pioneer Hall existing conditions.

The team assessment is designed to thoughtfully select the most appropriate approach to treatment and to outline a scope of recommended work. The document is intended to guide changes to be made to the property: repair, rehabilitation and restoration. The scope of recommended work ranges from minor repairs to structural stabilization to extensive restoration of exterior and interior surfaces. The level of detail to which the work items are defined are limited in this document and its recommendations serve as the foundation for, rather than in place of, design and construction documents for the work.



*This c. 1913 photo shows the partially-obscured features of the original exterior including the many double-hung windows, hip roof and its then still visually prominent location. In spite of changes over its 121-year history, its basic features and many of its original trim details could be restored.*



# BUILDING HISTORY

## Period of Significance, 1900-1922 Pioneer Hall Beginnings

Ketchikan's first structures were temporary shelters built by the Tlingit, who came to Ketchikan Creek every summer for tens of generations to harvest the stream's bountiful salmon. By the early 1890s, some 40 individuals lived in permanent dwellings along the shoreline west of the creek mouth. By the turn of the century, Ketchikan was a bustling center of commerce featuring mining and fisheries activities and was home to 700 full time residents.

The Pioneer Hall was an early symbol of the entrepreneurship of the men and women pioneers who arrived in the town. Construction began in 1899 on the building now known as the Pioneer Hall.

Orlando W. Grant, a local businessman, constructed the building. He was known as Six-Shooter Grant due to the two nickel-plated, ivory handled guns he wore. Grant Street, running parallel to the Hall, bears his name today. Like many gentlemen of the day, Six-Shooter was an advocate for Ketchikan's development. Seeing an opportunity, he was instrumental in encouraging the U.S. Customs operation located on Mary Island to move to Ketchikan. It's unclear if he had the idea to move the Customs operation to Ketchikan first or if he started construction of the Hall in 1899 then encouraged the move. Nevertheless, the building was finished in 1900 and he negotiated with Customs officials for the rent of his building, located '50 feet off of Main Street and fronting Front Street' where it continues to stand as the oldest building in the City. Six-Shooter was later appointed as the town's first Deputy U.S. Marshall and he became a Pioneer of Alaska member.

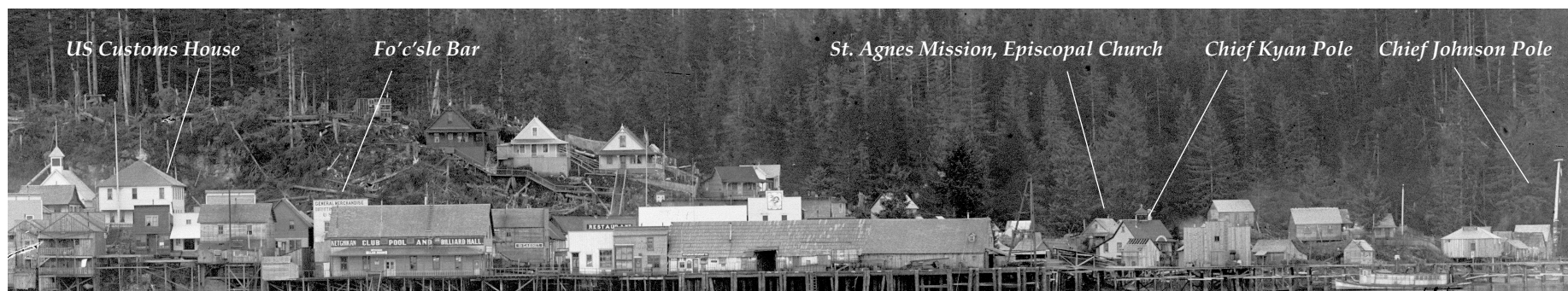


*U.S. Customs House overlooking the booming frontier town, c. 1903*

The rental of the Pioneer Hall in 1900 by U.S. Customs was not without controversy. The Deputy Director of Customs at the time was concerned about the Customs agents living in the building unless the U.S. Government owned it. Therefore, the agent was required to pay the rent for him and his family to live upstairs in the building. However, the agent complained since he hadn't paid rent while at Mary Island. He was assured he would receive a raise to cover the rent cost incurred.

U.S. Customs continued to lease the Hall until Fall, 1907. During that time, a tall flag post was erected in front of the Customs House/Pioneer Hall with a large American flag on prominent display. The flag became a beacon for seafarers traveling to Ketchikan as it dominated the waterfront. The flagpole remained in place until November, 1913 when a windstorm blew it down.

The occupancy of the building between 1907 and 1913 is undocumented, but speculation is it operated as a rooming house. In 1913, a Mrs. Mercer leased the building to open a private club and boarding house. During this time period, the building was called the Inside Inn Boarding House.



*U.S. Customs House and its prominent flagpole, in 1902, stand out on the early Ketchikan waterfront. Noted are historic buildings/artifacts remaining today as well as precursor sites to those in now different locations. For example, Chief Kyan Pole is shown at its original site; it is now in its fourth location.*

## Period of Significance, 1922-1971

### Pioneer Hall & Men's Igloo #16

In the early Territorial Days of Alaska, a number of organizations formed for civic and social purposes. These organizations filled a gap in the absence of clearly defined government, including the lack of a viable court system. Often, the organizations provided food, shelter, medical and other assistance and encouraged civic order in government, the courts and education.

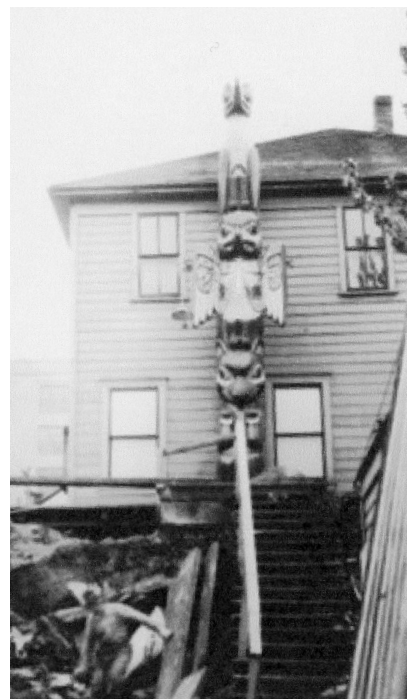
From the many organizations, rose the Pioneers of Alaska, who formed in Nome in 1907 to provide an "Alaskan Order". Chapters, known as Igloos, sprang up across the State, with Pioneers of Alaska Igloo #16 established in Ketchikan in June, 1917 and received its charter in March, 1918. The Igloo met at the Redman Hall in the early years. The members immediately showed their civic duty by hosting the visiting U.S. Secretary of Commerce, William C. Redfield. Meeting minutes of the time reported that "the reception (for the Secretary) was a success and that Ketchikan was now on the map to stay with a brilliant future promised."

The early members to the Ketchikan Igloo #16 read like a veritable "Who's Who" of the frontier community and included Axel Osberg, Peter Gilmore, attorney at law, Alec Brindle, founder of Ward Cove Cannery, Eugene Wacker, and Captain Eric Forss. By 1922, members determined that they needed their own meeting space and they purchased the now Pioneer Hall from the Arctic Brotherhood for the princely sum of \$4,000.00. The funds were secured through private loans made by the members who were later paid back by the membership's fund raising efforts.

Throughout the 1920s, Igloo #16 was instrumental in the growth of Ketchikan, advocating for various infrastructure projects within the region, including new schools, health care facilities, an "aeroplane" landing site, a post office for Hyder, a Federal building, and a cemetery (later Bayview Cemetery).

In the 1920s, the building experienced its first major exterior alteration. The porch was enclosed and replaced by a covered door on the NW (Pioneer Way) side of the building. At this time, the many double-hung windows were still visible (see adjacent photo), but over time these were boarded over as other buildings were constructed around Pioneer Hall.

The building's interior remained essentially the same, with the exception of modest changes to the interior, which was repainted and papered in 1925. Minutes indicate that there are still boarding rooms during this time being rented on the upper floor, an estimated six rooms renting from \$15.00 to \$20.00 a month.



*This 1925 view from Front Street shows the then recent installation of the Chief Kyan totem pole as well as modifications to the building including the removal of the porch and entry door. The flagpole was not replaced after a storm took it down. The excavation on the left is for the Citizens Light, Power & Water building (now City Hall).*

*Later in 1925, the "Pioneer's Hall" sign was added as well as a new covered entry on the NW elevation (Pioneer Way). The original double-hung windows and channel siding are evident in both photos.*



In 1924, the iconic Kyan Totem Pole was moved to the Front Street facing side of the Pioneer Hall. The pole had been on the property of a Mr. Collings, a Pioneers of Alaska member, who made the pole available to the Pioneers (see original location on the preceding page). 15 years later, the Kyan family asserted its ownership of the pole and that initiated a series of further Kyan pole relocations—first to upper Main Street for many years and then to its present location at Whale Park.



## Pioneer Hall & Women's Igloo #7

In the 1920s, the Statewide Pioneers organization, known as the Grand Igloo, opened membership to women, albeit restricted to the spouses of the men in existing igloos. Immediately, the women of Ketchikan formed their Igloo in June, 1922. Charter members included another who's who of Ketchikan at the time. They include: Harriet E. Hunt; Wanda Zimmerman; Bertha Hunt Wells; and Martine Oaksmith.

The Pioneer women, known as Igloo #7, are noteworthy for their social, civic and philanthropic activities. Early on in its history, Igloo #7 involved themselves in matters of community importance, including establishing a museum; advocating for an "institution for Alaskans in Alaska for indigent people with illnesses rather than shipping them outside"; and promoting a facility for widowed women "without means." They were equally involved in the infrastructure projects of the community, including the playground, hospital, public health clinic/center and schools.

In 1937, the upper floor of the Hall was renovated with partitions removed and new flooring installed to accommodate a museum. Minutes from Igloo #7 indicate efforts by Igloo #7 and the Civic Club to "prepare the Harriet E. Hunt Memorial Museum." A large mineral collection was put on display along with a variety of photographs featuring scenes throughout the Territory and curios. Many of these artifacts still remain in the building.

Like the men's Igloo, the women were committed to the welfare of community members. Starting in the 1930s the women consistently donated funds to the Salvation Army, March of Dimes, Forget-Me-Not Orthopedic Auxiliary, Red Cross, Girl Scouts, Pioneer Haven, Sitka Pioneer Home and a myriad of other community causes.

Ketchikan elders have truly benefited from the commitment and financial support of the Women Pioneers. Their watershed project started in 1938, with their arduous push to establish a "home for aged and disabled women" in Ketchikan. Interest for such a facility increased in the 1940s when a member, Christie Hansen, became the driving force in establishing what became known as Pioneer Haven. She started a Jumble Shop in 1947, located in the Thomas Basin area, "donating my labor and bus fare" to raise funds for it.

With the generous donations of two women members, a four-apartment facility called Pioneer Haven was erected in 1953. This facility served as housing for the elderly until 1981. In 2000, the women Pioneers again answered the call to fill an urgent community need—affordable senior housing. The women donated the property on which Pioneer Heights, an eight-unit apartment building, stands today.



*The 1963 Pioneer Hall interior photo shows some interior changes including the addition of acoustical tiles and painting of the wainscoting.*



*This 1984 photo of a gathering in the Hall shows the interior changes: removal of windows, wainscoting, and radiators, and addition of wall paneling, sheet vinyl flooring, and suspended ceiling panels.*

## Pioneer Hall Changes: Mid-Century to Present

In 1947, the Pioneer Hall underwent a major change to its exterior. A survey error between Lot 10, owned by the Pioneers of Alaska, and Lot 12, owned by the Elks Club was discovered. To settle the error, a common wall was constructed between the Elks' new building and the existing Pioneer Hall. The Elks agreed to pay for the cost or do the work of moving the Pioneer Hall kitchen from the disputed property and relocate it to the northeast side of the Hall. This explains the adjustment to the building's roofline, which modified the symmetry of the hip roof on the northeast side of the building.

Also in the 1940s, photos document alterations to the Hall's interior including removal of the wood wainscoting and its replacement with painted plywood as well as the addition of acoustic tiles on the walls and ceiling. Windows continued to be boarded over as well and only two remained by the 1960s. These two original windows still remain on the 2<sup>nd</sup> floor northwest side near the west corner and in the apartment.

Just as the Pioneer Hall has undergone various changes over the years, Pioneer activities gradually changed to reflect the times. During the mid-century years, donations include the Ambulance Fund, Heart Fund, Cancer Society, Children's Home and Salvation Army. A variety of equipment (wheelchair, hospital bed) owned by Igloo #7 was available to loan out to community members. The Igloo also contributed to Ketchikan and statewide events, including the St. Michael's Church fire in Sitka, the Anchorage earthquake and the Alaska Centennial celebration during which eleven new members were initiated as a Centennial Group. The women's Igloo also paid for and had installed a wooden bench on the dock by Ryus Float for people "to rest."

In the 1970s and 80s, the women's and men's Pioneer Igloos continued their advocacy roles on behalf of local and State citizens. They vocally encouraged the passage of the State Longevity Bonus program, an increase in Pioneer Homes throughout the State (including the Ketchikan Home), designation of National Monuments and establishment of the Alaska State Museum.

Thanks to the lobbying efforts of both Pioneers of Alaska Igloos and numerous community organizations, the Ketchikan Pioneer Home opened in November 1981. At the outset, Igloo #7 became a sponsor, hosting the open house. They hold a monthly birthday party for the residents and an annual Christmas Party complete with gifts; traditions started in 1981. They hold Spring and Fall tea parties. They also provided pet care support at one time.

