



City of Cordova

Multi-Building Condition Assessment:

Eyak Skaters Cabin

Prepared For:



Prepared By:



800 F Street
Anchorage, AK 99501

Nicholas Krynski, PE, Mechanical
Dave Booker, PE, SE, Structural
Andrew Benoit, PE, Electrical
Derek Tannahill, PE, Civil
Dave Dreher, AIA NCARB,
Architect Kent Gamble, Estimator

TABLE OF CONTENTS

| | |
|---|----|
| 1. Introduction | 1 |
| 2. Executive Summary | 1 |
| 3. Eyak skater's cabin | 2 |
| 3.1. Description and Summary | 2 |
| 3.2. Building Component Assessments | 2 |
| 3.2.1. Architectural | 2 |
| 3.2.2. IBC Code Summary | 2 |
| 3.2.3. Structural | 5 |
| 3.2.4. Civil | 6 |
| 3.2.5. Mechanical | 8 |
| 3.2.6. Plumbing | 8 |
| 3.2.7. Fire Protection | 8 |
| 3.2.8. Electrical | 8 |
| 3.2.9. Deficiencies and Recommendations | 10 |
| Appendix A – Routine Maintenance Tasks | |
| Appendix B – Cost Estimate | |

1. INTRODUCTION

The City of Cordova engaged Coffman Engineers and Burkhart Croft Architects to assess and report on the condition of City-owned buildings and structures to establish a baseline of their current assets, and better forecast future needs.

The team performed a multi-discipline condition assessment of thirteen facilities including:

1. Bob Korn Memorial Swimming Pool
2. Bidarki Recreation Center
3. Eyak Skater's Cabin
4. Cordova Jr/Sr High School
5. Odiak Pond Gazebo and Boardwalk
6. Odiak Caper Park Restroom
7. Parks Maintenance Shop
8. City Maintenance Shop
9. Ballfield Restroom / Concession Stand
10. Cordova Chamber of Commerce
11. Hollis Heinrichs Park Restroom
12. Flemming Spit Restroom
13. Fire Department Warm Storage Building

The team visited the Prince William Sound Science Center and evaluated the feasibility of relocating the building to a new site.

The team consisted of an architect, civil, structural, mechanical, electrical engineers, and a cost estimator.

Due to the amount of information and quantity of sites, a separate report has been developed for each facility. This report is for the Eyak Skater's Cabin.

2. EXECUTIVE SUMMARY

The Eyak Skater's Cabin was evaluated by the team on September 28, 2022. This report provides:

- ▶ A description and assessment of the various building components.
- ▶ A list of deficiencies, ordered by urgency for repair or correction.
- ▶ Rough order of magnitude cost estimate for the listed deficiencies, as well as building replacement.
- ▶ A routine and preventative maintenance plan.

The Skaters Cabin is in poor condition and is a good candidate for replacement when funding allows. Remaining service life as a safe public facility is estimated at 5+ years depending on maintenance and capital invested in the existing structure.

3. EYAK SKATER'S CABIN

3.1. Description and Summary

The Skater's Cabin is operated by the City of Cordova and rented out for public use. The cabin includes electricity, a wood stove for heat, and an outhouse. The cabin is approximately 19x28 feet (532 SF) with a single exit door to a covered deck which is 8x19 feet. The building is wood framed, with solid logs for the walls, and a wooden truss system. The roof is standing seam metal roofing, and no major roof leaks were evident.

3.2. Building Component Assessments

3.2.1. Architectural

3.2.2. IBC Code Summary

Model Code Application

There are no record documents for the Skaters Cabin. It is assumed that all phases of the project and construction were done outside of the State permitting process. If reconstructed, this building would be subjected to all adopted State codes. That said, a similar building or space could be constructed. Adherence to State adopted codes would not be a hinderance to any future project.

Occupancy Groups

All portions of this facility are designated as an "B" Business Occupancy. While the use of the facility would be considered an "A" Assembly Occupancy, the IBC allows the use of a B Occupancy, which is much less restrictive, when occupancy is less than 50.

Egress System

The existing egress system appears to be adequate in terms of number of exit points, exiting logic and egress width.

3.2.2.1. Accessibility / ADA / ANSI A117 Compliance

General

All major project phases were completed prior to enactment of the Americans with Disabilities Act (ADA) in 1990, or subsequent inclusion of accessibility requirements into building codes. The IBC now references ANSI A117 as the recognized design standard for accessibility concerns.

