



Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin

Historic Property Project Documentation and Treatment Plan

PMIS 333132A

April 2025



Cover Illustration: Barnum Island (source: Isle Royale National Park, 1964).

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Introduction



Figure 1-1. This plan addresses Small Barnum Boat House, Large Barnum Boat House, Johns Log Cabin, and the cultural landscape associated with each building within Barnum Island Historic District on Barnum Island within Isle Royale National Park (source: Mundus Bishop, 2024).

Purpose of this Plan

This plan addresses issues related to the changing weather of Isle Royale National Park (the park). The park is experiencing warmer temperatures throughout the year, extended summer seasons, more frequent and intense storms, warmer water temperatures, fluctuating lake levels, and reduced ice cover of Lake Superior.

Many of the park's historic buildings and cultural landscapes are located in areas vulnerable to these weather-driven changes. These include Johns Log Cabin, located on a steep and eroding shoreline where the land below the cabin is vulnerable to undermining, and Large Barnum Boat House and Small Barnum Boat House, both set on underwater log cribbing where wave and ice forces have caused deterioration of the cribs, distortion of roofs and walls, and shoreline erosion.

The buildings, located along the shoreline of Lake Superior, are more susceptible than other historic buildings on Barnum Island and throughout the park. The impacts of weather-driven changes and associated deterioration to the condition of these historic buildings are visible and threaten the park's ability to meet preservation goals established in the 2019 Isle Royale National Park Nonwilderness Cultural Resource Management Plan and 2016 Isle Royale National Park Foundation Document. This includes protecting and rehabilitating these historic buildings and landscapes to support day use, interpretation, and storage.

The Historic Property Project Documentation (HPPD) and Treatment Plan for Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin (the study area) provide updated cultural resource documentation and treatment guidance. This is supplemented by stabilization recommendations in response to weather change impacts.

The HPPD process collects information from CRIS and FMSS and records the data in the NPS Workbook Template. The HPPD documents the minimum information required to initiate treatment guidance

for historic buildings and cultural landscapes. The NPS published the HPPD Workbook Template and HPPD Handbook in 2023 to guide this streamlined documentation process.

The Treatment Plan provides stabilization recommendations to address potential weather change impacts associated with the study area. It identifies ongoing impacts, potential threats, and impacts to vulnerable resources threatened by weather-driven environmental changes such as more frequent and intense storms, unprecedented precipitation levels, invasive pests, variable temperatures, flooding, erosion, vegetation community changes, and fire.

The goal of this HPPD and Treatment Plan is to provide treatment recommendations for stabilization as well as preservation guidance for improvements that support the intended uses as identified in the park's Cultural Resource Management Plan. Stabilization recommendations are intended to prepare these buildings to withstand future weather events including storms and changing lake levels while protecting their contributing and character defining features.

This work builds upon previous studies, investigations, and documentation for the study area. Documentation includes the 2019 Isle Royale National Park Nonwilderness Cultural Resource Management Plan, 2016 Isle Royale National Park Foundation Document, 2013 Using Climate Change Scenarios at Isle Royale National Park Workshop Report, and the 1998 Isle Royale National Park General Management Plan.

Plan Organization

This HPPD and Treatment Plan presents a comprehensive planning tool to guide management and improvement of three historic buildings—Small Barnum Boat House, Large Barnum Boat House, and Johns Log Cabin—and their cultural landscapes on Barnum Island. This document updates existing cultural resource documentation and supplements treatment guidance by providing stabilization recommendations for these buildings and sites in response to weather change impacts.

Chapter 1: Introduction provides a geographic description and historic overview of Barnum Island. This includes a description of the cultural landscape, Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin. A summary of weather trends, vulnerabilities, and impacts is included to inform treatment guidance.

Chapter 2: Large Barnum Boat House provides an assessment of condition and the general treatment approach to preserve, repair, and stabilize Large Barnum Boat House for long-term protection against climatic impacts. This chapter documents the following condition assessments and treatment guidance.

- Cultural Landscape Condition Assessment and Treatment for site design, circulation features, small scale features, and vegetation.
- Architecture Condition Assessment and Treatment including physical description, exterior enclosure, roofing, and interior finishes.
- Structural Condition Assessment and Treatment including general structural information, foundation, superstructure, and exterior enclosure.

Chapter 3: Small Barnum Boat House provides an assessment of condition and the general treatment approach to preserve, repair, and stabilize Small Barnum Boat House for long-term protection against climatic impacts. This chapter documents the following condition assessments and treatment guidance.

- Cultural Landscape Condition Assessment and Treatment for site design, circulation features, and vegetation.
- Architecture Condition Assessment and Treatment including physical description, exterior enclosure, roofing, and interior finishes.
- Structural Condition Assessment and Treatment including general structural information, foundation, superstructure, and exterior enclosure.

Chapter 4: Johns Log Cabin provides an assessment of condition and the general treatment approach to preserve, repair, and stabilize Johns Log Cabin for long-term protection against climatic impacts. This chapter documents the following condition assessments and treatment guidance.

- Cultural Landscape Condition Assessment and Treatment for site design, circulation features, small scale features, and vegetation.
- Architecture Condition Assessment and Treatment including physical description, exterior enclosure, roofing, and interior finishes.
- Structural Condition Assessment and Treatment including general structural information, foundation, superstructure, and exterior enclosure.



Figure 1-2. The study area includes Small Barnum Boat House, Large Barnum Boat House, Johns Log Cabin, and the cultural landscape associated with each building (source: Anderson Hallas, 2024).

Appendix A: Large Barnum Boat House Historic Property Project Documentation is the completed workbook template. It provides information for the treatment of Large Barnum Boat House and its cultural landscape.

Appendix B: Small Barnum Boat House Historic Property Project Documentation is the completed workbook template. It provides information for the treatment of Small Barnum Boat House and its cultural landscape.

Appendix C: Johns Log Cabin Historic Property Project Documentation is the completed workbook template. It provides information for the treatment of Johns Log Cabin and its cultural landscape.

Appendix D: Bibliography includes report and website sources used to develop this report.

Appendix E: Treatment Terminology includes a listing of terms used in this report to describe recommended actions.

Appendix F: Condition and Maintenance Deficiency Rating Summary documents condition of the study area based on site investigation completed in June 2024.

Appendix G: Treatment Workshop Notes summarizes the discussion and outcomes of the October 2024 virtual workshop with the park, region, and partners.

Appendix H: Class C Cost Estimate includes estimates for stabilization and repair identified in this document.

Appendix H: Existing Condition Drawings—Buildings documents buildings based on site investigation completed in June 2024. Drawings were developed in Revit based on hand measurements and photographs.

Context

Isle Royale National Park (the park) is situated in Lake Superior, 60 miles from Michigan's Keweenaw Peninsula, 22 miles from Grand Portage, Minnesota, and 35 miles from Thunder Bay, Ontario, Canada.

The park is a remote island archipelago in Lake Superior consisting of more than 400 islands including its largest island—Isle Royale. Three-quarters of the 571,790 acre-park is submerged. The park provides habitat for rare lake trout morphological variants and one of the last viable populations of coaster brook trout.

The park is within a zone of transition between two major North American ecosystems—boreal coniferous forest and northern hardwood forest. Treeless meadows on ridgetops and bogs and beaver meadows on lower valleys are interspersed throughout dense island forests.

The park features prehistoric sites associated with thousands of years of human use and sites associated with maritime navigation, copper mining, commercial fishing, and logging. The park offers opportunities to hike, backpack, motorboat, canoe, kayak, sail, scuba dive, fish, and experience solitude and isolation.¹¹

Barnum Island (Barnum Island District) is 4.5 acres in size and is set at the western end of the Isle Royale archipelago and is designated as non-wilderness. Access to Barnum Island is by boat. A network of rustic trails provides access between boat docks, buildings, and the water. The cultural landscape of Barnum Island District includes 17 buildings, ornamental plantings, fire rings, docks, and trails forming small clusters of development associated with commercial fishing, resort, and recreational development from 1890 to 1939.

11 United States Department of the Interior, National Park Service. *Isle Royale National Park Foundation Document Overview*, (Houghton, Michigan: Isle Royale National Park, 2016); United States Department of the Interior, National Park Service. *Isle Royale National Park General Management Plan*, (Houghton, Michigan: Isle Royale National Park, 1998).



Figure 1-3. Barnum Island is on the western edge of Isle Royale National Park within Lake Superior, which is a major factor in the changing weather (source: Mundus Bishop, 2024, adapted from NPS Isle Royale National Park Map).

Barnum Island served as the center of fishing operations for the Johns family and associated fishermen in the 1880s. John F. Johns, a former mining captain, built Johns Hotel and Johns Log Cabin on Barnum Island in 1892 to provide lodging for fishermen and tourists, establishing Isle Royale's first lodge-based recreation business.¹²

Lodge-based recreation emerged as a successful enterprise at Barnum Island and throughout Isle Royale by the end of the eighteenth century. Johns and others built lodging and offered services catering to anglers, hay fever sufferers, and others seeking refuge from hot Midwestern summers. The Johns family built at least five log cabins, a main building, dining cabin, ice house, root house, store/post office, and a barn by 1902.

George G. Barnum, a millionaire grain merchant from Duluth, first stayed at Johns' resort in 1889. Barnum requested that Johns build a cabin for his use when visiting Barnum Island. Within a few years, Barnum decided to make the island his private retreat. Johns' son, Will Johns, sold his island property to George Barnum in 1902 with the stipulation that his family could remain.¹³

Barnum invited friends to have cabins built on the island by his carpenter Ole Daniels. Daniels built five buildings between 1903 and 1905. Large Barnum Boat House was built in 1910, five additional buildings were built in the 1920s, and Small Barnum Boat House was built in 1933.