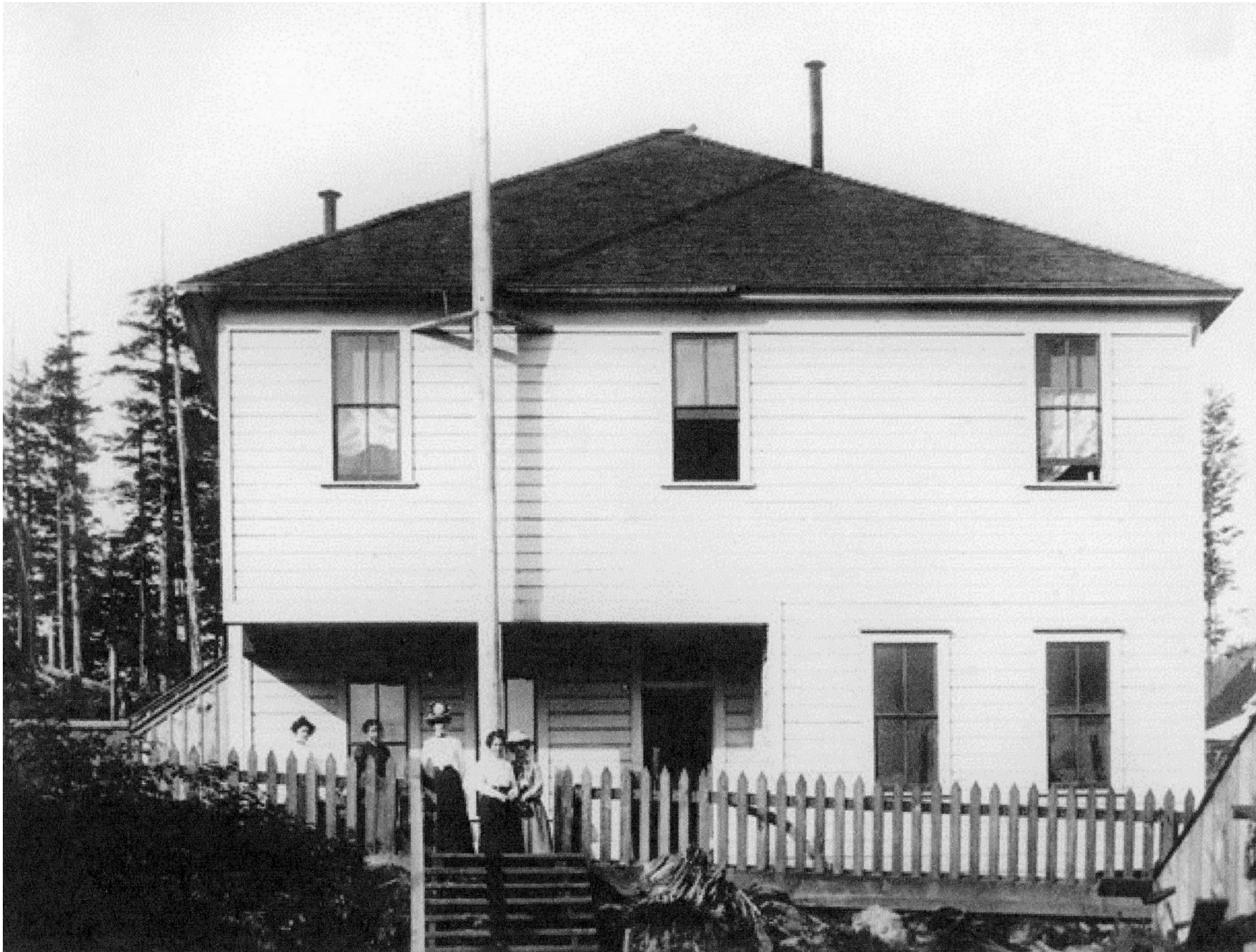
Pioneers of Alaska continues to be civic and community-minded as described above, while maintaining a strong fraternal bond with its members. It is one of a few fraternal organizations that continues ownership of its building. Deceased members of both Igloos are memorialized each year on Memorial Day (originally Decoration Day) at Bayview Cemetery, a tradition that started over 100 years ago when the Igloos were formed.

Maintaining the history of Alaska's pioneers is an important aspect of the Igloos. Both Igloos are involved in history preservation, providing regular programs of historical interest. They also offer annual scholarships to students wanting to continue their studies after high school. The scholarship program started in 1995 and has continued to the present, contributing tens of thousands of dollars to students over the years. The Pioneer Hall remains an important focal point for Pioneer activities. The Igloos host multiple social and fund raising events throughout the year.



*The City of Ketchikan's oldest building finds itself in 2021 at the center of both historic and more recent buildings. This view of the Pioneer Hall looking up Pioneer Way shows two restored historic buildings on the right (City Hall and the Reid Building), the City Police Station on the left, and a skybridge connecting City Hall with the Police Station.*





*The U.S. Customs House/Pioneer Hall at the edge of the forest, circa 1901. The original architectural details provide a template for restoration.*



# PART TWO: EXISTING CONDITIONS SURVEY

## Approach to the Survey

The Pioneer Hall assessment team performed individual and group walkthroughs of the building to document physical spaces and elements and to assess the current condition of building materials and systems. Along with the historical research documented in the preceding section, the walkthroughs and surveys helped determine the historic integrity of the structure. The team addressed all the following elements:

- site issues;
- building envelope;
- structural system;
- interior features and finishes;
- accessibility;
- fire and life safety;
- potential existence of hazardous materials; and
- electrical and mechanical systems.

Information gathered during the walkthroughs and surveys were documented in field notes, photographs, field sketches and measurements. The most pertinent of this information is provided in this document and all support information has been filed for future use. Digital drawings were prepared for the building providing a documentary record and a baseline model for future design development.

A multidisciplinary survey team analyzed the existing conditions of the building. They included:

Amanda Welsh, AIA, Architecture  
Joe May, Structural Engineering  
Keith Nelson, Electrical Engineering  
Robbie Vincent, Mechanical Conditions  
Stephen Reeve, Architecture, Planning

These individuals were selected for their knowledge specific to the key issues to be addressed in this project and for their long-term experience with Ketchikan building conditions. Each of these individuals conducted walkthroughs of the building (some were virtual walkthroughs due to Covid restrictions) and documented conditions of the structure that were available for observation. In each case, in-depth measurements, samplings or evaluations were considered to be outside the scope of work.

The Existing Conditions Survey will be of value in many ways. It provides:

- background for the recommended restoration work;
- documentation of significant dates and periods of construction;
- a guide for budget and schedule planning for the restoration work;
- a compilation of the existing condition of key elements of the building;
- documentation of physical and functional problems that require priority attention;
- a readily accessible reference document for Pioneer Hall representatives, subsequent professional consultants, building officials, construction teams and others;
- a resource for further work and investigation; and
- a record of completed work.

The reports included in this survey document are summaries; more extensive reports from team members are available upon request.

*A photo taken by the survey team of an historic storm sash and door found in the crawl space provides insight to original historic features.*





# SITE FEATURES

The 1914 Sanborn map shown below helps tell the story of how Downtown Ketchikan changed during the time of its most rapid development (1900 to 1914) and how the setting of the Pioneer Hall changed. This period established the commercial pattern of land use that survives to this day. Most notable is how Downtown expanded, not up the slopes on solid ground, but out over the tide flats on wood pilings. The abundance of local timber, especially rot-resistant cedar, made this possible.

The Pioneer Hall (#1 on the map below) was, at its inception, on a promontory overlooking tidewater. The original shoreline at the time of construction of the building is shown by the dotted line. The 16 historic buildings and objects numbered on the map still stand today (2021).

The town rapidly grew over the water and along Front Street and soon the Pioneer Hall was surrounded by larger buildings. By the late 1920s, the commanding view earlier enjoyed by the Pioneer Hall was eclipsed by larger buildings including the Gilmore Hotel and the City Hall.

By 1927, the Gilmore Hotel was built (1926) and the initial phase of City Hall (Citizens Light, Power & Water) was built (1925). These two buildings and other surrounding buildings shaped the site features that are essentially unchanged today.



## 1914 SANBORN FIRE INSURANCE MAP

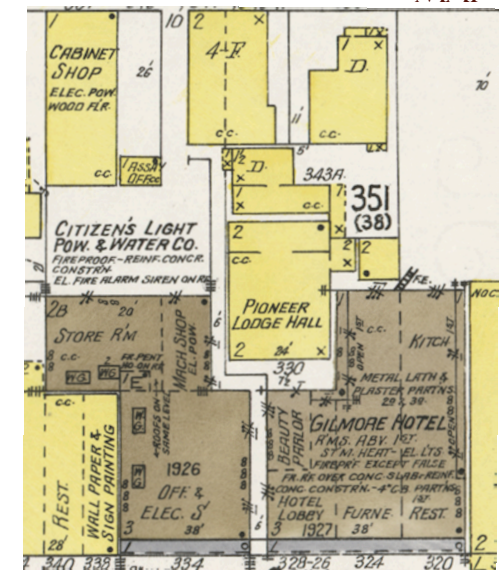
### BUILDINGS

1. US Custom House (1900)
2. Fo'c'sle Bar (1900)
3. St. John's Episcopal Church (1903)
4. Agnes Edmonds House (1904)
5. Arthur Yates Memorial Hospital (1905)
6. Stedman Hotel (1905, modified extensively)
7. 316-320 Mission Street (Scanlon Gallery), (1906)
8. 301-305 Bawden Street (1908)
9. First National Bank (1911)
10. JR Heckman Bldg 1 (1912)
11. Bon Marche (1912)
12. 116 Front Street (Rainbird Bar), (1912)
13. Tongass Trading Co. (1913)
14. JR Heckman Bldg 3 (1913)

### OBJECTS

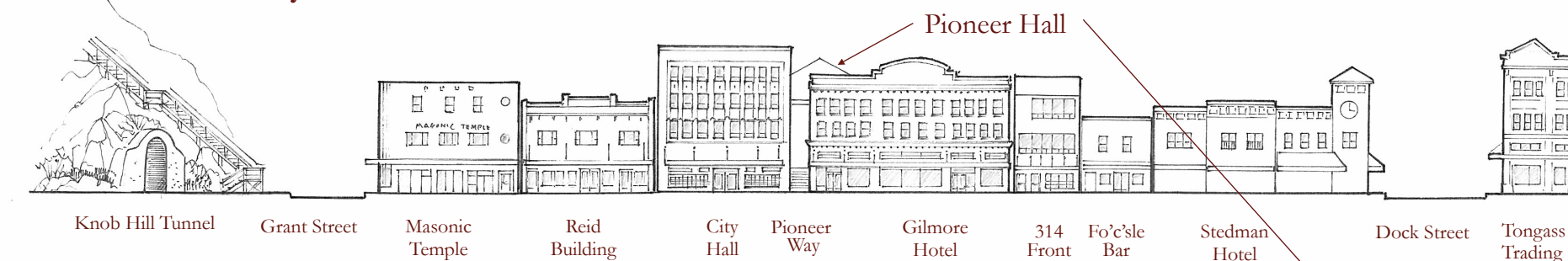
15. Chief Kyan Pole (1898)
16. Chief Johnson Pole (1902)

## 1927 SANBORN FIRE INSURANCE MAP

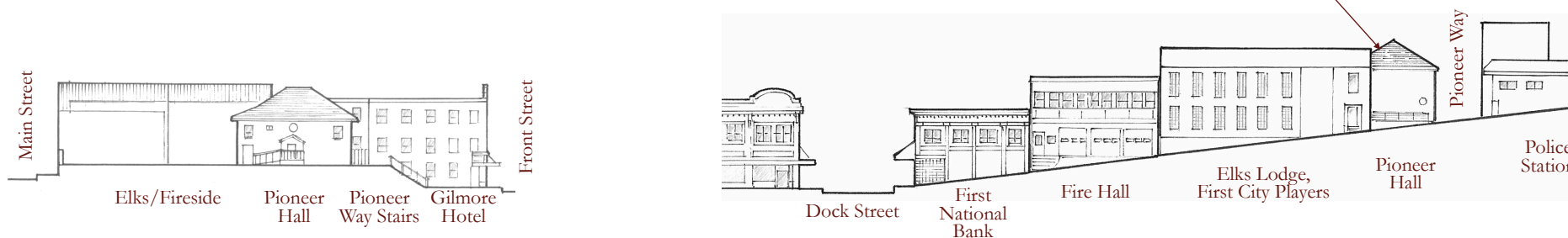




# Pioneer Hall in today's context



## Front Street Building Facades



## Pioneer Way Building Facades

## Main Street Building Facades



*Pioneer Way is comprised of the historic stair/pedestrian access from Front Street and a vehicular/pedestrian alley connecting Grant Street through to Main Street. The alley provides access to the City Council chambers, several businesses in the Reid Building, the police station, Pioneer Hall and, potentially, the proposed Performing Arts Center in the First City Players Building.*

Site planning will be a key element in the design phase of Pioneer Hall restoration in terms of access and landscape amenities. It is important to work closely with the adjacent property owners to achieve a safe, attractive Pioneer Way walk and drive-thru that will benefit all property owners while improving access to the Pioneer Hall and enhancing the setting's attractiveness.