Existing Conditions

The building currently has no accommodations for ADA accessibility. Given the location's grade issues, there is no reasonable way to relocate the facility to be accessible. Given the use of the cabin, it is not reasonable to make any accessibility improvements. The detached toilet facilities are located at the roadway above and are accessible.

Building Condition

The Skaters Cabin is in poor condition and any future project should be replacement of the facility in its entirety. Discussed in more depth under the structural section, the perimeter load bearing walls and foundation are failing. While it is difficult to determine how many years the facility can remain in use, the remaining service life is estimated at approximately 5+ years.



Fig. 1. South Wall and Stairs



Fig. 2. North wall



Fig. 3. Overall view



Fig. 4. Entry and Deck



Fig. 5. Interior View



Fig. 6. Entry from Road Access

3.2.3. Structural

The Skaters Cabin is a wood frame building with tongue and groove roof sheathing supported by exposed light framed, hand-built, roof trusses. Walls are a combination of timber logs for the lower 3-feet and wood stud walls above. The floor is 2x6 tongue and groove decking supported by 2x12 floor joists spanning between three lines heavy timber girders on precast concrete pier foundations. The floor at one time was constructed around a circular fire pit, which has been demolished and the floor infilled with tongue and groove timber decking matching the existing.

The structural condition of Skaters Cabin is poor. The nailed roof truss connections are inadequate to support the local code level snow load. Alterations to the roof trusses has occurred to accommodate the original fire pit chimney and later its removal. The lower lake side timber logs have extensive deterioration from dry rot. The foundation piers have settled unevenly, evident by the floor sloping approximately 2-inches downward towards the lake.

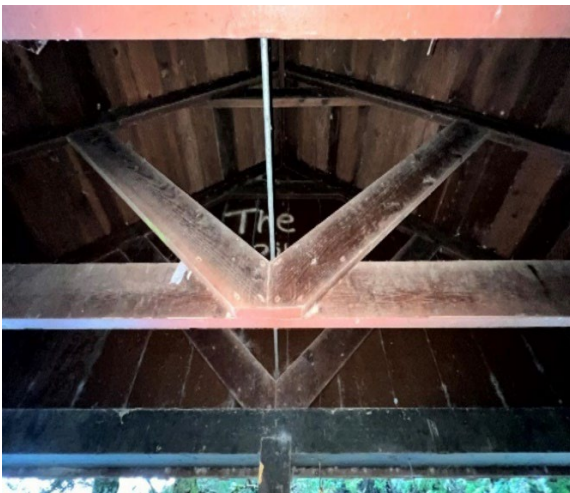


Fig. 7. Typical Roof Truss



Fig. 8. Altered Roof Trusses



Fig. 9. Lakeside Deteriorated Logs.



Fig. 10. Differential Settlement of Concrete Piers

3.2.4. Civil

The Eyak Skaters Cabin is located on Eyak Lake, directly off Lake Avenue. The cabin does not have any domestic water or sewage utilities, but there is an outhouse located directly east that shares a parking area. The outhouse is newer and in good condition, and will remain at its current location. The cabin sits below the road and parking area, utilizing gabion baskets with rock as a retaining wall to the north.

Drainage at the cabin site consists of overland flow from the road and parking area to the lake. The runoff goes directly under the cabin and is affecting the structure and foundation. Wood rot and other issues were identified at the super structure and foundation. Runoff from the cabin roof is also degrading the surrounding ground creating erosion and sediment runoff.

There is no ADA accessibility for the cabin. The outhouse appears to be ADA accessible via a concrete ramp from parking area.



Fig. 11. Outhouse Next to Skaters Cabin



Fig. 12. Skaters Cabin Site and Drainage

3.2.5. Mechanical

The mechanical systems at the Skater's Cabin consist of a wood fired stove and stainless steel double wall flue. The assembly appeared in fair condition.



Fig. 13. Wood Stove



Fig. 14. Stove Flue

3.2.6. Plumbing

There is no plumbing in this facility.

3.2.7. Fire Protection

Per Section 903 of the *2021 International Building Code*, a fire suppression system is not required.

Per Section 907 of the *2021 International Building Code*, a fire alarm system is not required.

There is no fire protection in this facility. The wood stove flue appears to be in fair condition but should be inspected and cleaned. The wood stove is raised on concrete blocks and placed over a noncombustible pad. The stove clearance to combustibles should be reviewed against the stove manufacturer recommendations.

3.2.8. Electrical

The facility is served by a 120/240V, single phase, 3-wire electrical service provided by Cordova Electric Co-op. A combination disconnect meter main with two integral 20A breakers is mounted to the exterior of the cabin. The meter is fed by a nearby 25kVA pad mount utility transformer. It is assumed that the transformer also feeds nearby street lighting.