-
- 1.2 Barnum Island was referred to as Johns Island during John F. Johns ownership and occupation of the island. George G. Barnum purchased the island in 1902 and renamed the island Barnum Island.
- 1.3 United States Department of the Interior, National Park Service. *Johns Hotel: National Register of Historic Places Inventory Nomination Form*, (Washington D.C.: National Park Service, 1997); United States Department of the Interior, National Park Service. *Washington and Barnum Islands Cultural Landscape Report / Environmental Assessment - 95% Draft*, (Houghton, Michigan: Isle Royale National Park, 2010), 2.50 to 2.58.

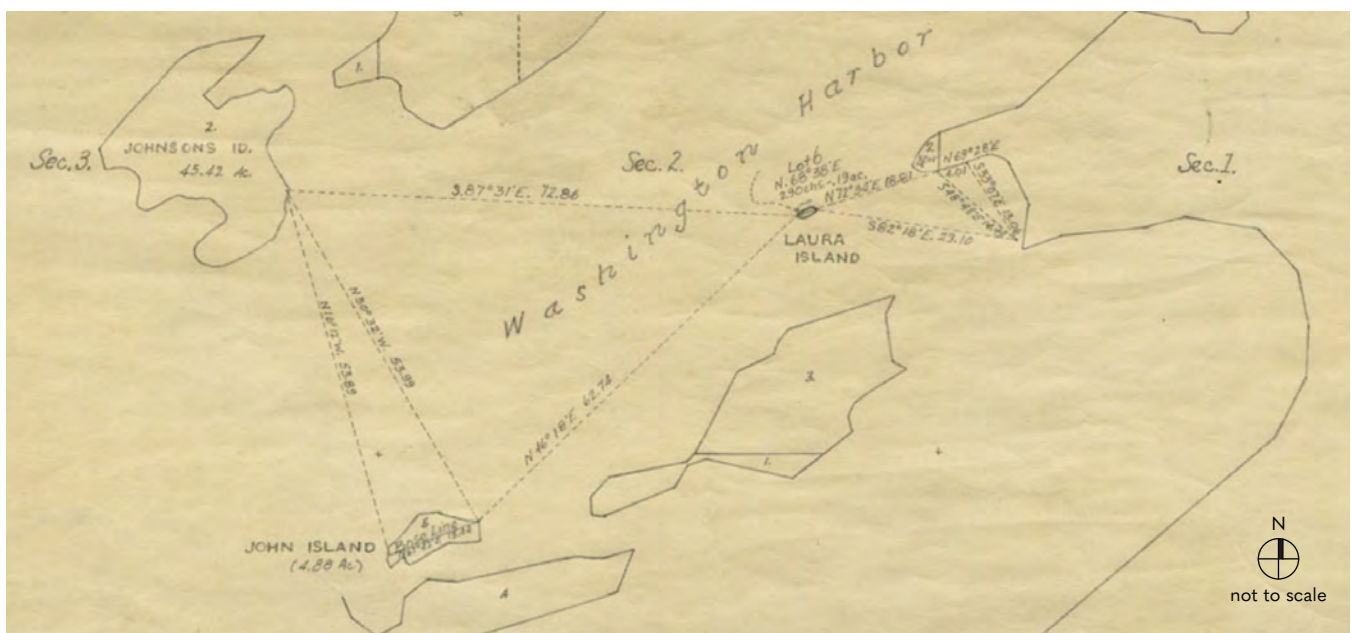


Figure 1-4. Washington Harbor Plat Map, Land Purchaser Records: Tracings of General Land Office Plat Maps, 1938. Barnum island is identified as "John Island" on the 1938 plat (source: https://iri.forest.mtu.edu/Summer_Cottages/Pages/WashingtonHarbor/Barnum.htm).

Resort tourism on Isle Royale thrived through the first three decades of the 20th century and helped support initiatives to establish the island as a national park to permanently preserve its natural beauty and protect it from lumber and mining.^{1.4}

Isle Royale National Park was established in 1931. Many cabin owners were given the opportunity to sell their properties but remain as life lessees. These negotiations resulted in a slow land acquisition process. George Barnum, believed to have been an opponent of establishing the island as a national park, negotiated a life lease in 1939 that would allow for his youngest immediate family member to continue to use the property.

Barnum Island is significant for its role in the resort and recreational development of Isle Royale. In a letter to the Isle Royale National Park superintendent, dated August 3, 1991, the Michigan State Historic Preservation Office listed Barnum Island District among multiple park properties eligible for listing on the National Register of Historic Places. Barnum Island is eligible for the NRHP at a local level of significance under Criterion A for its representation as one of the only private resort colonies at Isle Royale established between the 1880s and 1920s. It is also significant under Criterion C as its buildings exhibit a continuity of design, materials, and workmanship and are associated with a single craftsman.

Barnum Island is recognized for two periods of significance; from 1890 to 1902 which represents the development and use of the island by John F. Johns as a rustic resort, and from 1902 to 1939 which represents the 1902 acquisition and development as a private resort by George Barnum until 1939 when Barnum accepted a life lease in exchange for his property.^{1.5 1.6}



Figure 1-5. Small Barnum Boat House (left) and Large Barnum Boat House (right), c. 1935 (source: ISRO Archives).



Figure 1-6. Boats along the south shore of Barnum Island with views to Washington Island (source: <https://irffa.org/home/families/>).

1.4 United States Department of the Interior, National Park Service. *Isle Royale National Park Nonwilderness Cultural Resources Management Plan / Environmental Assessment*, (Houghton, Michigan: Isle Royale National Park, 2019), 4

1.5 United States Department of the Interior, National Park Service. *Barnum Island CRIS-HS Single Record Report*. (Houghton, Michigan: Isle Royale National Park, 2017, 2, 22, 23.

1.6 Johns Log Cabin is listed on the National Register of Historic Places as a contributing feature of the Johns Hotel, at a local level of significance under Criterion A. The period of significance is 1892 to 1924.

Study Area

Cultural Landscape

The cultural landscapes of the historic buildings—Large Barnum Boat House, Small Barnum Boat House, Johns Log Cabin—is the setting associated with each building including trails, views, and small scale features dating to the period of significance.

Contributing Features

Contributing features are individual elements or landscape characteristics that remain from the period of significance and contribute to the study area's cultural landscape. Non-contributing features do not

contribute to the cultural landscape either because they were not present during the period of significance, do not relate to the documented significance of the property, no longer possess historical integrity, or are not capable of yielding important information relevant to the significance of the property.

Contributing features of the cultural landscape include site design, circulation features, views from the north end of Barnum Island to Lake Superior and Washington Island, and views to Washington Island fishing community.

Table 1-1. Landscape Features¹⁷

Feature	CRIS-HS Resource ID	CRIS-HS Structure ID*	CRIS-CL CLI Feature ID*	FMSS Location Number	FMSS Asset Number	Contributing Feature
Large Barnum Boat House	73186	+	96952	50984	^	Yes
Small Barnum Boat House	73185	+	96953	50983	^	Yes
Johns Log Cabin	73179	+	96960	50997	^	Yes
Trails between cottages and to water	I	+	96966	52100	•	Yes
Trail around perimeter of island	I	+	96965	52100	•	Undetermined
Other various trails	I	+	96964	52100	•	Undetermined
Views from north end of island	+	+	104457	—	•	Yes
Views to Washington Island fishing community	+	+	104456	—	•	Yes

- * A historic structure has its own CRIS-HS Resource ID. If also listed as a feature in a CRIS-CL record, the historic structure will also be assigned a second, separate CRIS-CL Resource ID.
- + Non-Contributing Historic Structures are not assigned CRIS-HS ID or LCS ID numbers.
- I CRIS-HS Resource ID number has yet to be assigned.
- FMSS location number has yet to be assigned.
- FMSS asset number has yet to be assigned.
- ^ Developed as needed.

1.7 This list corresponds to contributing features identified in the 2017 Barnum Island Cultural Landscape Inventory. For the purposes of this project, the historic buildings as identified in the National Register are described as “features.”

FMSS data is partially developed for Barnum Locations. In FMSS hierarchy structure, Assets are a subset of a Location. Assets are entered into FMSS to support park facility maintenance and construction projects. The number of assets may increase or change to support project development or data cleanup to eliminate duplication and improve consistency.

Large Barnum Boat House

Large Barnum Boat House is a one-room wood building built atop submerged wood cribbing and set on the south shore of Barnum Island. A dutch gable roof extends east-west along the rectangular building, which measures roughly 28 feet by 40 feet in plan.

Large Barnum Boat House, built in 1920, is significant for its association with the historic resort and fishing uses of Barnum Island during the early 20th century.

The asymmetrical U-shaped floor plan contains a 300 square-foot boat mooring slip and overhead hoist, accessed via a sliding boat door on the east façade. From land, the building is accessed via a boardwalk on the north façade, leading to the entry door. A narrow deck spans the south façade. Two fixed multi-lite windows punctuate the south façade.

Character-Defining Features

Character-defining features of Large Barnum Boat House include prominent or distinctive aspects, qualities, or characteristics that contribute significantly to its overall appearance. These include Large Barnum Boat House's form, exterior features, openings, and interior finishes.