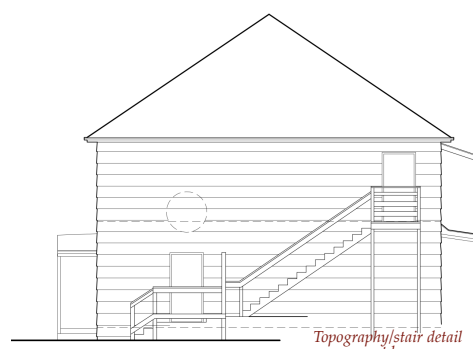
*The Pioneer Hall peeks down Pioneer Way between two of Downtown's historic buildings: City Hall and the National Register-listed Gilmore Hotel.*



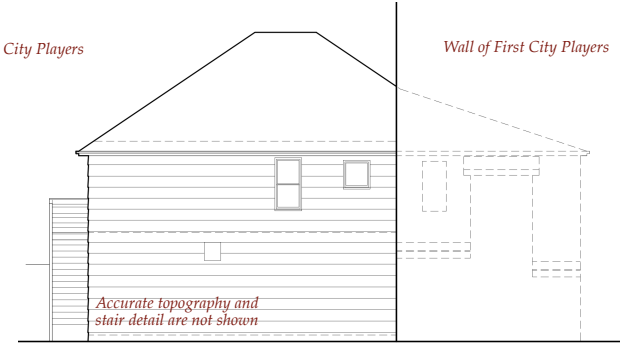
# BUILDING ENVELOPE

The Pioneer Hall is a two-story, wood-frame building on post foundations supported on bedrock. The building footprint is approximately 1,786 sf. It has a steep, modified hip roof with an unfinished attic.

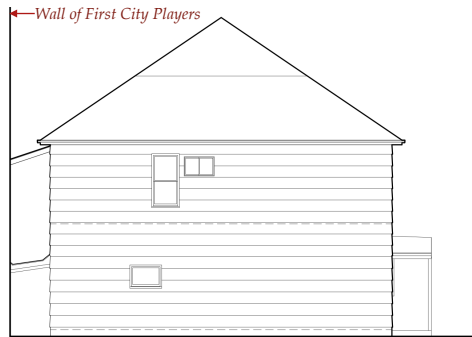
The Main Street, Front Street and Pioneer Way facades (the visible facades) have lost all but two of their attractive double-hung windows. While machine-grooved, cedar shingle siding now (since the late 1940s) covers the original channel siding and much of the historic trim, portions of the underlying siding may remain in restorable condition. Another significant change to the facades was the 1947 extension of the building toward the Main Street side and construction of an entry shelter on the Pioneer Way facade.



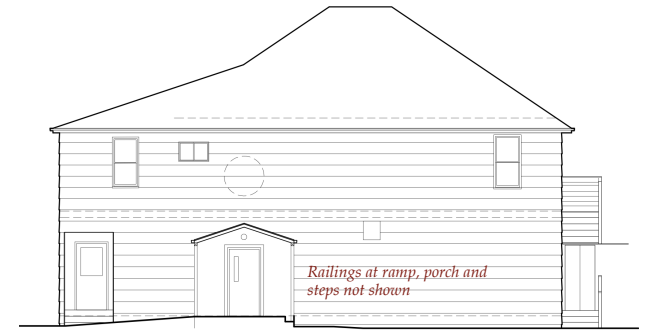
SW Elevation (Front Street)



SE Elevation (Dock Street)



NE Elevation (Main Street)



NW Elevation (Pioneer Way)

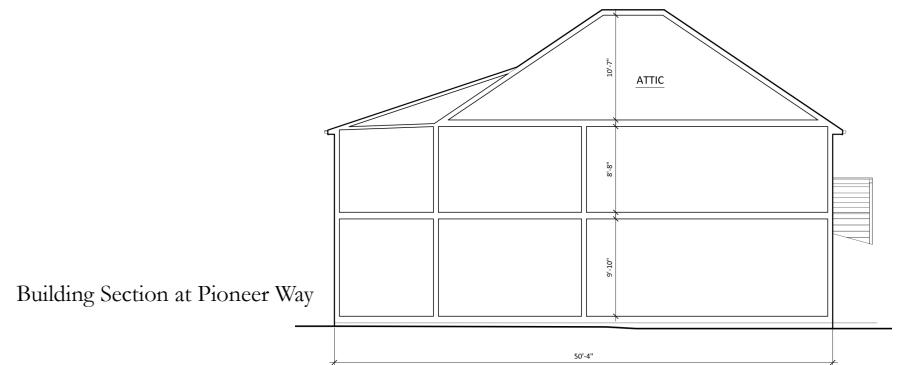
1913



2021



These comparative photos document the changes to the roof form and to the Pioneer Way and Main Street facades. Most noteworthy is the removal or covering over of the distinctive double-hung windows and the modifications to siding and trim.

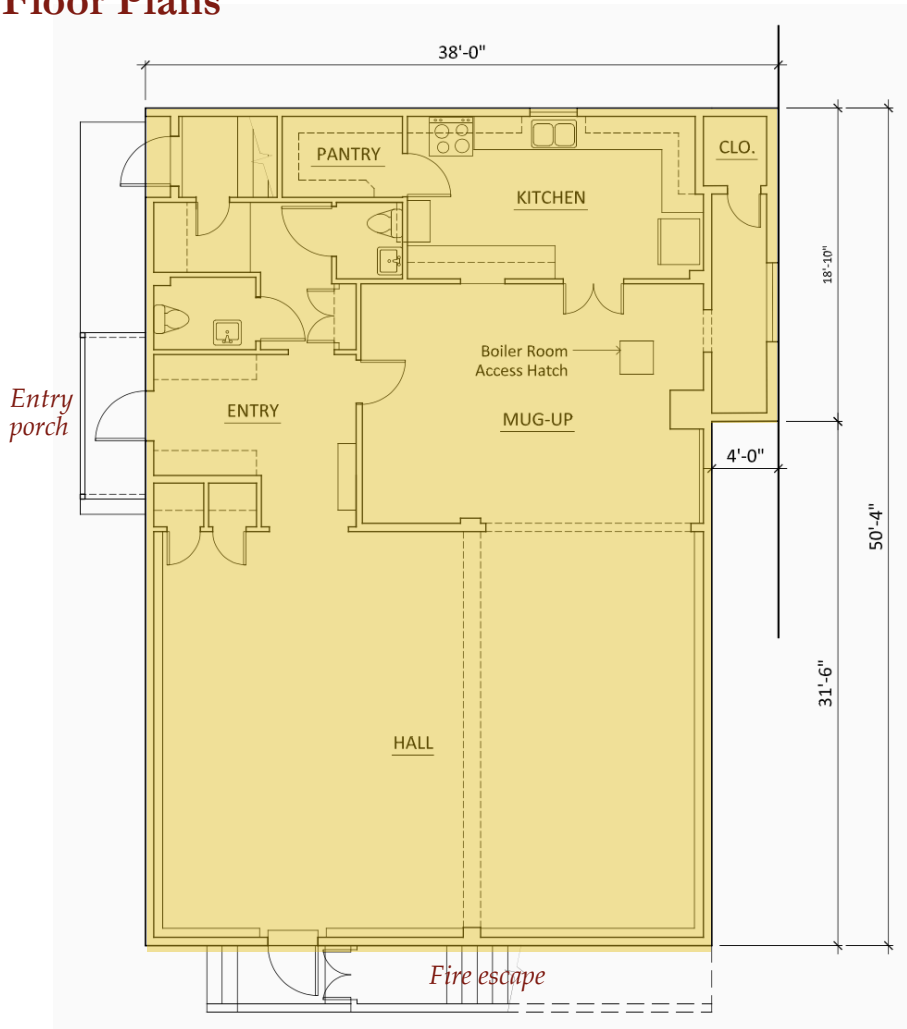


Building Section at Pioneer Way

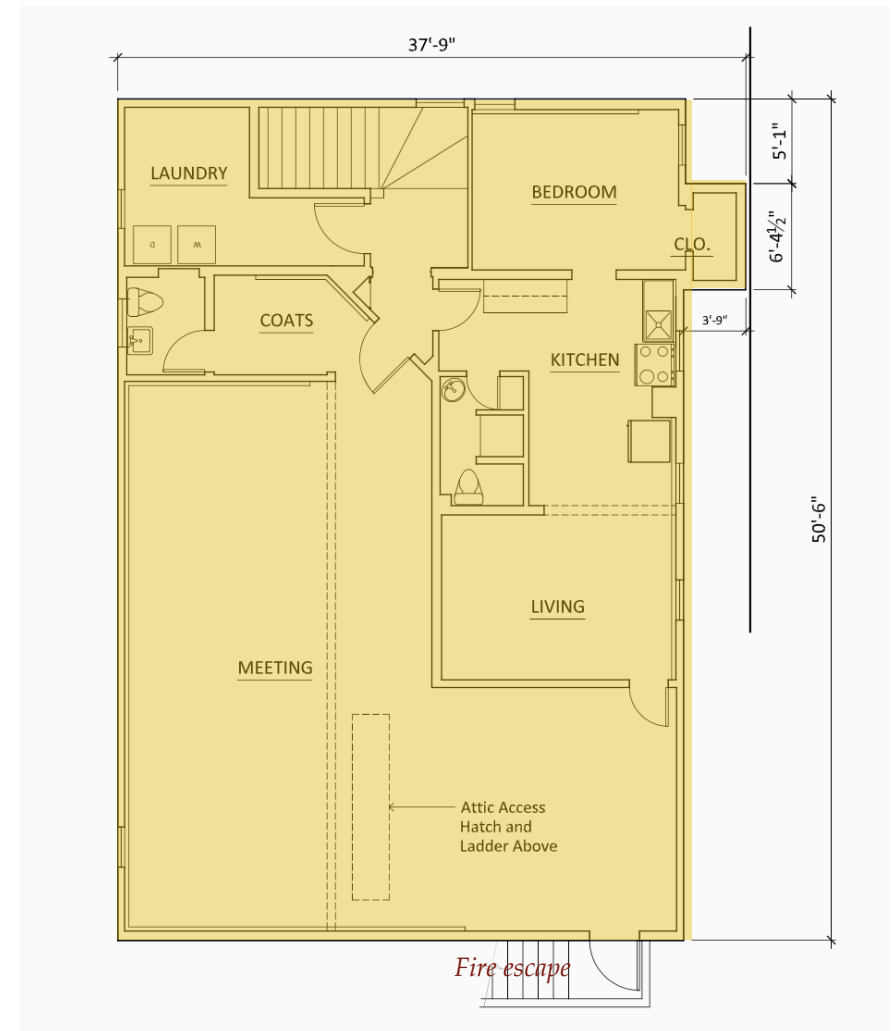
The primary hip roof is a 8:12 pitch with 3-tab roofing shingles. The addition toward Main Street in 1947 is a 4:12 pitch. The roof structural assembly appears sound and dry. Its outermost layer began as cedar shingle and, according to research of photos, had at least several iterations of cedar shingle roofs. While three brick chimneys penetrated the roof in the building's earliest days, only one remains on the southeast side of the building. The small 4:12 roof over the entry is also 3-tab shingles.



## Floor Plans



**First Floor Plan**



**Second Floor Plan**

The first and second floors total approximately 3,528 sf. A staircase equipped with a stair lift at the Main Street end of the building serves the second floor. There is a fire escape stairway facing Front Street. The first floor is approximately 1,786 sf. The second floor is approximately 1,742 sf.

The first floor is the most extensively used portion of the building. It houses the Hall which is used by members and visitors for special events, dinners and meetings. Other important uses are the entry, mug-up or coffee break room, kitchen, pantry, restrooms, closets/storage and the stairway access to the second floor.

The Meeting Room, an apartment, restroom, laundry, coat room, and the entry from the stairway access are located on the second floor. A fire escape connects the second floor to Pioneer Way.

The large attic (not shown) is unfinished and has been used as storage. It is accessed through a ceiling hatch and pull-down ladder in the Meeting Room on the second floor. The highest point in the attic measures 10'-7".

# BUILDING STRUCTURE

Pioneer Hall's wood-framed structural system has lasted more than 120 years with very few changes. However, many existing conditions require repair or reinforcing to ensure the building lasts into the next century.

**Lateral Strength:** The building's mid-block location buffers it from Ketchikan's high winds, but it remains vulnerable to seismic events. Upgrades aimed at increasing Pioneer Hall's resistance to lateral loads should be accomplished as other improvements are made. The presence of plywood sheathing under the exterior siding and roofing and interior floors should be verified at the time materials are replaced or upgraded. If plywood is present, additional nailing can be added if necessary, to increase shear strength. If there is no plywood, it should be added. Structural fasteners such as galvanized steel strapping and clips, should also be added where possible, as described below.

**Foundation:** Access to the crawl space is via a door in the northwest wall of the basement boiler room. The central area of the crawl space, surrounding the boiler room, is tall enough to stand while hunched over. Much of the remaining area requires crawling. At the southwest end of the crawlspace, the clearance is so low that the area appears to be inaccessible.

The building is constructed directly on bedrock. Its foundation consists of wood posts supporting beams that span northeast-southwest, and 1-3/4"x7-1/2" floor joists at 24" on center. Fiberglass batt insulation held in place by friction has been placed between the joists. Floor sheathing is 3/4"x11-5/8" visible at floor hatch. Skirting, consisting of wood stud wall framing and horizontal boards, wraps the perimeter of the building.

The bedrock is wet in many locations, and water gathering at the low point around the boiler room has rotted the bottom of the wood stud walls at the



*Mold growth in the boiler room area*

boiler room, and encouraged mold growth on the gypsum wall board. Foundation work should include an attempt to find and block the sources of water infiltration. If this proves impossible, a collection pit and sump pump to manage water, and an exhaust fan or fans controlled by a humidistat, are advised to reduce the moisture levels in the crawl space.

Posts in the standing-height area have had concrete footings added to raise the posts up off of bedrock. Most of the posts outside of the standing area lack footings. These bear directly on rock, and are in a state of slow decay and settling, due to moisture wicking up from the bedrock. In the area near the boiler room, there is decay in surrounding walls; wood posts resting directly on bedrock; and posts on concrete footings but without structural fasteners. Reinforced concrete footings doweled into the bedrock should be added at each post. A tar paper or asphalt shingle moisture barrier should be placed between the concrete and wood.