A breaker box with two 15A 1-pole breakers is located inside the cabin and feeds receptacles and lighting for the cabin. The only electrical loads in the cabin are interior and exterior lighting, general receptacles within the cabin, and a ceiling fan. All appear to be in good condition. All electrical

conductors are installed in rigid raceway and no exposed wiring was located. Lighting levels within the cabin appeared to be low, but adequate for a multipurpose cabin.

The breaker box is an older Cutler Hammer panel manufactured in the 70s-80s era. It is recommended to replace breakers and/or associated panels older than 30-40 years because they can stop functioning or function unpredictably, especially when exposed to changing climate conditions.



Fig. 15. Electrical Breaker Box in Cabin



Fig. 16. Electrical Service Combination Meter Main



Fig. 17. Service transformer



Fig. 18. Cabin Exterior Light Fixture

3.2.9. Deficiencies and Recommendations

The team considered the sentimental value of the building's existing components and history, but determined that the structural deficiencies made replacement the best option. While it may be possible to correct existing deficiencies, the estimated repair costs are assumed to exceed the facility's replacement cost.

Demolish and Replace. Replace the cabin with a similar building that meets the future projected needs. The estimate below assumes a 2x6 stud wall construction and metal roof, and would include electrical connection and a new wood stove. The existing site drainage should be evaluated and corrected if needed depending on the new building foundation.

The outhouse to the east of the cabin will remain and be utilized with the replacement cabin.

Estimated Replacement Cost: \$344,000

APPENDIX A – ROUTINE MAINTENANCE TASKS

| Wood Stove Maintenance | | | | |
|------------------------|-----------------|---|-----------|---------------------------------------|
| Item No. | Inspection Task | Maintenance Task | Frequency | Recommended Action |
| Mechanical | | | | |
| a | Inspect flue | Check for joint connections, and corrosion, clean flue. | Annually | Brush interior and remove the debris. |
| b | Inspect stove | Check cleanace to combustibles is clear. Inspect door gaskets and fire brick if applicable. | Annually | Repair or replace. |

| Outhouse Maintenance | | | | |
|----------------------|--------------------------------|--|-----------|----------------------------------|
| Item No. | Inspection Task | Maintenance Task | Frequency | Recommended Action |
| a | Inspect fluid and solids level | Check level to ensure functionality and cleanliness. Ensure vent pipe is in working condition. | Quarterly | Pump soilds and fluids from pit. |

APPENDIX B – COST ESTIMATE

MULTI-BUILDING CONDITION ASSESSMENTS
CONSTRUCTION COST ESTIMATE (REVISION 2)

CITY OF CORDOVA
SKATERS CABIN
CORDOVA, ALASKA

PREPARED FOR:

Coffman Engineering
800 F Street
Anchorage, Alaska 99501

February 8, 2023



NOTES REGARDING THE PREPARATION OF THIS ESTIMATE

DRAWINGS AND DOCUMENTS

Level of Documents: (27) page condition assessment document, record drawings, and narratives
Date: Undated
Provided By: Coffman Engineers of Anchorage, Alaska

RATES

Pricing is based on current material, equipment and freight costs.

Labor Rates: A.S. Title 36 working 60 hours per week
Premium Time: 16.70% (included with unit rates)
Subcontractor Mark-Up: 35.00%

BIDDING ASSUMPTIONS

Contract: Standard construction contract without restrictive bidding clauses
Bidding Situation: Competitive bid assumed
Bid Date: See individual phases
Start of Construction: See individual phases
Months to Complete: See individual phases

EXCLUDED COSTS

1. Administrative and management costs
2. Furniture, furnishings and equipment (except those specifically included)
3. Remediation of contaminated soils or abatement of any hazardous materials

GENERAL

When included in HMS Inc.'s scope of services, opinions or estimates of probable construction costs are prepared on the basis of HMS Inc.'s experience and qualifications and represent HMS Inc.'s judgment as a professional generally familiar with the industry. However, since HMS Inc. has no control over the cost of labor, materials, equipment or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, HMS Inc. cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from HMS Inc.'s opinions or estimates of probable construction cost.

This estimate assumes escalation based on a 12-month rolling average of the U.S. Consumer Price Index. HMS Inc. will continue to monitor this, as well as other international, domestic and local events, and the resulting construction climate, and will adjust costs and contingencies as deemed appropriate.