Form

- Sited on Lake Superior with shore-side boardwalk
- Long narrow deck along south façade
- Single-story
- Asymmetrical U-shaped floor plan
- Expressive log structure of varying diameters

Exterior Features

- Dutch gable set parallel to shoreline
- Bird wire along roof peak
- Simple shallow eaves with exposed log rafter tails
- Unpainted vertical log slab cladding



Figure 1-7. Large Barnum Boat House (source: Anderson Hallas, 2024).

- Unpainted shiplap siding (north façade and gable ends)
- Wood cribbing structure
- Submerged log integrated into the northwest corner log crib

Openings

- Large sliding boat door (west façade) with overhead track
- Fixed divided light wood windows (south façade)
- Vertical log slab door to deck (south façade)
- Wood panel entry door (north façade)
- Typically no trim/casing at openings

Interior Features

- Exposed wood structure (unpainted)
- U-shaped floor plan with central boat slip
- Boat hoist supported on forked timber columns

Small Barnum Boat House

Small Barnum Boat House is a single-story wooden building built atop submerged wooden cribbing and set on the south shore of Barnum Island. A gable roof extends with shallow overhangs and is in a north-south direction. The rectangular building measures approximately 14 feet by 24 feet in plan.

Small Barnum Boat House, built in 1933, is significant for its association with the historic resort and fishing uses of Barnum Island during the early 20th century. The building's exterior is largely unaltered. A sauna room was added to the interior at an unknown date.

The U-shaped floor plan contains a 120-square-foot boat mooring slip and overhead hoist, accessed via a suspended folding door on the south façade. The northeast corner of the building contains a 50-square-foot sauna room. From land, the building is accessed on the north façade via a dock, which wraps along the east and west façades. One window penetrates the east façade.

Character-Defining Features

Character-defining features of Small Barnum Boat House include prominent or distinctive aspects, qualities, or characteristics that contribute significantly to its overall appearance. These include Small Barnum Boat House's form, exterior features, openings, and interior finishes.

Form

- Sited on Lake Superior with shore-side dock
- Deck wraps 3 façades
- Rectangular footprint
- Single-story
- Asymmetrical U-shaped floor plan



Figure 1-8. Small Barnum Boat House (source: Anderson Hallas, 2024).

Exterior Features

- Single gable set perpendicular to shoreline
- Bird wire along roof peak
- Simple shallow eaves with exposed rafter tails
- Barge board at gable ends
- Painted channel rustic siding
- Unpainted decking
- Wood cribbing structure
- Large submerged logs supporting west wall and dock

Openings

- Simple butt joint casing with square profile (doors)
- Fold-up boat door (south façade)
- Salvaged/modified entry door (north façade)

Interior Features

- Exposed wood structure (unpainted)
- U-shaped floor plan with central boat slip
- Boat hoist supported on log columns
- Lower flooring around boat slip

Johns Log Cabin

Johns Log Cabin is a simple two-story log cabin with a 12-foot square footprint and gable roof. Each floor consists of a single room with a connecting stair in the northeast corner.

Johns Log Cabin, built in 1892, is significant for its association with the Johns Hotel and is included in the Johns Hotel National Register listing. Significant under National Register Criterion A, Johns Log Cabin is associated with a history of resorts and fishing on Barnum Island and Isle Royale.

Log wall construction is exposed at the exterior and interior of Johns Log Cabin. A gable roof running north-south caps the second floor. A single-sash window is centered on each gable end, surrounded by wood shingle cladding, which fills the gable. The north (lake-facing) and south (Johns Hotel-facing) gable-end façades are also marked by operable windows on the first floor.^{1.8} A battened wood door provides entry on the south façade.

Character-Defining Features

Character-defining features of Johns Log Cabin include prominent or distinctive aspects, qualities, or characteristics that contribute significantly to its overall appearance. These include Johns Log Cabin's form, exterior features, openings, and interior finishes.

Form

- Log construction
- Two-story square plan
- Sited in grassy clearing



Figure 1-9. Johns Log Cabin (source: Anderson Hallas, 2024).

Exterior Features

- Simple gable roof (ends facing Lake Superior and Johns Hotel)
- Simple eaves without gutters
- Tapered exposed rafter tails
- Soffits only at gable ends
- Saddle notch log joints at corners
- Second-floor framing ends expressed at exterior
- Shingles at gable ends

Openings

- Simple butt joint casing with square profile
- All openings located on gable-end façades
- Battened wood entry door (south façade)
- Operable multi-lite windows on first and second floors

Interior Features

- Exposed wood structure (unpainted)
- Exposed interior face of log walls with wood strip fill and daubing
- Single-room floors
- Quarter-turn staircase in northwest corner

^{1.8} The window on the south façade has been shuttered with plywood.

Weather Trends, Vulnerabilities, and Impacts

Isle Royale National Park is experiencing warmer temperatures throughout the year, extended summer seasons, more frequent and intense storms, warmer water, and reduced ice cover of Lake Superior.^{1.9}

Treatment guidance in this report addresses resources that are currently or potentially threatened by these weather-driven environmental changes. Treatment guidance supports the park's intended use for the buildings as identified in the 2019 Isle Royale National Park Cultural Resources Management Plan while addressing impacts related to the following buildings and their cultural landscapes on Barnum Island. The park's intended uses include storage with visitor day use (interpretation) at Large Barnum Boat House, storage and a sauna at Small Barnum Boat House, and visitor use (interpretive exhibits) at Johns Log Cabin.^{1.10}

Storm Events (wind and precipitation): The frequency and severity of storms, precipitation, and wind are likely to intensify. Rainfall during the four wettest days of the year has increased by 35 percent over the last half-century.^{1.11}

Potential impacts to Johns Log Cabin from increased storm events include damage from nearby trees, flood inundation, soil erosion, shoreline erosion, trail erosion, and instability along the shoreline of Barnum Island. The frequency and intensity of wind blowdowns may increase adversely impacting buildings.

Variable temperature and relative humidity:

The region is vulnerable to increasing summer temperatures and humidity. Evaporation, humidity, and average rainfall increase as the atmosphere warms.

Potential impacts include growth of mold and mildew leading to deterioration of historic building materials.

Flooding and Erosion: Annual precipitation in the Midwest has increased by five to ten percent in the last 50 years. Spring rainfall, annual precipitation, and severe rainstorms are likely to intensify and increase the risk of flooding.

Potential impacts include increased flood inundation and shoreline/cliff erosion.

Water Levels: The impact on water levels in Lake Superior is not yet known. Water levels have historically fluctuated in Lake Superior. Higher precipitation contributes to higher-than-average water levels while warmer surface water temperatures contribute to increased rates of evaporation leading to lower water levels.^{1.12}

Potential impacts of increased fluctuations in water levels may accelerate the deterioration of crib/building material exposed during low water conditions and submerged during high water conditions.

1.9 United States Department of the Interior, National Park Service. *Using Climate Change Scenarios to Explore Management at Isle Royale National Park - January 2012 Workshop Report*. (Fort Collins, CO: Natural Resources Stewardship and Science, 2013), 1.

1.10 The 2019 Isle Royale National Park Cultural Resources Management Plan identified use for Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin is interpretation.

1.11 United States Environmental Protection Agency. *What Climate Change Means for Michigan*. (Washington, DC: U.S. Global Change Research Program and U.S. Climate Change Science Program, 2016).

1.12 <https://www.epa.gov/climate-indicators/great-lakes>

Vegetation: Isle Royale is in the temperate-boreal forest transition zone with temperate tree species at or near their northern range limits and boreal trees near their southern range limits. Small changes in temperatures may cause major shifts in vegetation. Recent trends indicate a shift from boreal to temperate vegetation. Areas of the park covered by upland boreal forest declined from 72 to 53 percent between 1957 and 2008. Northern hardwood forests more than doubled during this period.

Potential impacts to the cultural landscape include changes in the composition of tree and shrub species within the boreal forest on Barnum Island. Boreal tree species including spruce, fir, paper birch, and aspen may be replaced with temperate species including red oak, red maple, and white pine.^{1.13}

Wildfires: Wildfires are rising in frequency and intensity and will likely increase with future warmer and drier conditions.

Potential impacts include loss of buildings, structures, and vegetation. Wildfires may also accelerate the shift from boreal to temperate forest.

1.13 NPS, *Using Climate Change Scenarios to Explore*, 5, 19.

Treatment Goals

The following goals assist in determining the appropriate stewardship guidance for protecting the character of Large Barnum Boat House, Small Barnum Boat House, Johns Log Cabin, and the cultural landscape while addressing resiliency.

- Ensure all future work complies with the following.
 - *Secretary of the Interior’s Standards for the Treatment of Historic Properties, Guidelines for the Treatment of Cultural Landscapes*
 - *Secretary of the Interior’s Standards for Rehabilitation & Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*
- Retain those contributing and character-defining features that make these resources eligible for listing on the National Register of Historic Places. Retain these to ensure the buildings and cultural landscapes retain integrity, according to the NPS’ seven aspects of integrity—location, design, materials, workmanship, setting, feeling, and association.
- Incorporate weather vulnerability information to inform future planning, design, and improvement.
- Prioritize treatment actions that will preserve and increase resiliency of extant contributing features and character-defining features.
- Balance resiliency and reduction of vulnerability to weather-related hazards with economic and technical feasibility.
- Ensure all work is guided by the Secretary of the Interior’s *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*.^{1.14}

^{1.14} United States Department of the Interior, National Park Service. *Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*. (Washington, DC: Technical Preservation Services, 2021), 10.

Future Study

The following studies are recommended to establish baseline documentation and to identify risks and vulnerabilities.