All of the posts and footings lack structural fasteners, so are vulnerable to "walking" and collapse during a seismic event. Installation of post-to-footing and post-to-beam fasteners are strongly recommended, to prevent potential catastrophic damage to the building. Fasteners are typically pre-manufactured post bases on new footings, and steel angles bolted into place to retrofit existing footings. Galvanized steel strapping is typically used to tie posts and beams together.

Several condition issues are apparent around the perimeter of the building. At the northeast end of the building, rocky fill for the adjacent parking area is placed against metal siding on the horizontal skirting boards that span between posts. The siding, skirting and posts are deteriorating due to moisture in the fill, and are starting to collapse inward. Excavation and placement of a concrete foundation wall to retain the fill is necessary to repair this condition.

The above-grade skirting is decaying along the bottom edge at many locations, due to direct contact with bedrock, and backsplash off the surrounding grade. There are areas on the southeast wall of the crawlspace, where the skirting appears sound but the posts are rotting. Daylight is visible at intermittent locations under the skirting and just underneath the floor structure. Some of these gaps have been filled with expanding foam. Ideally a continuous, reinforced concrete footing would be poured to support the floor structure at areas where the floor is close to grade, or to raise the bottom edge of the skirting at areas with more clearance. To reduce the cost of repairs, concrete could be limited to select shear wall locations and areas where moisture seeps in, and the remaining skirting could terminate at new preservative-treated mudsills. If foundation work is completed in multiple phases, the above-grade skirting repair is lower priority than other repairs noted.



*Deterioration of skirting & posts*



**First Floor Structure:** The first floor has areas that are noticeably uneven due to foundation issues. During foundation work, the floor should be checked with a laser level. Floor areas exceeding the standard of level for wheelchair accessibility (no more than 1/4 inch per foot of slope) should be corrected by jacking or lowering areas of the floor, or using additional layers of underlayment and/or leveling compound, if new flooring is installed.



*Support beam in Hall for 2nd Floor*

**Attic Floor Structure:** The second floor Meeting Room ceiling has a noticeable sag in the ceiling. Wood trim running northwest-southeast along the ceiling indicates the location where a bearing wall was likely removed, leaving no support under roof loads coming from the attic above.

**Exterior Walls:** Construction of the exterior walls should be verified with destructive testing as part of future repairs. Due to the building's age, structural repairs to the walls are likely to be necessary. Wood decay due to water infiltration and the construction methods used ca. 1900 are common problems. Issues discovered on other buildings from the same era include use of vertical plank walls rather than standard wall framing, poorly fastened ledgers supporting floor joists, and lack of structural headers over openings. Replacement of exterior siding or interior finishes at exterior walls should also include installing galvanized steel straps tying the foundation, 1st floor and walls together, and tying the wall studs and floor together at 2nd-floor level.

**Second Floor Structure:** Structure supporting the Meeting Room is clearly undersized based on the springy, noticeably sagging floor in that area. The central support beam spans northwest-southeast below-ceiling in the Hall below, but the size of the beam is obscured by paneling. The beam should be replaced or reinforced to accommodate the structural loads prescribed for the use of the building.



*Sag in Meeting Room ceiling*

**Roof/Attic:** The main roof consists of two sections: the original hip-roofed form, and a shed roof with hipped ends over the kitchen and stair areas. Three other small roof areas shelter the 1st and 2nd floor closets against the First City Players building. The main roof structure consists of 2"x6" wood rafters at 24" on center. Although the inherent stability of the hipped form has kept the roof structure intact, visible sag in the rafters indicates they are undersized for the loads they carry. A structural engineer can recommend roof strengthening measures. For example, additional rafter ties installed near the top of the rafters and vertical studs near the outer edges of the roof could be used to create a truss, with the attic floor joists as the bottom chord.



*Rafter configuration in attic*

At some point in the building's history, a row of 2"x 3-3/4" vertical wood studs were installed along the southwest side of the roof, to help support the rafters. These studs are located above the ceiling trim in the Meeting Room, and do not rest on adequate bearing. In the photo below, the 4x6 beam visible at the bottom of the photo ends at the studs rather than continuing across to a bearing wall. If the wood studs are retained as part of the roof support, beams will need to be installed below.

Along with the plywood mentioned above, rafter-to-rafter straps across roof ridge and hips, and rafter-to-wall plate clips or straps should be installed when the building is re-roofed. Roof replacement should be anticipated early in the restoration program.

The structure of the hipped shed over the addition, and the three roof areas over the closets, are not accessible so was not evaluated as part of this report. Other structural issues may become apparent when these areas are opened to view.



*Beam/stud configuration in attic*

# FIRE & LIFE SAFETY

The Ketchikan Municipal Building Code recognizes the validity of alternative methodologies for addressing the needs of qualified historic resources. This does not exempt a project from compliance with the local building code, but rather allows for more flexible solutions to increase safety while maintaining historical significance. Any construction project must meet a defined minimum level of life/safety requirements to protect human life and the building itself. The City operates under the 2012 International Building Code (IBC) and the 2012 International Existing Buildings Code (IEBC). Numbers in parentheses refer to the applicable code sections, unless otherwise noted.

## A. Possible Occupancy Types

In analyzing the code requirements for the building restoration, the future categories of use (as per Chapter 3 of the present code) were considered:

### Current/Existing Uses

- A-2/A-3 Assembly (303.3 & 303.4): Community and banquet hall used for meetings, parties, dances, receptions, and other group events.
- R-3 Single-family residential (310.5) No more than 2 dwelling units and boarding with fewer occupants than the below-listed R-1 and R-2 categories. The building currently has one second floor apartment.
- S-1 Moderate hazard storage (311.2): boxes and furniture.

### Potential Uses

- A-2/A-3 Assembly (303.3 & 303.4): Community and banquet hall used for meetings, parties, dances, receptions, and other group events.
- B Business (304.1): includes civic and professional offices, beauty shops, post offices, training centers, outpatient clinics.
- M Mercantile (309.1): Retail space, markets, sales rooms, drug stores.
- S-1 Moderate hazard storage (311.2): boxes and furniture.

Due to the building's small size, the following categories are not considered:

- R-1 Short-term lodging: hotels and boarding with more than 10 occupants.
- R-2 Permanent lodging: apartments, boarding with more than 16 occupants.

## B. Allowed Building Floor Area and Height

In considering the allowed building floor area and height (Chapter 5, Table 503), the existing floor areas of the Pioneer Hall are estimated as follows:

First Floor	1,690 sf
Second Floor	1,659 sf
Attic (storage)	<u>1,298 sf</u>
Total Building Floor Area, with Attic:	4,647 sf

The existing building height measured from grade plan to average height of highest roof surface is approximately 26 feet, 2 stories.

The allowed building height and floor area for V-B construction, non-sprinkled and sprinkled\* (Table 503 and Section 502.4) is calculated as:

Use	NS Height	NS Floor Area	Sprinkled Height	Sprinkled Floor Area
A-2	1 story	6,000 sf per floor	2 stories	11,500 sf per floor
A-3	1 story	6,000 sf per floor	2 stories	11,500 sf per floor
B	2 stories	9,000 sf	3 stories	18,000 sf per floor
M	1 story	9,000 sf per floor	3 stories	14,000 sf per floor
R-3	3 stories	Unlimited	3 stories	Unlimited
S-1	1 story	9,000 sf per floor	3 stories	14,000 sf per floor

## C. Required Fire Separations between Occupancy Types (Chapter 5)

The R use and the exit path from the R fire area to the exterior are required to be fire-separated from other areas (508.3), as follows:

- 1 hour separation required in sprinkled building
- 2 hour separation required in non-sprinkled building

## D. Building Type of Construction and Fire Resistance Ratings

1. Existing Building Construction Type: V-B, constructed of any material permitted by code (602.5) and with no fire resistance rating required at structural and non-structural elements (Table 601).
2. Existing Distances to Property Lines:
 

Southwest (facing Front Street)	>10', except 7.5' next to City Hall
Northwest (facing Pioneer Way)	>20', approx. 3' facing City Hall
Northeast (facing Main Street)	>20'
Southeast (facing Dock Street)	<5' to 0' at closet extensions
3. Where property lines are adjacent to rights-of-way, distance is measured to an assumed property line at the center of the right of way, rather than to the actual property line. Fire resistance at exterior walls is based on distance to actual or assumed property lines are as follows (Table 602):

Distance to Property Line	M, S-1 Occupancies	A, B, and R Occupancies
Less than 5 feet:	2 hours	1 hour
5 feet to less than 10 feet	1 hour	1 hour
10 feet and greater:	No fire rating required	No fire rating required

Note: In changes of occupancy, IEBC allows the existing fire resistance rating of walls to remain as-is, if the proposed occupancy is of equal or lesser hazard than the existing.



4. Allowed Window Openings at Exterior Walls (Table 705.8):

UP=unprotected, NS=non-sprinkled, S=sprinkled, P=protected (fire rated). Percentages indicate amount of window area vs. the area of the surrounding wall surface, where fire-resistant wall construction is required based on distances to property lines.

Distance to Property Line	UP/NS Openings	UP/S Openings	P Openings
0 to less than 3 feet	None	None	None
3 feet to less than 5 feet	None	15%	15%
5 feet to less than 10 feet	10%	25%	25%

5. Parapets are generally required wherever exterior walls are required to be fire resistant construction based on distance to property lines (705.11), with the following exception for 1-hour fire rated walls:

1-hour fire rated walls are allowed to terminate at the underside of the roof sheathing if roof/ceiling framing elements, and structure supporting those elements, are of 1-hour fire resistive construction. Where ceiling joists are parallel to the fire wall, the 1-hour rating can terminate 4' from the interior wall surface. Where perpendicular to the fire wall, the 1-hour rating must extend the entire span of the ceiling joists.

If no parapet is provided, the roofing may not be less than a Class B fire rating. If wood shingles are used, achieving this rating would require treatment with a fire-retardant coating. Openings in the roof may not be located within 10' of fire resistance rated exterior walls (5' is allowed in R occupancies).

6. Projections (705.2): Roof overhangs, cornices, and other façade projections may not extend closer to the line used to determine distance to property lines than the following:

0 to 2'	No projections allowed
2' to 5'	Projections allowed up to 24" from line
5' to 10'	Projections allowed up to 40" from line

Combustible projections extending to within 5' of the line are required to be of 1-hour fire resistant heavy timber or fire-retardant treated wood (see 1406.03 for additional requirements specific to balconies).

**E. Sprinklers**

City of Ketchikan Title 18 Chapter 18.38, the City's sprinkler ordinance, does not apply to this project due to the small size of the building. IBC 2012 requires sprinklers where conditions are as follows (903):

Occupancy	Fire Area	Occupants	Other
A-2	>5,000sf	>100	fire area not on level of exit discharge
A-3	>12,000sf	>300	fire area not on level of exit discharge
B	No sprinkler requirement		
M	>12,000sf	n/a	fire area >3 stories above grade plane
R-3	No sprinkler requirement (13AAC 50.020 Section 426 (31))		
S-1	>12,000sf for storage	fire area >3 stories above grade plane	
	>5,000sf for trucks or busses		

**F. Fire Alarms and Smoke Detection**

1. A Occupancies: A manual fire alarm system is required for an assembly occupant load of 300 or more (907.2.1). See item 4 below.
2. B, M and S-1 Occupancies: IBC 2012 does not specify a fire alarm requirement for these occupancies in a building of this size. See item 4.
3. R-3 Occupancies: Single or multi-station smoke alarms are required in each sleeping room, on the ceiling or wall outside of each sleeping room, and on each story (907.2.11.2).
4. Note: A fire alarm panel, alarm, flow switch, and monitoring are required for all sprinkler systems, regardless of occupancy category/occupant load.

**G. Occupant Loads and Exit Distances:**

1. Applicable Occupant Load Factors (square footage divided by the OLF = occupant load, table 1004.1.2):

A Exhibit Gallery and Museum	30 net
Standing space (no table or chairs)	5 net
Concentrated (chairs only/not fixed)	7 net
Unconcentrated/tables and chairs):	15 net
B Business Areas	100 gross
M Basement and Grade:	30 gross
Other floors:	60 gross
Storage, stock, shipping	300 gross
S Warehouses	500 gross
R Residential	200 gross

2. Spaces with 1 Exit (Table 1015.1):

A,B, M: If the occupant load exceeds 49 people, more than one exit must be provided, exit doors must swing out, exits doors must have panic hardware if latched, and lighted exit signs are required.

R: If occupant load exceeds 10 people, more than one exit must be provided.

3. Stories with One Exit (Table 1021.2):

1st Floor: A,B, M:	49 Occupants and 75 feet travel distance.
R2/3:	10 Occupants and 125 feet travel distance.
S:	29 Occupants and 100 feet travel distance.
2nd Floor: A:	Not allowed
B, M, S:	29 Occupants and 75 feet travel distance.
R2/3:	10 Occupants and 125 feet travel distance.

4. Corridor Fire Resistance Rating (1018.1):

A, B, M: If the occupant load of people using the corridor exceeds 30 people the corridor must be 1-hour fire resistive construction. No rating is required if the building is sprinkled.

R: In a mixed-use building, the exit path from the R fire area to the exterior must be equivalent to the required fire separation between R and the adjacent uses (See Section C above).

5. Stairway Configuration: Stairways in existing buildings that do not meet current code requirements are typically allowed to remain in use under the IEBC. However, the existing interior stairway is an immediate safety concern. The lack of adequate landing space at the first floor doors, and the tight winding treads, are hazardous conditions. The interior stairway should be replaced as part of any substantial work done on the building, to help prevent injury to Pioneer membership, and to reduce the organization's exposure to liability if someone were to fall.

The existing exterior stairway should be evaluated and improvements, such as adding handrails on each side, should be proposed as part of future design work.