Due to the lingering effects of the COVID-19 pandemic on the global supply chain and labor market, as well as ongoing geopolitical impacts to energy prices, HMS Inc. has included an additional contingency titled 'Unique Market Risk'. This amount provided for in the estimate will be adjusted as the situation continues to change and the effect on construction pricing becomes better understood.

HMS Project No.: 22130-B

GROSS FLOOR AREA

Skaters Cabin

432 SF

HMS Project No.: 22130-B

CONDITION ASSESSMENT COST SUMMARY

| | | |
|--|--------|-------------------|
| DEMOLISH EXISTING STRUCTURE | | \$ 8,656 |
| NEW CONSTRUCTION | | 133,270 |
| <i>SUBTOTAL:</i> | | <i>\$ 141,926</i> |
| 12 - GENERAL CONDITIONS, OVERHEAD, AND PROFIT | 45.00% | 63,867 |
| <i>SUBTOTAL:</i> | | <i>\$ 205,793</i> |
| 13 - CONTINGENCIES | | |
| Estimator's Contingency | 30.00% | \$ 61,738 |
| Unique Market Risk | 5.00% | 13,377 |
| Escalation to Summer 2024 at 7.91% per Annum (16 Months) | 10.55% | 29,636 |
| <i>SUBTOTAL:</i> | | <i>\$ 310,544</i> |
| A/E DESIGN FEE | 12.00% | 37,265 |
| TOTAL ESTIMATED CONSTRUCTION COST: | | \$ 347,809 |
| COST PER SQUARE FOOT: | | \$ 805 /SF |
| GROSS FLOOR AREA: | | 432 SF |

HMS Project No.: 22130-B

| <i>DEMOLISH EXISTING STRUCTURE</i> | <i>QUANTITY</i> | <i>UNIT</i> | <i>UNIT RATE</i> \$ | <i>TOTAL</i> \$ |
|---|-----------------|-------------|------------------------|--------------------|
| Demolish existing skaters cabin structure | 3,456 | CF | 0.65 | 2,246 |
| Demolish covered deck structure | 144 | SF | 2.50 | 360 |
| Remove helical pile | 12 | EA | 200.00 | 2,400 |
| Disconnect and safe electrical service | 1 | LOT | 250.00 | 250 |
| Remove wood stove and salvage to owner | 1 | EA | 150.00 | 150 |
| Load, haul, and dispose of debris | 5 | LD | 650.00 | 3,250 |

| | |
|-------------------------------------|------------------------|
| <i>TOTAL ESTIMATED COST:</i> | <i>\$ 8,656</i> |
|-------------------------------------|------------------------|

HMS Project No.: 22130-B

| NEW CONSTRUCTION | QUANTITY | UNIT | UNIT RATE \$ | TOTAL \$ |
|---|-----------------|-------------|-------------------------|---------------------|
| New helical pier | 12 | EA | 750.00 | 9,000 |
| Floor structure assembly | 576 | SF | 20.00 | 11,520 |
| 12" batt insulation at floor structure | 432 | SF | 3.60 | 1,555 |
| Roof structure assembly | 680 | SF | 32.00 | 21,760 |
| Allowance for stairs and railings | 24 | SF | 75.00 | 1,800 |
| Wood framed exterior closure assembly | 840 | SF | 22.00 | 18,480 |
| Wood skirt assembly | 400 | SF | 16.00 | 6,400 |
| Soffit assembly | 248 | SF | 15.00 | 3,720 |
| Access door at skirt | 1 | EA | 750.00 | 750 |
| 3'0"x7'0" exterior door assembly | 1 | EA | 2480.00 | 2,480 |
| Window allowance | 48 | SF | 75.00 | 3,600 |
| Metal roofing | 718 | SF | 22.00 | 15,796 |
| 6" rigid insulation | 718 | SF | 3.95 | 2,836 |
| Cover board | 718 | SF | 2.00 | 1,436 |
| Ice/water shield | 718 | SF | 2.00 | 1,436 |
| Edge flashing | 112 | LF | 6.35 | 711 |
| Paint interior | 1,104 | SF | 1.70 | 1,877 |
| Sheet vinyl flooring | 432 | SF | 6.90 | 2,981 |
| 4" rubber base | 84 | LF | 3.00 | 252 |
| Allowance for wood burning fireplace assembly | 1 | EA | 10000.00 | 10,000 |
| New electrical service and distribution | 80 | AMP | 105.00 | 8,400 |
| Lighting and power | 432 | SF | 15.00 | 6,480 |
| TOTAL ESTIMATED COST: | | | | \$ 133,270 |