- Perform topographic surveys for each building and its cultural landscape as defined in this report and for areas associated with future project work.
- Conduct water level monitoring to document current water levels, projected water levels, and inform recommendations to protect historic features.
- Conduct spectral wave analysis to determine wave forces and heights for different storm events from different directions.
- Conduct lateral and vertical ice force determination based on historical conditions and ice thickness in the region.
- Conduct condition, risk, and vulnerability assessments of weather impacts on a regular schedule and after flood, storm, and other weather events, and retain records of assessment.
- Conduct a spectral wave model on Lake Superior and coastal analysis of the surrounding areas of Barnum Island to determine the limits of shoreline erosion and wave force on boat houses. Ensure modeling incorporates the following.
 - Existing publicly available data for wave heights, bathymetry, and wind characteristics at and near the study area.
 - Current topographic data along the shoreline and near shore bathymetric information.
 - Wave conditions for return period events for structural survivability and protection of the shoreline.
 - Long-term analysis of variable water levels, storm events, and ice thickness.
 - Weather change effects in coordination with the National Park Service’s Climate Change Response Program, local Park Service Climate Change Guidelines, and local weather trends on Lake Superior.
 - Weather change risks based on historic and projected fluctuations in lake levels and more frequent and intense storm events.

2

Large Barnum Boat House Condition Assessment and Treatment

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Introduction

This chapter presents the condition assessment of Large Barnum Boat House and its cultural landscape. It provides treatment guidance to inform repair of the historic building and to guide long-term protection of the historic building and the cultural landscape against climatic impacts.

Site investigations completed in June 2024 documented condition. Condition is evaluated using the following criteria.

- Good—Those features of the landscape that do not require treatment. Only minor or routine maintenance is needed at this time.
- Fair—Some deterioration, decline, or damage is noticeable; the feature may require immediate intervention. If intervention is deferred, the feature will require extensive attention in a few years.
- Poor—Deterioration, decline, or damage is serious; the feature is seriously deteriorated, damaged, or presents a hazardous condition. Due to the level of deterioration, damage, or danger, the feature requires extensive and immediate attention.

Treatment Approach

The treatment approach selected during the October 2024 treatment workshop for Large Barnum Boat House and its cultural landscape is rehabilitation. This allows for alterations to the cultural landscape and historic building to accommodate a compatible use. Repair and alterations are allowed in tandem with the preservation of features that convey its historical, cultural, and architectural values.

The building will continue to serve its historic boat house function. The planned future use for the building is to remain as storage with visitor day use (interpretation).^{2.1}

All future work planned for Large Barnum Boat House will be guided by the following documents.

- The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- The Secretary of the Interior's *Standards for Rehabilitation & Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*

Accessibility

Barrier-free access was considered at the October 2024 treatment workshop for Large Barnum Boat House and was determined not be feasible due to the remote location, terrain, and potential impact on the historic structure and cultural landscape.

The feasibility of ABAAS-compliant routes will be considered in the future if docks on Barnum Island are improved to provide public access.

2.1 Guidance for the future use of Large Barnum Boat House is identified in the 2019 Isle Royale National Park Nonwilderness Cultural Resource Management Plan and was confirmed by the Park, NPS Regions 3, 4, 5 staff, and stakeholders at the 2024 treatment workshop.

Cultural Landscape Condition Assessment and Treatment

Introduction

Large Barnum Boat House retains its original distinct setting, characterized by its compact cluster of development on the south shore of Barnum Island, trail connections to Washington Harbor and cottages on Barnum Island, and views to Washington Island.

The increased frequency and severity of storms on Lake Superior may impact the cultural landscape. These impacts include more frequent and intense storms contributing to loss of dense vegetation that historically surrounded the boat house, a shift in the historic composition of forests from boreal to temperate vegetation, and increased shoreline erosion.

Site Design

Large Barnum Boat House is set along the south shore of Barnum Island in an area of shallow water. Small Barnum Boat House is southwest of the building and Barnum Residence is to the northwest. Narrow trails connect Large Barnum Boat House to Small Barnum Boat House, Barnum Residence, Dunwoodie Cottage, and other destinations to the east. A boardwalk provides access from inland trails to the entrance of Large Barnum Boat House located on its northeast corner.

Prominent views are from Large Barnum Boat House to Washington Island to the south, from Small Barnum Boat House to Large Barnum Boat House to the east, and from Washington Island and Washington Harbor to Large Barnum Boat House.

Site Design Condition: Fair to Poor

The cultural landscape has changed since the end of the period of significance due to the loss of a boardwalk that originally connected Large Barnum Boat House with Small Barnum Boat House. The original setting of Large Barnum Boat House is diminished by the removal of resort and fishing buildings on Washington Island, a forest that is less dense than the historic forest that surrounded Large

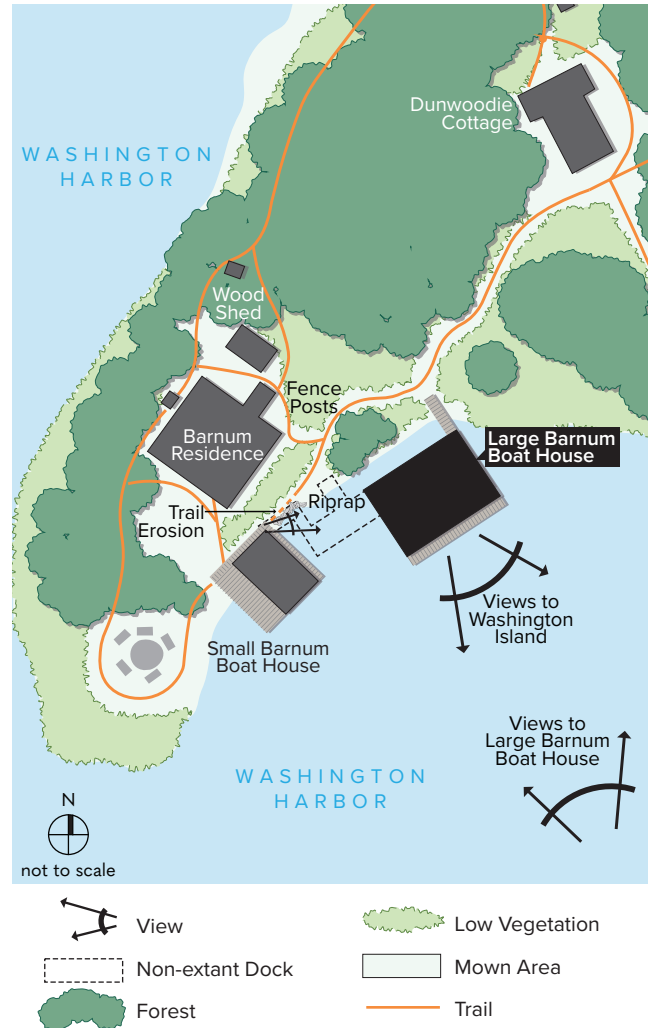


Figure 2-1. Large Barnum Boat House Cultural Landscape Condition (source: Mundus Bishop, 2024).

Barnum Boat House and lined the shore of the island, and a change in forest composition from coniferous trees to a more mixed forest.

The site is in generally fair condition. Its condition is impacted by shoreline erosion and the establishment of a narrow, eroding trail between Large Barnum Boat House and Small Barnum Boat House.

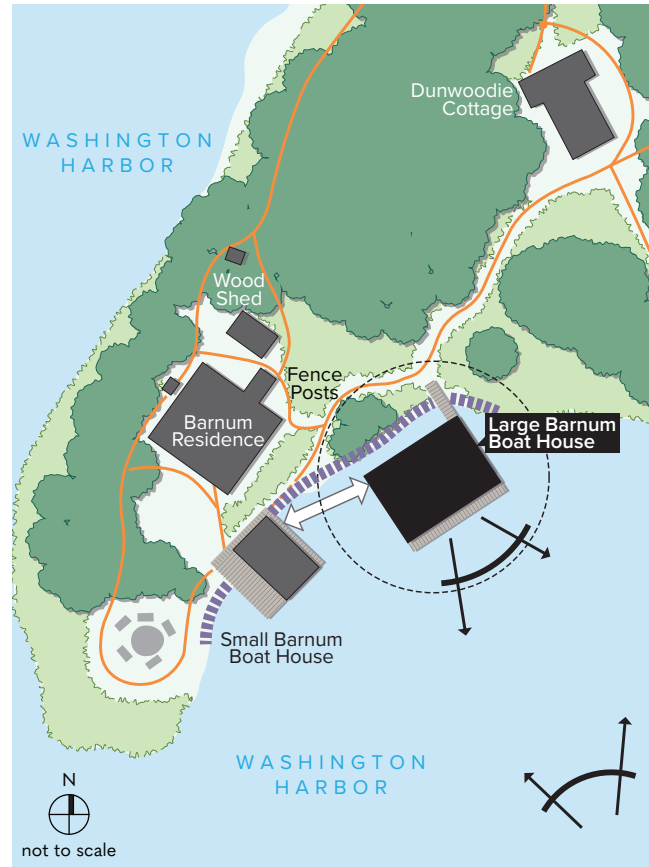


Figure 2-2. Large Barnum Boat House's spatial organization has been modified due to the removal of the original dock that once connected the two boat houses and due to the shoreline having less dense vegetation (upper left image source: ISRO Archives, 1935; upper right and bottom image source: Mundus Bishop, 2024).

Site Design Treatment Guidance

Treatment guidance identifies actions to stabilize and repair the cultural landscape of Large Barnum Boat House and to allow new features to provide for visitor use and improved public access.