#### H. Example Occupant Load Calculations:

In order to evaluate the exit requirements of the Pioneer Hall, the following calculation and finding was prepared.

1st Floor	A	Hall: concentrated space (chairs only) 804sf/7 OLF = 115 people Mug-up Room: unconcentrated (tables and chairs) 300sf/15OLF = 20 people 2 Exits required Sprinklers required
	Misc	Kitchen, Entry, Stairs, Restrooms, etc. 558sf/100 OFL = 6 people
2nd Floor	A	Meeting Room: unconcentrated (tables and chairs) 873sf/15 OLF = 58 people 2 Exits required from assembly space and floor level
	Res	452/200 OLF = 2 people 1 Exit required from apartment (if travel distance complies) 2 Exits required from second floor level



*The Pioneer Hall is today surrounded by other buildings and its constrained site creates challenges for occupancies, occupant loads and exits.*

## Fire and Life Safety Conclusions

The preceding analysis of fire and life safety code requirements is intended to provide a framework for restoration and occupancy decisions. Code requirements are essential to understand at this stage of the building assessment so as to accommodate them in a manner that does not jeopardize the building's materials and historic character.

There are conclusions that have grown out of this code analysis that may affect occupancy considerations, design decisions and materials selection:

- The building's current uses and code shortcomings such as the lack of fire-resistant construction separating the residence, are allowed as existing conditions under the IEBC. If interior work is being done, the areas of work should be brought up to current code (for example if finishes are being replaced on one of the apartment walls, gypsum wall board should be installed as the new finish, or underneath the new finish, for fire rating).
- Sprinklers are not required for the current uses as they are existing. Sprinklers are recommended for any large-scale restoration, for life safety benefits and to protect the historic resource and the Pioneers' efforts.
- The interior stairway should be replaced as part of remodel work, due to immediate safety concerns. The exterior stairway should be further evaluated and improved as part of future design work.
- Exterior walls, windows, and projections can remain as-is if the occupancy does not change as part of remodel work. Fire resistant construction should be added where feasible as part of remodel work.
- Exact distances to property lines should be determined by a professional land surveyor.
- The attic may be utilized for M, B, or R-3 purposes if the building is sprinkled, however, providing multiple exits required from a third floor space may take too much space away from second floor areas, which are more useful and accessible to Pioneer members.
- An elevator is not required due to the small size of the building. However, Pioneer membership may want an elevator or platform lift for second floor access. ADA improvements, such as providing a wheelchair accessible restroom on the ground floor, should be included in future upgrades.



# HAZARDOUS MATERIALS

## Asbestos, Lead and Mold

Because lead and asbestos were commonly present in buildings built at the time of the Pioneer Hall construction and its numerous modifications, it is wise to assume that these two materials may be present in the building. Hazardous-material abatement can raise restoration costs considerably, so it will be critical to undertake a complete evaluation of any such materials. As part of the design development phase of the restoration, it will be important to contract with certified contractors for analysis, abatement and management of hazardous materials handling and disposal.

Insulation, wallboard, plaster, tile, window glazing, siding surface treatments and sheet vinyl flooring are likely sources for asbestos. In addition, in the course of the electrical system review, cloth insulation was noted on several of the older electrical feeder and branch circuits. This type of insulation may contain asbestos.

The wrapping material on the abandoned boiler in the crawl space and the 9"x9" floor tiles visible in the second floor apartment were noted during examination of the building. A certified asbestos abatement contractor will take samples of these and other materials. If asbestos is found, it will need to be removed using methods described in an approved abatement plan.



Similarly in buildings of this age, lead base paint may be encountered during the demolition and construction phase of the project. Surface finishes should be tested for lead based paint and if any is found, it will be removed using methods described in an abatement plan.

In addition to these two substances, the presence of mold in the crawl space is of concern. With the crawl space previously unheated in a wet environment like Ketchikan, mold or mildew is expected and noted in the structural report.

*Floor tiles in the 2nd floor apartment*

# ACCESSIBILITY

Historic properties are not exempt from the ADA Accessibility Guidelines. Barrier removal is required if the removal is readily achievable. The ADA takes into account, however, the national interest in preserving historic properties and barrier removal would not be considered “readily achievable” if it would threaten the historical significance of a building such as the Pioneer Hall that is eligible for listing on the National Register of Historic Places or is designated as historic under Alaska or local law.

In identifying accessibility modifications, the assessment team examined the existing access and the specifics of improvements needed. Primary access to the building is provided by the ramped entry off Pioneer Way. Within the building, there is stair access to the second accompanied with a stair lift. The stair does not meet code (as described in the Fire and Life Safety section) and should be replaced as part of any substantial work on the building. This will help prevent injury to Pioneer members and reduce the organization’s exposure to liability if someone were to fall.

With respect to ADA and IBC requirements, private clubs and fraternal organizations are exempt from the Americans with Disabilities Act. However, if club facilities are rented to, or accessed by the public, those areas must meet ADA, and the IBC has many of the same requirements. The Pioneers will benefit from access improvements by enabling older members to visit the building and remain active in the organization for a longer period. Current ADA and IBC requirements should be incorporated in any work done on the building.



In addition to building accessibility, a recommended site improvement is to secure a designated vehicular drop-off for members and guests with mobility issues.

*A photo taken by the survey team of the primary access from the main floor to the second floor meeting room and apartment. A stair lift serves as the only means of accessibility for Pioneer members with limited mobility.*

# ELECTRICAL SYSTEMS

## Electrical Service

The Pioneer Hall Building is served by KPU Electric. The service equipment is a combination meter main rated 100 amp, 120/240 volt, single phase, three wire and is located on the northwest corner of the building. The equipment contains one KPU kwh revenue meter (#18135) and a 100 amp, two pole main circuit breaker.

The KPU service lateral feeding the meter main likely originates at a KPU padmount transformer located behind City Hall. From the transformer an underground 2" conduit runs to the combination meter main mounted on the building. The service is grounded at the meter main. The grounding electrode system consists of a ground rod and grounding electrode conductor. No voltage or amp readings were taken during the inspection. It is recommended that readings be taken to confirm that proper voltage is maintained in the building and the loads are within the limits of the service capacity.

## Panelboards

From the 100 amp main breaker in the combination meter main, a surface mounted conduit runs up to the eaves and into the building to feed two panel boards located on the a landing of the stairs. The two panels located in the stairs:

Panel B feeds the Apartment:

It is a Square D QOC 12 circuit load center and contains the following: Dryer (30/2); Range (40/2); lights, living room, bedroom, bathroom (20/1), and (4) spaces.

Panel A feeds the remainder of the building.

It is a Square D QOC-20 load center:  
Main breaker (100/2); Oven (50/2); Fryer (30/2), Hot water heater (20/2), Hall receptacles, Dishwasher, Boiler Room, Upstairs Wash Room, Receptacles, Kitchen receptacles, Hall & Stair lights (15/1, 20/1, 20/1 twins, and 30/1 -Total of 14 circuits), and (0) spaces.

A wireway is located above the panels. The wireway connects the meter sockets to their respective panel. The meter sockets are blank (no revenue meters are installed). If meters were installed in the past, they would provide the electrical consumption (kwh) for the two panels.

The panel board installation should be investigated to verify the panels have proper NEC three foot working clearance in front of the panels. In addition, labels should be installed on the panels and the circuit directories should be updated to reflect the as-built condition.

## Telephone Service

The telephone service originates a telephone network interface cabinet (NIC) which is located to the left of the combination meter main. The NIC is identified as KPU TMIA 031411. The telephone service cable appears to be a 25 pair telephone cable which likely originates at the nearby KPU Central Office.

From the NIC the entrance cable is routed to a service entrance protector (SEP) located in the Crawl Space. The NIC also has one run of surface mounted, inside wiring (IW) terminated at it. Type IW wire is not rated to be installed outdoors. This cabling should be removed, and if there any active pairs, they should be replaced with a cable suitable for outdoor installation.

The SEP is a 3M 4088 series, model 348X Signal Circuit Protector. From the SEP the service cable lands on a modular 66 block which is located below the SEP. From the modular block, inside wiring (IW) cable is run to the various telephone outlets located in the building. There appears to be only one inside wire cable terminated on the modular block.

There is also a smaller NIC, Type CP-700, which is located on the west side of the building adjacent to the main entry door. The NIC has inside wiring (IW) installed on the building exterior. Similar to the Type IW wire at the telephone service, if there are active pairs, the Type IW cabling should be removed and replaced with cabling suitable for outdoor installation.

If renovation work is going to install new phone outlets, the telephone wiring system should be as-built to determine what can be reused. This work can be done by KPU Telecommunications or a design consultant.

## Fire Alarms

The building does not have a fire alarm panel. Preliminary code analysis indicates the building does not need a fire alarm panel. Code does require smoke and carbon monoxide detectors in apartments (dwellings and guest rooms). Smoke detectors are installed in the building; detector coverage may not meet NFPA 72 requirements. All the detectors appear to be 120 volt with battery powered backup (code requires two power sources).

The detector batteries should be field-verified to assure are in good shape and the detectors should be tested. During the renovation design phase, a code review should be done to determine the extent of the fire alarm system and whether a fire alarm panel is required in the renovated building.



## Fire Life Safety and Exiting: Apartment

There is an apartment on the upper floor of the building, and the building codes have fire life safety requirements for dwellings. Depending on the occupancy, the codes may require the pathway to be illuminated with emergency egress light fixtures. The egress pathway may need a rated fire wall to protect the exit way. As mentioned in Fire Alarms above, the codes require smoke detectors and in buildings with a fuel oil heating, carbon monoxide detection. The ADA may also place requirements for audible and visual signaling. Since these are life safety issues, it is recommended they be addressed if the apartment is, or going to be, occupied. An architectural code review of the IBC and IFC will need to be done to determine the building occupancies, separations, egress and exiting requirements especially addressing the apartment, kitchen and cooking areas.

## Miscellaneous National Electric Code Installation Issues

It is not the purpose of the walk-thru to define all code issues, but the following items illustrate some of the more common NEC violations that are typically found in a building of this age:

- Devices are not installed flush with gyp board; coverplates do not cover the opening in the gyp board; and boxes without coverplates.
- Ungrounded two prong receptacles are in use. Replace with grounded, three wire receptacles.
- Communication wiring running unsupported and exposed. The wiring should be properly secured and ideally, run concealed or in a surface raceway.
- Several different wiring methods are used in the building. In general, the knob and tube wiring has been removed from the site. Since there are two prong ungrounded receptacles, it is suspected that some of the Type NM Romex may be 2 wire (no green ground conductor). This should be removed and replaced with 3 wire Romex. There is wiring with cloth insulation and it may contain asbestos. The wiring should be tested and removed if it contains asbestos.
- The panel circuit directories likely are not up to date. This makes it difficult to determine what loads are fed from the panels. The existing circuiting should have as-built drawings prepared and panel schedules should be updated.
- Many devices have not properly mounted and wiring has been left unsupported and dangling.

## Wiring Methods

Over the years additional electrical panels, circuits and wiring have been added, so there is a wide array of wiring methods ranging from Romex, knob and tube, wiring with cloth insulation, and conduit and wire systems. There are many NEC code violations which need to be addressed when the building is renovated.



*Over its 121 years, many changes have naturally been made to the Pioneer Hall electrical system. Most of the initial knob and tube wiring has been replaced but there remains a considerable amount of ungrounded wiring and receptacles. This view of the attic wiring shows many different types of wiring methods.*

## Lighting Systems

**Exterior Lighting:** Pioneer Hall has minimal exterior lighting: a yard light on the Main Street side, fixtures at the entry, and sign lighting. The exterior wood stairs on the Front Street side does not have any lighting. Exit and egress pathways are required to have illumination. No exterior lighting control system was found. Devices such as photocell, time clocks and motion sensors can be used to help control energy costs.

**Interior Lighting:** The existing interior lighting system uses various types of fixtures, including cove lighting with linear fluorescent lamps, incandescent track lights and drum lights. The Meeting Room has lay-in ceilings with 2x4 fluorescent troffers. Several rooms use bare bulb incandescent fixtures. Bathrooms have incandescent fixtures over the mirrors. The crawl space and attic have minimal lighting. If desired, install inexpensive LED fixtures to provide additional lighting in these areas to help navigate these spaces.

In general, most of the existing system uses fixtures that are old and should be replaced with new, energy efficient light fixtures. Some fixtures may be reused in the renovation work; this will be determined during the design phase; fixtures that are reused may require refurbishing and relamping.



*Fluorescent lighting fixtures in the Meeting Room*

### **Energy Savings**

Wherever possible, it is recommended that any renovation work on the electrical systems comply with the energy conservation measures outlined in ASHRAE, IEEE, IECC, LEED. Though some of these standards are not mandated by state or city, the concepts within them can generate benefits that allow the electrical system to operate more efficiently, help reduce greenhouse gas emissions, and reduce electric and fuel consumption which generates savings on utility billings.

### **Stair Lift**

The electric stair lift does not meet code. The installation starts at the first floor landing and extends up to the 90 degree turn in the stairwell; it does not run the full length of the stairs. If the stair lift is code required, then it will need to meet ADA requirements, and the proper electrical power and control connections will need to be designed.

## **Electrical System Conclusions**

The electrical system inspection and preceding analysis looked at the visible portions of the electrical system. The inspection did not include investigating concealed wiring, opening electrical enclosures, nor removing panelboard covers. The investigation of concealed wiring will need to be done during the design process.