- Preserve the setting of the cultural landscape including its compact cluster of buildings set along the south shore of Barnum Island and the historic spatial relationships and views to Small Barnum Boat House, Washington Island, and the water.
- Preserve contributing features including Large Barnum Boat House, trails between cottages and the water, and views to Washington Island.
- Maintain views to Washington Island from Large Barnum Boat House and to Large Barnum Boat House from the water and Washington Island.
- Consider the feasibility of a future ABAAS route if docks on Barnum Island are improved for public access. Complete a topographic survey to inform the design of a future ABAAS route.
- Consider riprap and native riparian vegetation for shoreline protection. Select locally sourced riprap compatible with the scale of Large Barnum Boat House. Ensure materials are of a material and color that harmonizes with the historic setting and aesthetic.
- Provide a boardwalk connection between Large Barnum Boat House and Small Barnum Boat House (re: circulation treatment).



-  Maintain Views
-  Re-establish a Boardwalk Connection
-  Preserve the Setting of Large Barnum Boat House and Relationships and Views to Small Barnum Boat House, Washington Island, and the Water
-  Consider adding Riprap and Native Riparian Vegetation for Shoreline Protection
-  Preserve Contributing Trails between Cottages and the Water

Figure 2-3. Large Barnum Boat House Treatment Guidance (source: Mundus Bishop, 2024).

Circulation Features

Access to Barnum Island is by boat. Trails provide pedestrian access on the island from docks to cottages. Large Barnum Boat House is accessed by trails from Small Barnum Boat House, Barnum Residence, Dunwoodie Cottage, and cottages to the east.

Circulation Features Condition: Varies

Original circulation features are undocumented and were likely limited to trails that provided access between docks, boat houses, and cottages. Historic circulation patterns have been modified by the loss of trails due to decreased use of the island, the removal of buildings on Barnum Island, and the loss of the boardwalk between Large and Small Barnum Boat Houses. The trail contributes to shoreline erosion (source: Mundus Bishop, 2024).

Extant trails at Large Barnum Boat House retain connections and associations with historic buildings, boat docks, and Washington Harbor and remain as minimally maintained routes cleared of trees and understory vegetation. Trails from Large Barnum Boat House to Small Barnum Boat House, Barnum Residence, Dunwoodie Cottage, and cottages to the east are contributing features. Condition is impacted by erosion, compaction, and lack of a stable, formalized trail surface.

Circulation Treatment Guidance

Treatment guidance identifies actions to re-establish the historic boardwalk between Large Barnum Boat House and Small Barnum Boat House and preserve contributing trails.

- Provide a boardwalk between Large Barnum Boat House and Small Barnum Boat House. Ensure the boardwalk does not impact the historic setting. Design the boardwalk to be compatible in scale with Large Barnum Boat House and materials are of a material and color



Figure 2-4. An informal trail was established after the loss of the boardwalk between Large and Small Barnum Island Boat Houses. The trail contributes to shoreline erosion (source: Mundus Bishop, 2024).



Figure 2-5. Trail to Large Barnum Boat House from Dunwoodie Cottage (source: Mundus Bishop, 2024).

that harmonizes with the historic setting and aesthetic. Remove the narrow, eroding trail between the boat houses. Repair trail erosion, soil compaction, and shoreline vegetation.

- Preserve trails from Large Barnum Boat House to Small Barnum Boat House, Barnum Residence, Dunwoodie Cottage, and cottages to the east.

Small Scale Features

Small scale features of Large Barnum Boat House are primarily associated with the boat house and with Barnum Island operations. These include downed fence posts, remnants of a wheelbarrow, and materials associated with the boat houses and surrounding cottages.

Small Scale Condition: Varies

Small scale features are non-contributing and condition varies.

Small Scale Treatment Guidance

Treatment guidance identifies the following actions to preserve the historic character of Large Barnum Boat House and provide for visitor use.

- Preserve discarded fence posts, remnants of a wheelbarrow, and other materials associated with the boat houses and surrounding cottages.
- Allow infrastructure needed to support storage and visitor day uses, including signage and interpretive information. Ensure infrastructure is of a scale, material, and color that harmonizes with the historic setting and aesthetic. Minimize the number of features and ensure their placement does not detract from the historic setting, is subordinate to Large Barnum Boat House, and does not diminish or obstruct historic views or relationships between features.



Figure 2-6. Downed fence posts north of Large Barnum Boat House (source: Mundus Bishop, 2024).



Figure 2-7. Remnants of a wheelbarrow north of Large Barnum Boat House (source: Mundus Bishop, 2024).

Vegetation

Large Barnum Boat House is in a small clearing surrounded by native boreal coniferous vegetation. The forest is primarily comprised of balsam fir, river birch, and mountain ash trees. Beard lichen drapes the branches of balsam fir trees. Dominant native understory species include Canadian bunchberry, thimbleberry, and grasses. Non-native species along the shoreline include lilies and lupines.

Vegetation Condition: Good to Poor

A loss of vegetation along the shoreline of Barnum Island has modified its historic vegetation patterns. According to historic photographs, denser forest occurred along the southern shoreline of Barnum Island and between Large Barnum Boat House and Dunwoodie Cottage. The less dense vegetation is likely associated with a large windstorm that occurred in 2010. This storm damaged or destroyed many of the trees on Barnum Island. Seasonal grazing by moose suppresses the growth of balsam fir and mountain ash, possibly contributing to the loss of vegetation.

Vegetation Treatment Guidance

Treatment guidance identifies actions to manage vegetation to repair historic patterns.

- Consider establishing native riparian plant species to stabilize the shoreline, prevent erosion, and prevent the establishment of invasive species.
- Consider maintaining a 10' fire buffer clear of vegetation around Large Barnum Boat House to protect the building.
- Re-evaluate vegetation management practices periodically to incorporate the best available science, lessons learned from internal experience and external resources (NPS, USFWS, other jurisdictions, etc.), and new weather change research, trends, and mitigation strategies.



Figure 2-8. Historic patterns have been modified by changes in the extent and density of vegetation along the shoreline of Barnum Island (top image source: <https://www.isleroyalefamilies.org/archive/archive0606.htm>, undated; middle image source: ISRO Archives, 1952; bottom image source: Mundus Bishop, 2024).

Architecture Condition Assessment and Treatment

Introduction

Large Barnum Boat House is particularly vulnerable to weather change as it sits in the water in Lake Superior, exposed to wind, water, and ice. Many features of the historic construction have prepared it for this exposure and allowed it to survive this far. This includes its Dutch gable roof design with an eave overhang that protects all four walls and substantial oak timbers used for cribbing have stood the test of time. However, newer roofing materials have not resisted increasing storms, threatening the structure of the eaves and all they protect. The oak cribbing, along with other wood elements, perform well when fully underwater or fully dry. Increasing fluctuation of lake levels threatens more wet-dry and freeze-thaw cycles, which are difficult for the historic material to withstand.

Physical Description

Large Barnum Boat House is a one-room wood building, built atop submerged wood cribbing on the south shore of Barnum Island. A dutch gable roof follows the long façade of the building. The rectangular building measures roughly 28' by 40' in plan.

Constructed in 1910, Large Barnum Boat House is significant due to its association with the historic resort and fishing uses of the island during the early 20th century. The building is largely unaltered, except for additional structural shoring added at the interior.

The asymmetrical U-shaped floor plan contains a 300 square-foot boat mooring slip and overhead hoist, accessed via a sliding boat door on the east façade. From land, the building is accessed via a boardwalk on the north façade, leading to the entry door. A narrow deck spans the south façade. Two fixed multi-lite windows punctuate the south façade.



Figure 2-9. Large Barnum Boat House, west façade (source: Anderson Hallas, 2024).



Figure 2-10. Vertical log slab cladding, south façade (source: Anderson Hallas, 2024).



Figure 2-11. Interior of Boat House, facing west (source: Anderson Hallas, 2024).

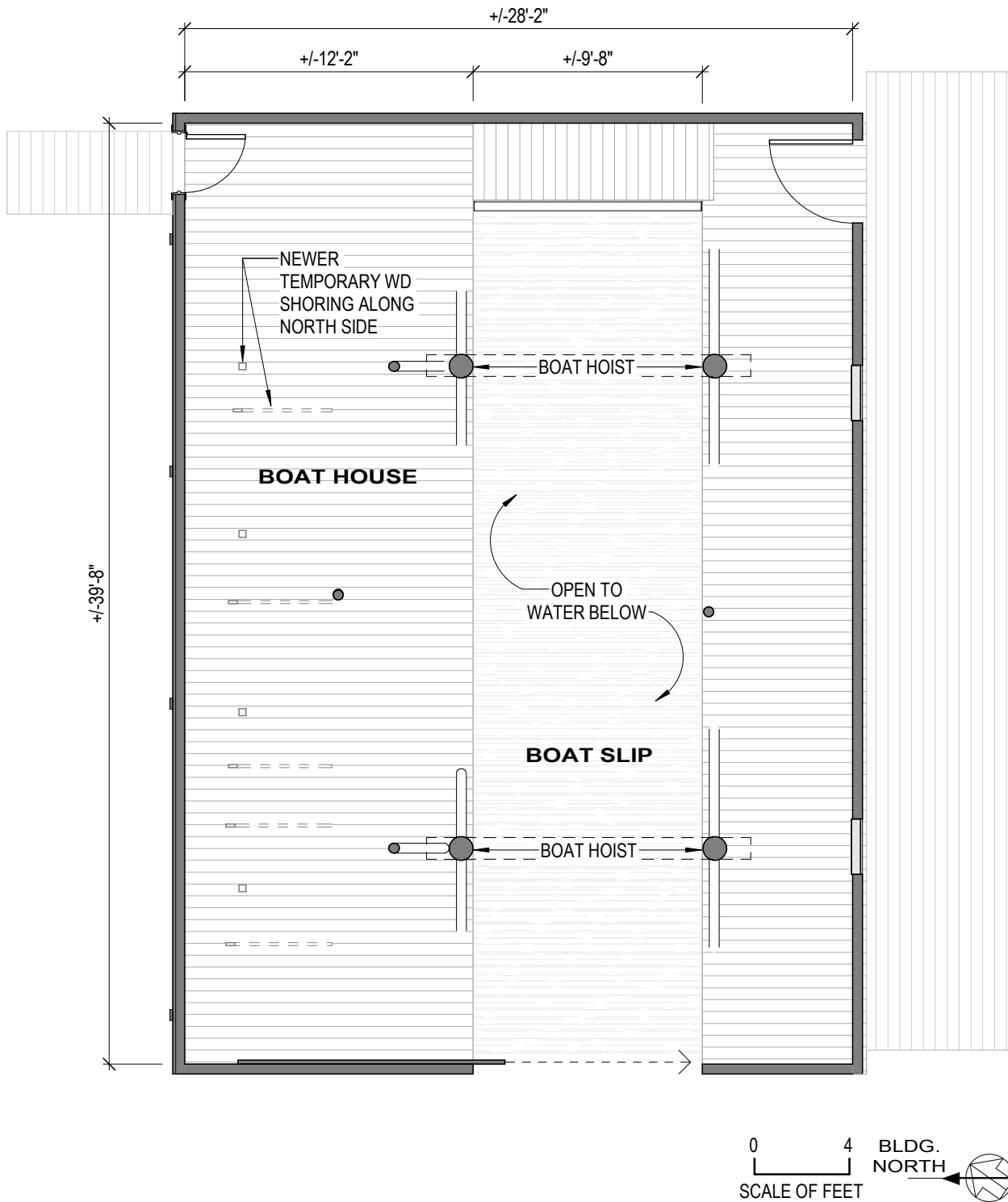


Figure 2-12. Large Barnum Boat House floor plan (source: Anderson Hallas, 2024).

Primary Materials

Character-defining materials include vertical log slab cladding on lake-facing façades and horizontal shiplap on the north façade. Wood structure is visible below cladding, with exposure varying with water level. Large Barnum Boat House includes no interior finishes. Wood floor decking remains exposed. Asphalt roll roofing is not original.

Condition Assessment: Poor to Fair

Portions of Large Barnum Boat House are in fair condition, including areas of the log slab cladding, windows, doors, and floor decking. Advanced deterioration of the roof has led to water infiltration, deterioration of sheathing, and deterioration of wood elements below.

Applicable Codes

2024 International Building Code (IBC)

2024 International Existing Building Code (IEBC)

ASCE 7-22 Minimum Design Loads for Buildings and Other Structures



Figure 2-13. South exterior wall (source: Anderson Hallas, 2024).



Figure 2-14. North exterior wall (source: Anderson Hallas, 2024).



Figure 2-15. Lichen and bio-growth on west exterior wall (source: Anderson Hallas, 2024).

Exterior Enclosure (B20)

Exterior Walls (B2010)

Exterior walls consist of a single layer of wood cladding over wood framing. Lake-facing walls (east, south, and west façades) are clad in vertical log slabs of varying widths without trim at openings. As described in the structural section, cladding is mounted to the structural sill and top plate at the base and top of wall, respectively, as well as horizontal mid-height bracing (refer to the Structural Exterior Walls section for discussion of the structural systems).

The north façade is clad in a novelty profile shiplap siding, and extend horizontally. Novelty siding, also called “drop siding”, consists of shiplap boards with a rounded (rather than square) concave profile. This façade has square-profile casing around the door. Similar novelty siding can be found at the gable ends of the dutch gable roof. Exterior cladding is unpainted.

Exterior Walls Condition Assessment: Fair to Poor

Log slab cladding typically exhibits deterioration near the base of the wall and most log slabs are split. Lichen and bio-growth are typical along the base of lake-facing walls. Additionally, log slabs on the east and west façades are racked and gapped due to structural movement.

Shiplap siding on the north façade is in slightly better condition, exhibiting deterioration near the base of the wall and below portions of failed roofing. Gable end boards are gapped, but in fair condition overall.

Exterior Walls Treatment Guidance

Gently clean siding to remove bio-growth. Take care to protect the siding and avoid abrasive scraping or pressure-washing. On the north façade, replace in kind any shiplap boards impacted by deterioration or recommended structural work (anticipate 20% replacement). Deterioration of the bottoms of the log slabs is pervasive, as the end grain of the wood soaks up moisture. At each deteriorated log base, provide a dutchman repair with an in-kind replacement (assume 50% of all logs will require a 12” replacement). For deterioration greater than 12”, replace the entire slab (assume 35% of all logs). A borate preservative at the end grain may help to delay future deterioration. During this process, install a prefinished metal drip edge flashing with a good slope at the base of the logs, secured to the wall framing.

Select a clear penetrating finish for all siding as paint is historically inappropriate. Use of a semi-transparent penetrating stain might also be assessed for exterior wood as the small amount of pigment (in color similar to weathered wood) would provide needed UV protection.

A close inspection of gable end boards may need to occur after strengthening of the roof structure. Provide an in kind replacement of any deteriorated boards (anticipate 10%).

Trim and Millwork Condition Assessment: Fair

Trim exists only on the north façade, around the entry door. Head casing is in good to fair condition, protected by the roof overhang. Jamb casing, however, is deteriorated near the base of wall.

Trim and Millwork Treatment Guidance

Provide a partial replacement of the jamb casing around the north door. Test a sample of the casing for evidence of previous paint. If paint historically existed here, it would be recommended to return to a painted condition consisting of a high quality latex primer and topcoats.

Exterior Windows (B2020)

Two fixed single-sash wood windows, each with nine lites, are located on the south façade. Windows lack casing or trim at the interior and exterior. Hardware on the windows suggests that these were salvaged from elsewhere or manufactured for an operable application.

Exterior Windows Condition Assessment: Fair

Windows are generally in fair condition with no broken glazing. Putty is severely weathered, cracked, and in some areas missing. Paint is also weathered, with as much as 60% missing.

Exterior Windows Treatment Guidance

Rehabilitate the window, cleaning glazing, replacing all glazing putty, and repainting the sash. Apply high quality latex primer and topcoats. Conduct a historic paint analysis to determine appropriate paint selection.



Figure 2-16. Window exterior on south façade (source: Anderson Hallas, 2024).

Exterior Doors (B2030)

Large Barnum Boat House includes an exterior pedestrian door on the north façade and an exterior pedestrian door on the south façade. The north door is a wood stile and rail four-panel door with historic hardware, consisting of hinges and a doorknob. A newer padlock has been added to the exterior. Though this door is painted on the interior, all paint is missing on the exterior.

The south door visually blends with the adjacent cladding as it is constructed of the same materials. This door consists of vertical log slabs with interior wood battens. An interior sliding bolt latch is built of wood 2x4s.

A large sliding boat door spans the mooring slip opening on the west façade. The historic overhead track and hangers remain and are operable. Both the south door and the boat door are unpainted.

Exterior Doors Condition Assessment Fair

Doors are generally in fair condition. Doors are operable, though wood appears weathered on the exterior face. Some deterioration was typically observed near the base of each door on the exterior, where subject to greatest weather exposure. Additionally, significant rust was observed on metal hardware. The boat door is weathered, particularly towards the bottom of the exterior face.

Exterior Doors Treatment Guidance

Rehabilitate both doors. The following treatment includes recommendations for providing ABAAS-compliant entry at the north door.

At the north door, provide a full rehabilitation of the door, including replacement of deteriorated wood near the base and expansion to achieve ABAAS minimum clear width. Expand the door and opening two inches to provide 32 inch clear width. Currently, level change at the threshold is one to two inches. Replace exterior decking at an increased elevation to match the finish



Figure 2-17. North door, interior face (source: Anderson Hallas, 2024).



Figure 2-18. South door (source: Anderson Hallas, 2024).

floor at the entry. Visitor access should be limited to the northeast corner of the space where floor is level. Non-permanent stanchions are recommended for delineating extent of visitor access without impacting historic material.

Square up the panel and repaint the door. Remove any loose or failing paint and provide a latex-based primer and latex-based topcoat. Consider applying a wood preservative such as borate before painting to protect the door (include for cost estimating). Oil hinges to improve operation and replace the existing padlock with a keyed bolted lock.

Rehabilitation of the south door should also include replacement of deteriorated wood near the base. Oil hinges for improved operation. Consider replacing the wood sliding lock with a keyed metal door knob and latch for ease of use (assume replacement for cost estimating). This door appears to be historically unpainted, a clear penetrating finish is recommended.

Rehabilitate the boat door and its hardware. Rehabilitate overhead steel hardware of boat door following the general steel-repair sequence:

- Remove paint and clean areas of corrosion to a blast white finish (SSPC-SP5).
- Repair steel by patching or removing severely corroded areas and welding or brazing steel of matching cross section.
- Coat all elements with a zinc rich primer and apply a 2-part epoxy coating with a topcoat.

Oil the hardware to improve operation. Provide an in-kind replacement of significantly weathered exterior boards towards the base of the door (assume 3 boards replaced).



Figure 2-19. South door interior (source: Anderson Hallas, 2024).