- The renovation work should remove and replace the Pioneer Hall electrical system with a new one. The existing installation is in fair to poor shape, much of the wiring is old, and there are numerous code violations. This new work includes installing panel boards, feeders and branch circuiting, and devices.
- If electric heating is to be considered for the building, the electrical service size will need to be increased. The existing 100 amp service does not have the capacity to handle an electric heating system.
- Determine the proper smoke detector and carbon monoxide layout to protect the exit path from the apartment to the exit(s). Install the appropriate detectors and alarms.
- Determine the proper lighting layout for exit and emergency egress fixtures for the exit paths.
- Determine the extent asbestos wiring insulation in the electrical system. Abate as required to allow building renovation to proceed.
- Electrical demolition work may encounter lead base paint on the building finishes. Determine if any lead base paint is present and properly remove any lead based paint finishes.
- The above items have an impact on any design work. During the renovation design, the code and regulatory issues will need to be investigated and resolved.



# MECHANICAL SYSTEMS

**Historic Mechanical Systems:** Historical research indicates the building was initially heated with several wood, coal, or oil-fired stoves vented with metal flues. The flues were replaced with brick chimneys in 1902, after a fire in the building. At some point individual stoves were replaced with a hot water or steam boiler; sections of cast-iron radiators and a discarded boiler are located in the crawl space. The discarded boiler was not closely examined due to the possible asbestos-containing material it is wrapped with, but appears to date to the 1920s.



*Existing boiler in crawl space*

## **Existing Mechanical Systems:**

**Heating:** The existing Burnham boiler dates to the 1970s and is accessed via ladder from a floor hatch in the Mug Up room. It has been regularly serviced by Ketchikan Dray for at least several decades (notations visible on the service record stickers go back to 2001). The boiler gross output is 153,000 BTUs per hour, the resulting water output is 133,000 BTUs per hour, and the maximum operating water pressure is 30 psi. The boiler feeds the existing hot water baseboards throughout the building; these appear to date to the 1970s interior remodel. The boiler condition is poor and a new system, including piping, is required to make a safe and efficient method of heating.

**Hot Water:** A 50-gallon Bradford White electric hot water heater is located in the boiler room. It was installed by Ketchikan Dray, Inc. in 2015 and appears to be in good condition.

**Ventilation:** The meeting rooms have very few operable windows, and lack sufficient ventilation for large groups of people. The 1st floor Hall and 2nd floor Meeting Room have through-wall exhaust fans to help ventilate the rooms. These are centered in the northwest and southeast walls of the Hall, and on the northwest wall of the Meeting Room. The exhaust hood above the residential-grade first floor kitchen range recirculates rather than exhausts air. The apartment range does not have an exhaust hood. None of the restrooms have exhaust fans.

**Plumbing:** The building water and sanitary sewer service come from Pioneer Alley, and both enter the building in the north quadrant of the crawl space. The water line is routed to a shut off valve and meter in the boiler room. If sprinklers are added, the size of the water service will need to be increased.

The interior water piping is a combination of copper and galvanized steel. The copper pipes and other plumbing components, such as the gate valves for the clothes washer, were most likely installed as part of the 1970s remodel. The galvanized steel pre-dates the copper. A leak below the apartment bathroom is being contained with a plastic tub and drain hose above the Mug Up room ceiling. The water lines should be further evaluated when exposed during remodel work.

Waste piping in the building appears to be a combination of cast iron and ABS plastic pipe used for repairs or changes. Where visible, it appears to be in serviceable condition. Like the water lines, the waste piping should be further evaluated when it is exposed during remodel work.

## **Proposed New Systems**

**Heating:** The large gathering spaces in the building are ideally suited for installation of heat pumps. The current crawlspace boiler room does not meet code requirements for access, so a new space would need to be constructed on the main floor to accommodate a replacement boiler. With a new heat pump system, all of the interior units can be mounted on the walls, requiring very little floor area, and the system can accommodate both heating and cooling. The entirety of the large gathering spaces could be heated with three indoor heat pump units and two or three outdoor units. If heat pumps are utilized, each of the smaller peripheral spaces in the building would be heated with electric baseboards or wall-mounted electric heaters.

Heat pump systems are highly efficient and require very little maintenance. These cost-saving advantages outweigh their main drawback; a relatively short life span of approximately 15 years (compared to the 40-plus year life span of a far less efficient oil-fired boiler). Utilizing an all-electric heating system would eliminate the building's reliance on fossil fuel, which can fluctuate widely in cost per gallon over time, in favor of more predictably-priced hydropower provided by Ketchikan Public Utilities.

**Ventilation:** All restrooms and the two kitchen ranges need to be mechanically exhausted to the exterior. Other small spaces in the building can utilize natural ventilation via window and door openings, which are anticipated to be reinstalled as part of exterior restoration. This approach is as allowed by code, but is insufficient to effectively ventilate the Hall and Meeting Room during peak use, when those rooms are crowded with people. Further mechanical design effort should identify a cost-effective method of addressing the intermittent need for tempered fresh air in these rooms.



*The U.S. Customs House/Pioneer Hall and its flagpole were prominent features in Downtown Ketchikan, circa 1901. No other building in the photo remains today.*



# PART THREE: EVALUATION OF SIGNIFICANCE

## Periods of Significance: 1900-1922 and 1922-1971

**1900-1922** The period of significance of the Pioneer Hall began in 1900 when the building served as the US Customs House during the earliest years of Downtown Ketchikan's development. Its then prominent location and its role as a beacon for incoming seafarers made it an iconic landmark. As the Downtown experienced rapid growth in the years that followed, the Pioneer Hall served as a boarding house for the many who ventured to Ketchikan to work in construction and in the fishing and mining industries.

**1922-1971** In 1922, the building was converted from boarding house uses to the home of the Pioneers of Alaska, Igloos 7 and 16. When it was re-purposed and opened as the Pioneer Hall, it began a nearly 100-year life serving Alaska's pioneers and social service needs in Ketchikan and beyond. Although the exceptionally important Pioneers' role in Ketchikan and Alaska history continues to the present, the end of this period of significance is defined as "50 years ago from today," in accordance with National Park Service guidelines.

## Statement of Significance

Pioneer Hall is significant in a local context for its contributions to the patterns of Ketchikan social history and community development. It is a key contributing building to the Downtown Historic District which is listed on the National Register of Historic Places (National Register Reference Number 16000467 and AHRS Number KET-01320) .

## Character Defining Features

The Pioneer Hall assessment team performed individual and group walkthroughs of the building to document physical spaces and elements and to assess the current condition of building materials and systems. Together with historical research, the walkthroughs and surveys helped determine the historic integrity of the structure, identify original building elements and details, and determine which spaces, elements and finishes are of architectural and historical importance. The summary of the team's findings regarding character-defining features can be found on the following two pages.

## Selection of the Treatment Approach

Of the four treatment approaches outlined by the National Park Service, the recommended approach is restoration. This treatment will focus on the retention of materials from the most significant period in the property's history, while permitting removal of materials from other periods and reconstruction of missing features. The restoration efforts should focus on the early 1920s when the building was re-purposed to serve as the Pioneer Hall and when the building had contributing significance to the Downtown Historic District National Register listing.

Restoration efforts will protect and restore those character-defining features described in the following pages as well as replace missing features using traditional materials. Where possible, windows will be repaired rather than replaced; new matching windows will be installed as needed; the original channel siding will be restored to the extent possible with new matching siding as needed; entry doors will be replaced with period doors, etc. Sufficient historical, pictorial and physical information is available to reproduce features using the same kinds of materials.

The restoration treatment approach will complement intended uses of the building. The building can be re-purposed to a variety of uses that respect the historic character and integrity of the building. These uses may include heritage tourism-related uses, retail, offices, meeting rooms, food and beverage, medical and others. There has not been a decision as to any changes in uses at the time of this historic building assessment.

Finally, after reviewing code requirements including fire and life safety, ADA accessibility and hazardous materials management, the team determined that code required actions would not jeopardize the historic character of the building and thus a restoration treatment approach would be appropriate.

# CHARACTER-DEFINING FEATURES: EXTERIOR

## Setting

The setback from busy Front and Main Streets and its encirclement by more recent significant historic buildings are character-defining features. Its prominence along historic Pioneer Way and the historic stairway leading from Front Street is another important feature.

## Shape

As one of a very few remaining wood-framed, pitched-roof buildings in the Downtown Historic District, the building's form and shape are distinctive. The steep, modified hip roof is important to the building's visual character.

## Trim and Decorative Features

The exterior trim around the windows, soffits, corners, projections, and primary entry are all potentially key features. Little now remains of the original detailing. The trim color, decoration and patterning all contribute to the building's character. Restoration work should focus on replacing these trim elements to restore the historic character of the exterior facades.

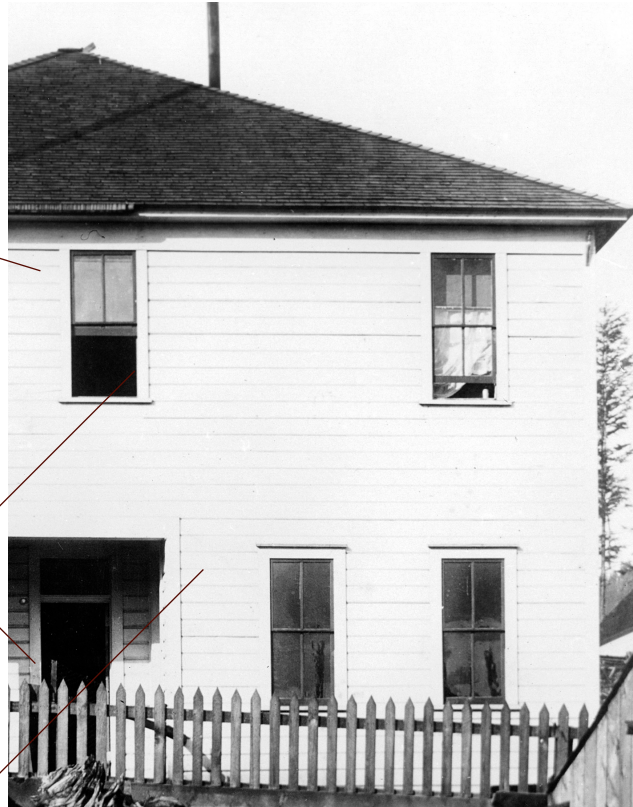
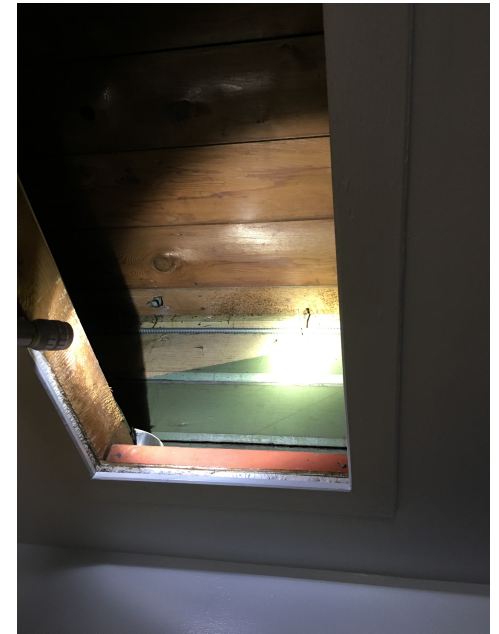
## Openings

The windows and doors are potentially key character-defining features of the Pioneer Hall. Over a century of modifications to the original building has resulted in window openings becoming covered over and doors that no longer reflect the building's period of significance.

## Materials

The original channel siding (now mostly enshrouded in machine-grooved cedar shingles) can, when restored, become a key character-defining feature. While its condition is unknown without further exploration, portions of it may be in relatively good shape and can possibly be restored.

*The original channel siding is visible at the kitchen ceiling hatch.*



*The original channel siding is also visible under shingle siding at a damaged corner of the building.*





# INTERIOR FEATURES

The interior finishes of the Pioneer Hall have changed considerably since its beginnings in 1900. Especially with the removal of most of the double-hung windows and interior wainscoting and the introductions of a dropped ceiling and covering of the original floor, the interior spaces have little resemblance to the past.



*Christmas party in the Hall, 1930.*

The above photo shows the original plank flooring, the wainscoting and original ceiling height of that space. While the wainscoting is gone and a dropped ceiling reduced the ceiling height, the plank flooring may remain under present sheet vinyl and carpet surfaces. The photo at the right shows remaining plank flooring inside the Meeting Hall closet—adjacent to more recent sheet vinyl. Other remnants exist. The photo on the far right shows the original wall panels still in place in the same Meeting Hall closet.



*One of several remaining interior doors*



*Meeting Hall closet floor*



*Meeting Hall closet wall panels*





*Downtown Ketchikan, mid-1920s. Pioneer Hall was beginning to be encircled by larger commercial & government buildings.*



# PART FOUR:

## WORK RECOMMENDATIONS

The work recommendations are a central feature of this report. The work plan was developed after the Pioneer Hall's history, significance and physical conditions were evaluated and is consistent with the selected treatment approach of restoration.

Based on the team evaluation of existing conditions and the significance and character-defining features of the building, work recommendations were proposed for each of the elements evaluated:

- site issues;
- further design development
- building envelope;
- foundation and structural system;
- interior features;
- fire and life safety;
- hazardous materials;
- mechanical and electrical systems; and
- improved ADA access including an elevator.

For each element and feature, a brief description of the recommended treatment is provided in the following pages. All treatments recommended for the building are intended to comply with the *Secretary of Interior's Standards for the Treatment of Historic Properties*.

The recommendations are supported with conceptual drawings and photos as needed to describe the intent. In order to reach a restoration plan and financing strategy, the team has identified needed design and engineering evaluations as well as necessary determinations by the Pioneers as to new or additional uses of the building.