Figure 2-20. Boat door on west façade (source: Anderson Hallas, 2024).



Figure 2-21. Boat door, interior (source: Anderson Hallas, 2024).

Roofing (B30)

Roof Coverings (B3010)

Historic roof covering material is not known. Newer asphalt roll roofing has been applied in multiple piecemeal campaigns directly over top of 1x6 board sheathing. No underlayment, metal flashing, or penetrations were observed. A wire strung from two vertical boards at opposite gable ends extends the length of the ridge to dispel birds.

Log rafter tails are exposed at the eaves, though they have been replaced with sistered wood boards in some locations. Board fascia of varying width is present in all locations but is obscured from view by overhanging roof covering.

Roof Coverings Condition Assessment: Poor

Roof covering is in particularly poor condition where the roofing material is missing and sheathing is subject to weathering and deterioration. Roof covering is missing along large portions of the south roof slope and on the north, particularly at the eave. Where remaining, the roof covering is wrinkled and torn. Roof covering on the north slope hosts bio-growth.

Missing roof covering, particularly above the north wall, has led to water infiltration, deterioration of sheathing, and deterioration of wood elements below. Overhanging roof covering at the eaves is in poor condition with wrinkles and tears.



Figure 2-22. Missing roof coverings on south slope (source: Anderson Hallas, 2024).



Figure 2-23. Roofing covering missing at north eave (source: Anderson Hallas, 2024).



Figure 2-24. Large Barnum Boat House interior (source: Anderson Hallas, 2024).

Roof Coverings Treatment Guidance

Replace the roofing assembly in whole. Remove all roofing and associated underlayments and accessories (refer to Structural Roof Construction Treatment Guidance for treatment of exposed rafters and new plywood sheathing).

Use prefinished flashings to minimize corrosion issues presented by either type of treated shingle.

Replace the current roofing with a cedar shingle assembly.^{2.2} Provide a cedar breather layer for improved ventilation over the sheathing. Provide ice and water shield for eave protection, changes in roof pitch, and at wall-to-roof connections at the gable ends. New roof flashing is essential. Provide prefinished metal drip edge flashings at eave and rake. Install assembly in accordance with guidance provided by the Cedar Shingle and Shake Bureau (CSSB). Two options for treated shingles include the following.

- Preservative-treated shingles, designed to provide moisture resistance and discourage bio-growth. However, these shingles contain chemical preservatives that could be deemed detrimental to the lake ecology.
- Fire-rated wood shingle roofing assembly. Fire-retardant-impregnated shingles are available and would provide a Class B fire rating. If a Class A rating is required, the Class B shingles must be used together with a mineral cap sheet (similar to that used in asphalt roll roofing) that covers the entire roof deck beneath the shingles. A robust breather layer is essential in this scenario. Shingles cannot be both fire-rated and preservative-treated.

2.2 As the historic roofing material is unknown, the preferred option for roofing material is evaluated for resiliency and historical appropriateness. The short lifespan of asphalt roll roofing poses an on-going burden of maintenance, jeopardizing the building which it must protect. In accordance with *Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors*, an alternative material which provides increased resiliency with an appearance similar to the historic design may be considered. Metal was considered as a substitute material at the October 2024 treatment workshop with the Park and stakeholders. Metal roofing with horizontal panels and a matte or granular finish, the metal would retain the visual appearance and scale of roll roofing with horizontal seams. At an additional discussion conducted in December 2024 with the Michigan State Historic Preservation Office (SHPO) wood shingle roofing was preferred. Wood shingle roofing is documented on other structures on Barnum Island during the period of significance.

Interior Construction (C10)

Boat Hoist (C1090)

Log-framed arches at the east and west ends of the boat slip act as a boat hoist. Metal chains wrapped around the horizontal member connect to the boat below. When in use, two logs placed under the boat span the floor opening.

Boat Hoist Condition Assessment: N/A

The boat hoist was in use during observations (refer to Structural Roof Construction section for guidance on the hoist as a component of the roof structure).



Figure 2-25. East end of boat hoist (source: Anderson Hallas, 2024).

Interior Finishes (C30)

Floor Finishes (C3020)

Flooring typically consists of 2x8 decking, though board width and direction vary throughout. Boards east of the mooring slip extend east-west, while other boards extend north-south. Floor decking is unfinished throughout. Along the north wall, where water intrusion was observed at the roof, boards are saturated and deteriorated (refer to the Structural Floor Construction section for additional assessment of decking).

Floor Finishes Condition Assessment: Fair and Poor

Floor decking is generally in fair condition and is in poor condition where increased moisture exposure has deteriorated boards. Decking is in poor condition near the north door, where board ends are heavily deteriorated. Board ends exposed on the south façade are also weathered.

Floor Finishes Treatment Guidance

Provide an in-kind replacement of deteriorated decking. Replace weathered board ends which are exposed at the south façade. Anticipate approximately 15% board replacement overall.



Figure 2-26. Water on interior floor decking, base of north wall (source: Anderson Hallas, 2024).

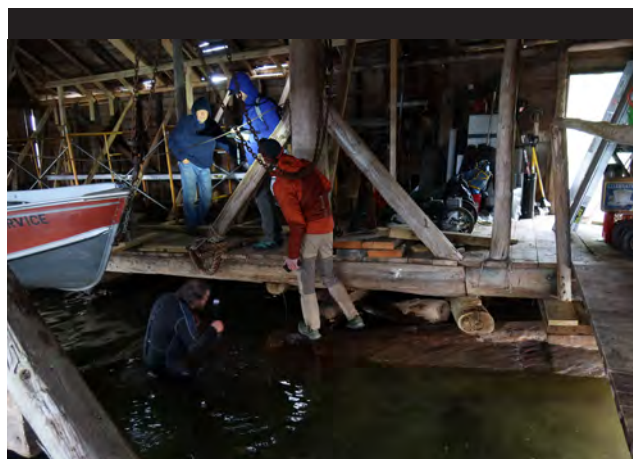


Figure 2-27. Northeast corner of interior, boat slip in foreground (source: Anderson Hallas, 2024).

Structural Condition Assessment and Treatment

General Structural Information

General Structural Description

Large Barnum Boat House is a rectangular building with wood-framed walls and Dutch gable style roof framing. The building sits above the water and is supported by log cribs that extend to the lake bottom.

Seismic

- $S_s = 0.044$
- $S_1 = 0.012$
- Site Class – Default (assumed)
- Seismic Design Category – A

Applicable Structural Design Information

Applicable Codes

2024 International Building Code (IBC)

2024 International Existing Building Code (IEBC)

ASCE 7-22 Minimum Design Loads for Buildings and Other Structures

Flood

- Information not available from FEMA for the site

Rain

- 15-minute rainfall intensity – 5.25 in/h
- 60-minute rainfall intensity – 2.41 in/h

Load Requirements

Risk Category

- RC II

Live Load

- Roof – 20 psf
- Boat House floor – 100 psf

Snow Load

- Ground snow load – $P_{g(ult)} = 119$ psf (ASCE 7-22)
- Exposure factor – $C_e = 0.8$ (surface roughness category D, fully exposed)
- Thermal factor – $C_t = 1.2$ (unheated and open-air structures)
- Importance factor
 - $I_s = 1.0$ (winter use)
 - $I_s = 0.8$ (no winter use)
- Roof snow load
 - $P_{f(ult)} = 80$ psf (winter use)
 - $P_{f(ult)} = 64$ psf (no winter use)

Wind Speed (Ultimate)

- 103 mph
- Exposure D

Foundation (A10)

Crib Foundation (A1020)

Six rock-filled timber cribs support Large Barnum Boat House.

The three cribs at the south side of the building are round timber logs ranging in diameter from 6" to 12" and ranging in height from 3'-4" to 5'-6". Dimensional lumber between crib members serves as shims leveling the crib structures. Cribs on the south side were in better condition with only minor or moderate deterioration documented. Based on conversations with NPS personnel, the cribs on the south side of the structure were also replaced more recently than those on the north.

The three cribs at the north side of the building are round timber logs ranging in diameter from 6" to 12" and ranging in height from 1'-3" to 4'-2". One larger log extending east-west, approximately 2'-0" or larger in diameter, was documented in the northeast crib. The larger log was extending slightly diagonally to the other members but was integrated into the crib. Several members are heavily deteriorated and crushed due to the deterioration and weight of the building above. Some differential settlement was also documented in the structure likely due to the large range of different size timbers and different rates of decay. Several layers of shims, oriented in the same direction, were installed on the crib in the north-west corner of the boat house. These shims do not appear to be connected, have shifted, and are no longer plumb. These tilting and shifting shims likely resulted in movement of the superstructure. Round timber members were installed vertically to presumably provide additional support. These members provide little to no additional vertical support as they either stand directly on the lake bottom or are hanging from the timber crib structure.

The crib in the northwest corner has very little rock ballast in the crib. Smaller rock ballast (less than 6-inches in diameter) was documented along the mudline near this crib and likely fell out of the crib

during storm events or from ice action. Cribs are defined as gravity structures and provide lateral stability to structures due to their self-weight. The loss of rock ballast from a crib causes the structure to be more susceptible to movement and damage from wave and ice forces.



Figure 2-28. Crushed timber member (source: AMI, 2024).



Figure 2-29. Tilting shims and loss of rock ballast (source: AMI, 2024).

Crib Foundation Condition Assessment: Fair

Timber cribs on the north side are in fair condition. Several members are heavily deteriorated but signs of immediate failure were not observed. Lateral loads associated with waves and ice are extremely difficult to predict. One large storm event or cold winter could damage the structure.