# 1) SITE RECOMMENDATIONS

Pioneer Way is the historic pedestrian and vehicular access connecting Grant, Main and Front Streets. It provides public access to City Hall and the City Council chambers, Pioneer Hall, several businesses in the Reid Building, the police station and, potentially, the proposed Performing Arts Center in the First City Players building. Pioneer Way dates from 1900 and is a contributing structure to the historic period of the Downtown Historic District. While it has retained virtually the same footprint over its 120+ years of life, it has lost its attractiveness to ill-placed utility boxes, garbage receptacles and unattractive parking.



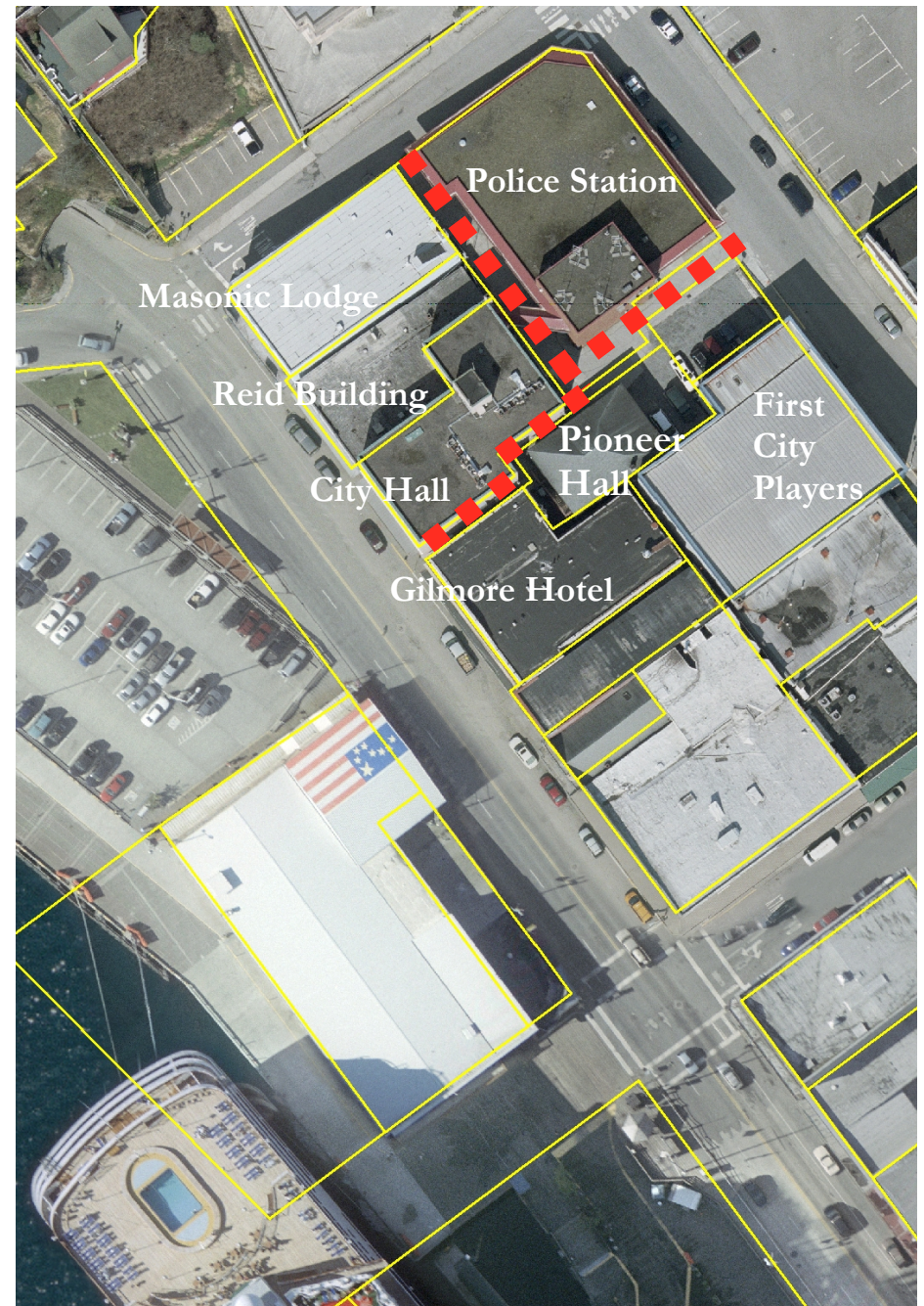
*The historic Pioneer Way is now dominated by vehicular access. Improvements should include demarcation of the walkway and attention to pedestrian amenities.*

- **Work with the City and other property owners to jointly develop a site and landscape plan for Pioneer Way.**

The plan would address site amenities including reconfigured parking to enable easier maneuverability for pick-up and drop-off; improved ADA pedestrian access; introduction of limited landscaping and pedestrian bench; interpretive signage; improved lighting; organized placement of garbage receptacles; demarcation of pedestrian walkway; etc.



*The City Hall exterior walls that face the Pioneer Hall and the stairway to Front Street (and other building walls along Pioneer Way including the Gilmore Hotel and police station) provide opportunities for historic interpretation (exterior murals) of the histories of Pioneer Hall, US Customs House, City Hall, Reid Building, First City Players, Gilmore Hotel and Masonic Lodge.*





## 2) DESIGN DEVELOPMENT RECOMMENDATIONS

The Pioneer Hall assessment team performed individual and group walkthroughs of the building to document physical spaces and observable elements in order to assess the current condition of building materials and systems. The resultant Existing Conditions Survey provides a summary of apparent issues facing restoration of the existing building but is not a substitute for complete design by an architect and specialized engineers.

Also, the Pioneers recently conducted a survey of members regarding future building uses and improvements. Decisions as to some of these uses and improvements would have a significant impact on the planning and design of the restoration as well as the costs associated with restoration. These include:

- addition of an elevator and other accessibility improvements;
- determination as to continuation of the apartment;
- possible incorporation of new uses e.g.: museum or art gallery; meeting space for other community organizations; etc.;
- expansion of the kitchen; and
- installation of a sprinkler system.

It is recommended that the Pioneers work with an experienced historic architect meeting the qualifications of 36 CFR Part 61 to advance the conceptual design of the building. The architect would work with the Pioneers to:

- help create spaces and improvements that will respond to the Pioneer's needs and meet structural or code issues,
- identify locations, impacts and estimates of new improvements such as an elevator and a sprinkler system,
- investigate interior and exterior building material conditions/opportunities (in particular, extent of original flooring and channel siding),
- guide further investigations into priority projects including the foundation upgrade and the replacement or reinforcement of the 2nd floor and attic floor structures;
- produce a conceptual plan that addresses building code requirements and ADA improvements and that guides final selection of improvements to the exterior and interior, and
- clarify total and/or sequential budgetary requirements for approaching non-profit foundations and other financial sources.

## 3) FOUNDATION & STRUCTURAL SYSTEMS RECOMMENDATIONS

As noted in the existing conditions survey, Pioneer Hall's foundation has been in service with little modification for over 120 years. The building is constructed directly on bedrock and its foundation is wood posts, many of which are on concrete footings without structural fasteners and many bear directly on rock and are in a slow state of decay due to moisture wicking up from the bedrock. All of the posts and footings lack structural fasteners and so are vulnerable to movement and collapse in an earthquake. In addition, the survey notes deficiencies in the 2nd floor and attic floor structures that must be addressed in the near future.

- **Implement foundation structural repairs with the assistance of a structural engineer and a qualified, local builder experienced in similar projects in Ketchikan**

While Pioneer Hall members and volunteers can clean up and do prep work, a structural engineer with seismic design experience and a local contractor with foundation reconstruction experience are important. Since the building has settled in several locations, some areas will need to be jacked incrementally to approximate level. This will be done in conjunction with new foundation pilings, footings and bracings. The structural engineer will address footing design, piling placement, seismic retrofitting, shear wall locations, structural connections, and the approach to jacking the building to level the floors.

Stabilizing the remaining, deteriorated post and beam system represents an immediate need. This will require removal of rotted crawl space wall materials and other debris and installing temporary, braced posts on cribbing in a manner that allows for removal of existing, deteriorated piles and installation of permanent footings and piling support system. Shear walls should be installed in key locations to meet seismic requirements.

- **Address moisture infiltration into the crawl space**

The foundation work will include finding and blocking sources of water infiltration. This may include installing new downspouts and extension leaders to carry rainwater away from the foundation. As foundation strengthening is completed, a moisture barrier should be installed in the unfinished portions of the crawl space.

- **Identify improvements required to strengthen floor structures**

It is recommended that a structural engineer evaluate floor and roof loads to prescribe replacement or reinforcement measures to accommodate the loads.

## 4) BUILDING ENVELOPE RECOMMENDATIONS

Many historic features of the Pioneer Hall's primary facades have been modified over the life of the building. The original channel siding has been covered on all facades, all but two of the character-defining double hung windows have been removed or covered, and the historic entry awnings and doors have been lost. Responses to a recent survey of membership prepared by Women's Igloo #7 support restoration of the building to the significant period in the property's history (1920s and 30s).

- **Re-install selected historic windows & related trim on NE elevation (Pioneer Way)**

Pending further design development and possible modifications to the building's uses and floor plan, reintroduce double-hung windows on the 1st and 2nd floors.

- **Replace the gable awning at the main entry with a low-sloped awning**

A low-sloped awning at the entrance was visible in the 1920s. This replacement will result in a more attractive, historically accurate main entry.

- **Replace non-historic exterior entry and exit doors with period doors**

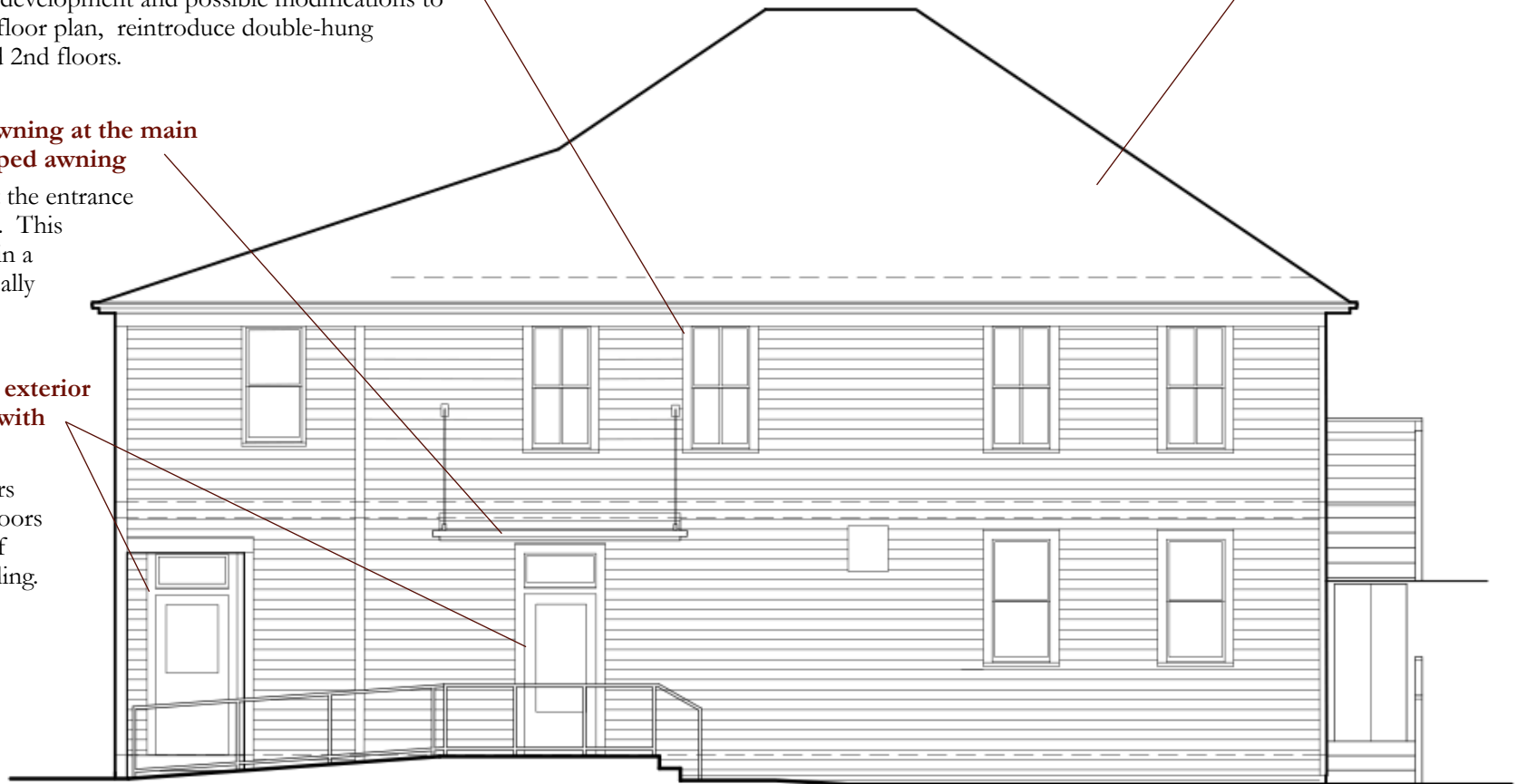
The two entry/exit doors should be replaced by doors that reflect the period of significance of the building.

- **Develop and implement a program to restore and/or replace the historic channel siding on all visible elevations as described in the Existing Conditions report and Character-Defining Features section**

As part of the historic building assessment, our team discovered at least portions of the historic channel siding are still in place. Further investigation may find that a significant amount can be restored.

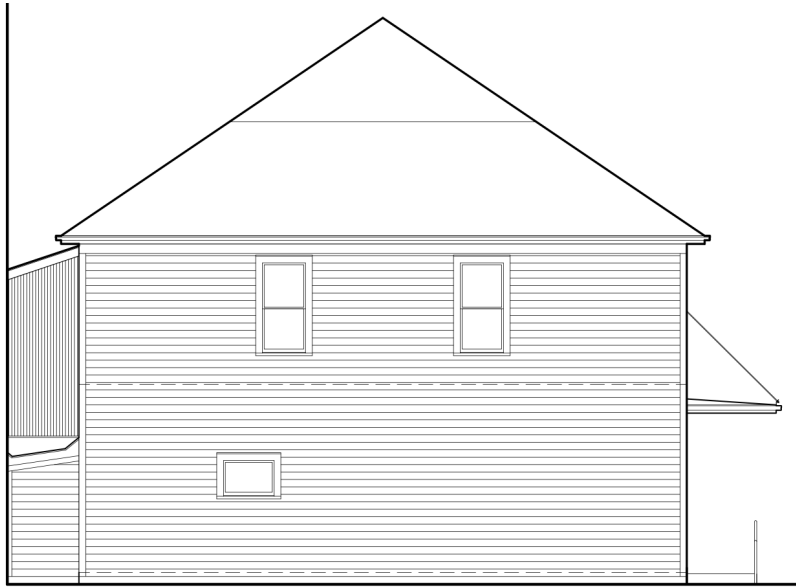
- **Replace roof with an historically-appropriate, fire-rated material**

The roof is at the end of its useful life and replacement will require numerous roof strengthening measures including plywood sheathing, trusses, rafter ties and straps, etc., as may be specified by a structural engineer.



NW Elevation (Pioneer Way and Grant Street) - Proposed





NE Elevation (Main Street) - Proposed



SW Elevation (Front Street) - Proposed

- **Replace selected exterior windows on SW (Front Street) and NE (Main Street) elevations with matches to the historic windows**

Many windows on both elevations were removed entirely or covered over with siding. Pending further design study, it is suggested that at least three be replaced on the SW elevation (Front Street). This will accommodate the exterior fire stair and other site and building changes that have occurred over the life of the building. At least two addition windows should be considered for replacement on the NE elevation (Main Street).

- **Replace the existing 1st floor exit door with a period door**
- **Consider installing an iconic flagpole on the SW elevation to reflect the buildings early history**

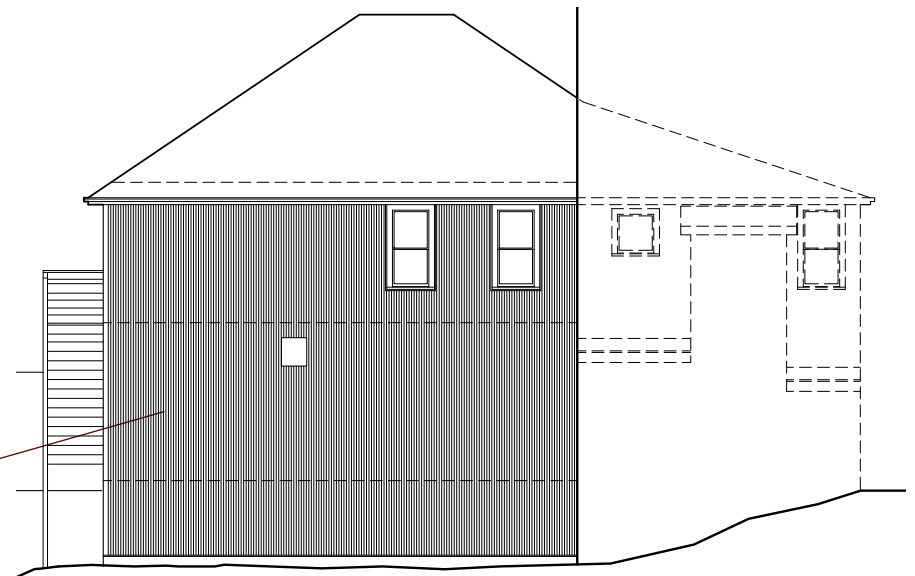
This was one of the site suggestions growing from the Pioneers' membership survey.

- **Develop a historic paint color scheme**

The colors will be applied to key sections of the building as renovation to the building envelope advances.

- **Add metal siding on the SE (Dock Street) elevation**

On the non-visible and very difficult-to-access elevation, metal siding will protect the weather side of the building and allow the Pioneers to dedicate maintenance effort and funding to the visible facades.



SE Elevation (Dock Street) - Proposed

## 5) INTERIOR FEATURES RECOMMENDATIONS

As noted in the Existing Conditions Survey, many interior features of the Pioneer Hall have been modified significantly over its 120-year life. Underneath various layers of sheet vinyl and carpet, interior paneling, and dropped ceilings may very well remain some remnant “treasures.” Because the exploration of concealed areas was not part of the scope of work of the survey, an early priority would be some careful investigation of remaining historic resources.

- **Restore the historic plank floors throughout the second floor and where they remain on the first floor**

This recommendation is dependent on further exploration to determine the extent and condition of the remaining historic flooring.

- **Preserve any remaining original door, window, baseboard and decorative trim throughout the building**

Several original doors remain in the building and should be restored. The historic door and storm sash in the crawl space should be recovered and, if possible, returned to use. These can serve as a guide to replacing non-historic openings. In the many places where trim has been removed, restore the period trim to match other areas of the interior. Consider replacement of the wainscoting on the first and second floors.

- **Restore the original ceiling heights as possible**

It will require further investigation into the spaces above the dropped ceilings to determine the feasibility of eliminating the dropped ceiling. Soffits may be necessary in some areas to conceal plumbing and sprinkler piping.

- **Retain any historic light fixtures and replace others with period-appropriate fixtures**

This can be an incremental process as interior improvements are carried out. Original light fixtures stored in the attic should be restored to current wiring standards and reinstalled.

## 6) FIRE & LIFE SAFETY RECOMMENDATIONS

- **Finalize future uses for the building to minimize modifications and to meet code requirements**

Code requirements are essential to understand at this stage of the building assessment so as to accommodate them in a manner that does not jeopardize the building’s materials and historic character (see Existing Conditions: Fire & Life Safety, pp 14-16).

- **Develop and implement a program for public safety including fire detection, alarm and suppression**

This should be an immediate priority to address the life and safety of present users of the building as well as a program for long-term life safety requirements. The immediate initiatives shall include verifying smoke detectors, carbon monoxide detection, emergency egress light fixtures and alarms are in working condition. With regard to the apartment, it is important to determine that these features also protect the exit path from the apartment to the exit(s).

- **Consider installation of a fire suppression sprinkler system**

While such a system may not be required, the team believes it could help meet long term protection of this historic building and its occupants and could be accomplished with minimal visual or physical impact on the building’s historic materials and architectural features. It appears possible to conceal much of the piping to significant spaces by routing pipes through soffits and by using the attic space for the second floor. An early financial planning priority is to secure an estimate for the sprinkler system.

- **Replace the interior stairway**

The stairway should be replaced as part of remodel work, due to immediate safety concerns. The exterior stairway should be further evaluated and improved as part of future design work.



## 7) ACCESSIBILITY RECOMMENDATIONS

As mentioned in the survey, private clubs and fraternal organizations are exempt from the Americans with Disabilities Act (ADA). However, if club facilities are rented to, or accessed by the public, those areas must meet ADA. The Pioneers will benefit from access improvements by enabling older members to visit the building and remain active in the organization for a longer period. Current ADA requirements should be incorporated in any work done on the building.

- **Develop an accessible circulation route to and through the building, including dedicated handicapped parking and accessible entry**

Installation of an elevator will be important for ADA access to the second floor. In addition to building accessibility, a recommended site improvement is to secure a designated vehicular drop-off for members and guests with mobility issues.

- **Provide ADA compliant bathrooms on the first level**

ADA-accessible restrooms (for public and member use) can be provided with a reconfiguration of the existing remodeled (and deteriorated) restrooms between the entry and stairwell. This will require relocation of fixtures and modifications to existing walls and openings.

## 8) HAZARDOUS MATERIALS RECOMMENDATIONS

- **Engage certified environmental firm(s) to complete asbestos and lead surveys to identify suspect materials and to plan and implement an abatement program as needed**

As noted earlier, insulation, wallboard, plaster, tile, vinyl flooring and cloth electrical wire covering are potential sources for asbestos. A certified asbestos abatement contractor will take samples of these and other materials from each room (ceilings, walls and floors) and from the exterior of the structure (roof, walls, windows, crawl space) and then secure laboratory reviews. The contractor would then provide an estimate for abating any asbestos containing materials.

## 9) ELECTRICAL SYSTEMS RECOMMENDATIONS

- **Engage an electrical engineering firm to design the electrical system**

Given uncertain funding, the design may need to accommodate incremental installation of an entirely new system including service entry, panel boards, feeder and branch circuitry and devices. The electrical system design will therefore provide a roadmap for improvements as funding is available. As the restoration work moves ahead, the existing system, including substandard panels and wiring, will be entirely removed.

- **Install initial electrical system improvements to meet life safety and security requirements**

Prior to installation of a new electrical system, there are a number of electrical improvements necessary to meet the near-term needs of Pioneer's occupancy of the building. These include security lighting and interior lighting and appliances in selected areas of the building. In some cases, this will require replacement wiring, repair or installation of new lighting fixtures or outlets, etc. Initial priorities will include a system of fixtures in the crawl space to enable navigating this area as foundation improvements begin, and replacement fixtures for the restrooms. These improvements will be guided by the electrical system plan referred to above.

## 10) MECHANICAL SYSTEM RECOMMENDATIONS

- **Engage a mechanical engineering firm to design a replacement mechanical system.**

In the design phase of the restoration, a mechanical engineer will design all mechanical systems to meet code, to satisfy energy conservation objectives, and to respect the historic and architectural features of the building. It is anticipated that a new heat pump system will be the preferred method of heating the restored Pioneer Hall.

# ALL WORK RECOMMENDATIONS: PHASE ONE PRELIMINARY COST ESTIMATES

Funding the historic restoration is likely the most significant obstacle to be faced by the Pioneers. Restoration is expensive especially when it involves bringing the building to a safe, attractive and sustainable condition. An important first step is identifying what needs to be done and this Historic Building Assessment is a substantial beginning.

Our team considered project costs—without design and without final definition of building uses—based on our preliminary survey work. The cost projections are intended to be used for budget purposes only and would be updated during design and as actual construction costs are clarified. These projected costs range from a low of \$325/sf to a high of \$425/sf depending on items under consideration such as a sprinkler system or elevator. The square footage estimates result in a total cost ranging from \$1.1 to \$1.5 million. These numbers include an estimated contingency of 20% and projected inflation for the next two years.

Our team recommends an initial phase for financing that would meet the costs of immediately-needed improvements, further engineering and design evaluations, and necessary estimates for special projects such as the proposed elevator and sprinkler system. Pending financial support for this phase, the outlined work could be accomplished in the initial year+ of the restoration.

Once the resultant “all-in” costs are known for the restoration culminating from this Phase One, the Pioneers will have a roadmap to secure financing for the complete renovation.

The Pioneers are not without partners to help finance and accomplish the restoration. These include the Historic Commission, Historic Ketchikan, City of Ketchikan, State Historic Preservation Office, and others. Fundraising can take months or years to achieve all that is outlined in this report. The sources will include State grants, private foundation funding, local government grants, tax credits and donations.

The list of work recommendations represent a multi-year commitment to restore Pioneer Hall. Preliminary cost estimates for the priority recommended work activities in the initial year+ of restoration are as follows:

<b>1) Site Recommendations</b>	
Master site plan (with City)	7,000
<b>2) Design Development Recommendations</b>	
Conceptual and schematic design	15,000
<b>3) Foundation &amp; Structural System Recommendations</b>	
Design and construction of priority foundation improvements	80,000
Engineering investigation/analysis of structural deficiencies	10,000
<b>4) Building Envelope Recommendations</b>	
Roof replacement and related structural improvements	55,000
Siding investigations only in Phase 1	2,000
<b>5) Interior Features Recommendations</b>	
Materials investigations only in Phase 1	2,000
<b>6) Fire &amp; Life Safety Recommendations</b>	
Install priority life safety equipment	3,000
Design of fire suppression sprinkler system	6,000
<b>7) Accessibility Recommendations</b>	
Identify elevator location and design of elevator	5,000
<b>8) Hazardous Materials Recommendations</b>	
Conduct asbestos and lead environmental assessments	5,000
<b>9) Electrical System Recommendations</b>	
Design of electrical improvements	5,000
Installation of priority electrical improvements	3,000
<b>10) Mechanical System Recommendations</b>	
Design of mechanical and heating improvements	2,000

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**Total Phase One Preliminary Cost Estimate** **\$200,000**

Note: Accomplishing the priority activities outlined in the Phase One Preliminary Cost Estimates is dependent on securing financial resources including grants, donations, volunteer contributions, etc. The budgeted activities are therefore subject to change.



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## Alaska-Yukon Directories

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## City Directories

*Polk's Ketchikan (Alaska) City Directory.* 1962-1999

## Fire Maps

Sanborn Fire Insurance Maps for Ketchikan, Alaska. 1914, 1927, 1927 updated through 1946, 1927 updated through 1952.

## Photographs

All historic photographs are courtesy of the Tongass Historical Museum, City of Ketchikan, or Pioneers of Alaska, except as noted. Current photographs and digital images are provided by Amanda Welsh, Welsh Whiteley Architects and Stephen Reeve, RAI Development Solutions.

## Ketchikan Maps

1900 - *Map Showing a Portion of the Supplemental Plat of the Town of Ketchikan, Alaska.*

1910 - *Plat of the Subdivisional Survey of Ketchikan Townsite, U.S. Survey No. 437.*  
Circa 1925 - Plat maps of Ketchikan Streets, Blocks 1-38.

2017 - Ketchikan Gateway Borough Aerial Photo.