Due to the minor to moderate deterioration of the cribs on the south side, no repairs are required at this point in time.

Crib Foundation Treatment Guidance

Remove and replace the existing cribs along the north side of the boat house. The superstructure will be temporarily supported during the replacement of the cribs. New crib members shall be approximately 12" in diameter or square Oak timbers that are properly connected to each other using threaded rods and drift pins. The crib members will be shimmed or notched, as required, to provide a level surface. The new cribs will be filled with rock ballast which is greater than 12" in diameter.

The floors and walls of the superstructure will be anchored to the cribs with marine grade fasteners (refer to Structural Superstructure section for additional information). Inspect the members and rock ballast of the existing cribs for beneficial reuse in the new crib structures.

Superstructure (B10)**Floor Construction (B1010)**

The floor structure consists of log floor joists spanning in the east-west direction supported by log cribs. The exterior deck on the south side of the building, also supported by the log cribs, is framed with dimensional lumber spanning in the north-south direction. The floor is sheathed with 2x boards.

Floor Construction Condition Assessment: Fair

Floor framing is in fair condition with noticeably uneven areas throughout the building. Floor framing was not fully accessible due to the water level during June 2024 site investigation. Observable portions of log framing are not significantly deteriorated with the exception of the perimeter logs and exposed log ends.

Floor Construction Treatment Guidance

Investigate the floor structure and replace any deteriorated members in kind. Seal log ends (assume 10% for estimating purposes).

Provide anchorage of log floor framing to the cribs with fasteners suitable for a marine environment (assume 200 fasteners for estimating purposes).



Figure 2-30. Log floor framing supported on cribs (source: JVA, 2024).

Roof Construction (B1020)

The Dutch gable style roof is framed with 3" to 5" diameter log rafters spaced at approximately 33" to 38" and spanning from the tops of the north and south walls up to the ridge with intermediate support provided by 4" to 6" diameter log roof beams extending the length of the main gable. Roof beams are supported by log columns and kickers, including the 10" to 13" diameter hoist beam posts. Log rafter ties connect each rafter pair and span across the gable just above the roof beams. The roof is sheathed with 1x boards.

Roof Construction Condition Assessment: Poor

Roof framing is in poor condition. The existing roofing system has failed in many places, allowing direct access of the elements to the framing members. The roof structure is showing signs of distress such as deterioration, rafter deflection, and ridge sagging. The majority of the 1x board roof sheathing is significantly deteriorated with the worst conditions at the eaves and the southern pitch of the roof. The roof framing members are significantly overstressed and could not withstand code required snow loads. They will require comprehensive strengthening particularly if the building will be available for winter use. Multiple log rafters are fractured, and others were previously sistered with new framing.

The original use of the building will remain unchanged. Lateral upgrades are not triggered by code. Lateral upgrades are recommended for the long-term safety and stability of the building. These include strengthening the roof diaphragm to resist lateral loads and bolstering the connections of the roof framing to the walls.

Roof Construction Treatment Guidance

Replace broken rafters in kind (assume 4 rafters for estimating purposes).

Reinstate connections between rafters and wall framing (assume 500 fasteners for estimating purposes).

Sister all rafters (assume 22 rafter sisters for estimating purposes).

Replace undersized roof beams (assume 2 full-length 8" diameter logs for estimating purposes).

Install rafter ties where missing (assume 2 rafter ties for estimating purposes).

Add collar ties in the upper third of the roof at each rafter pair (assume 9 collar ties for estimating purposes).

Replace deteriorated board sheathing in kind (assume 1000 SF $\pm$ 10% for estimating purposes).

Install a layer of panel sheathing atop the existing board sheathing (assume 1400 SF $\pm$ 10% for estimating purposes).

Provide adequate anchorage from the roof framing to the wall framing (assume cold formed steel clips at each roof rafter, as well as gable walls, 50 clips $\pm$ 10% for estimating purposes).



Figure 2-31. Roof framing (source: JVA, 2024).



Figure 2-32. Broken rafters and shoring (source: JVA, 2024).

Exterior Enclosure (B20)

Exterior Walls (B2010)

Exterior walls are constructed with different framing techniques around the perimeter. With the exception of the west wall, a log plate extends the perimeter of the building at the top of the walls. The west wall is framed with log posts and dimensional lumber members on either side of the boat slip entrance door and is sheathed with vertical half-log siding. The sliding door track is supported by a 2x8 header. The north wall is constructed of 5" diameter half-log studs spaced at 24" and sheathed with horizontal board siding. The east wall consists of vertical half-log siding spanning between the log top plate and a dimensional lumber bottom plate. Like the east and west walls, the south wall also has vertical half-log siding, but is also supported at mid-height by a horizontal board spanning between vertical log studs spaced at approximately 4' to 8'. Diagonal braces and kickers are installed on the inside of the walls at various locations around the perimeter.

Exterior Wall Condition Assessment: Poor

Exterior walls are in poor condition. Several of the perimeter walls are leaning and racking in different directions due to foundation movement and inadequate roof structure. Framing at the base of the walls is significantly deteriorated around the perimeter.

Exterior Wall Treatment Guidance

Replumb walls and replace deteriorated members (assume 100% of framing at north wall and 20% at south, east, and west walls for estimating purposes).

Add vertical wall framing to support the roof structure above, minimum 4" diameter wall studs at 4' spacing (assume 15 studs for estimating purposes).

Add diagonal braces throughout to provide lateral stability to the structure (assume 100 linear feet for estimating purposes).



Figure 2-33. North wall framing (source: JVA, 2024).



Figure 2-34. South wall framing (source: JVA, 2024).



Figure 2-35. East wall framing (source: JVA, 2024).



Figure 2-36. West wall framing (source: JVA, 2024).



Figure 2-39. East wall elevation showing significant structural movement (source: JVA, 2024).



Figure 2-37. North wall elevation (source: JVA, 2024).



Figure 2-40. West wall elevation showing north wall leaning (source: JVA, 2024).



Figure 2-38. South wall elevation (source: JVA, 2024).

3

Small Barnum Boat House Condition Assessment and Treatment

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Introduction

This chapter presents the condition assessment of Small Barnum Boat House and its cultural landscape. It provides treatment guidance to inform repair of the historic building and to guide long-term protection of the historic building and the cultural landscape against climatic impacts.

Site investigations completed in June 2024 documented condition. Condition is evaluated using the following criteria.

- Good—Those features of the landscape that do not require treatment. Only minor or routine maintenance is needed at this time.
- Fair—Some deterioration, decline, or damage is noticeable; the feature may require immediate intervention. If intervention is deferred, the feature will require extensive attention in a few years.
- Poor—Deterioration, decline, or damage is serious; the feature is seriously deteriorated, damaged, or presents a hazardous condition. Due to the level of deterioration, damage, or danger, the feature requires extensive and immediate attention.

Treatment Approach

The treatment approach selected during the October 2024 treatment workshop for Small Barnum Boat House and its cultural landscape is rehabilitation. This allows for alterations to the cultural landscape and historic building to accommodate a compatible use. Repair and alterations are allowed in tandem with the preservation of features that convey its historical, cultural, and architectural values.

The building will continue to serve its historic boat house function. The planned future use for the building is to remain as storage and a sauna.^{3.1}

All future work planned for Small Barnum Boat House will be guided by the following documents.

- The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- The Secretary of the Interior's *Standards for Rehabilitation & Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*

Accessibility

Barrier-free access was considered at the October 2024 treatment workshop for Small Barnum Boat House and was determined not to be feasible due to the remote location, terrain, and potential impact on the historic structure and cultural landscape.

The feasibility of ABAAS-compliant routes will be considered in the future if docks on Barnum Island are improved to provide public access.

3.1 Guidance for the future use of Large Barnum Boat House is identified in the 2019 Isle Royale National Park Nonwilderness Cultural Resource Management Plan and was confirmed by the Park, NPS Regions 3, 4, 5 staff, and stakeholders at the 2024 treatment workshop.

Cultural Landscape Condition Assessment and Treatment

Introduction

Small Barnum Boat House retains its original distinct setting, characterized by its compact cluster of development on the south shore of Barnum Island, trail connections to the water and cottages on Barnum Island, and views to Washington Island.

The increased frequency and severity of storms on Lake Superior may impact the cultural landscape. These impacts include more frequent and intense storms contributing to loss of dense vegetation that historically surrounded the boat house, a shift in the historic composition of forests from boreal to temperate vegetation, and increased shoreline erosion.

Site Design

Small Barnum Boat House is set along the south shoreline of Barnum Island in an area of shallow water. Large Barnum Boat House is east of Small Barnum Boat House, Barnum Residence is to the north, and Dunwoodie Cottage is to the northeast. A narrow trail connects Small Barnum Boat House to a gathering area to the west, Barnum Residence to the north, and Large Barnum Boat House and other destinations to the east. A boardwalk parallels the shoreline providing access from inland trails to the entrance of Small Barnum Boat House on its northeast corner.

Prominent views are from Small Barnum Boat House to Washington Island and Washington Harbor to the south, from Large Barnum Boat House to Small Barnum Boat House to the west, and from Washington Island and Washington Harbor to Small Barnum Boat House to the north.

Site Design Condition: Fair to Poor

The cultural landscape has changed since the end of the period of significance due to the loss of a boardwalk that originally connected Small Barnum Boat House with Large Barnum Boat House. The original setting of Small Barnum Boat House is diminished by the removal of resort and fishing buildings on Washington Island and by a change in forest that is less

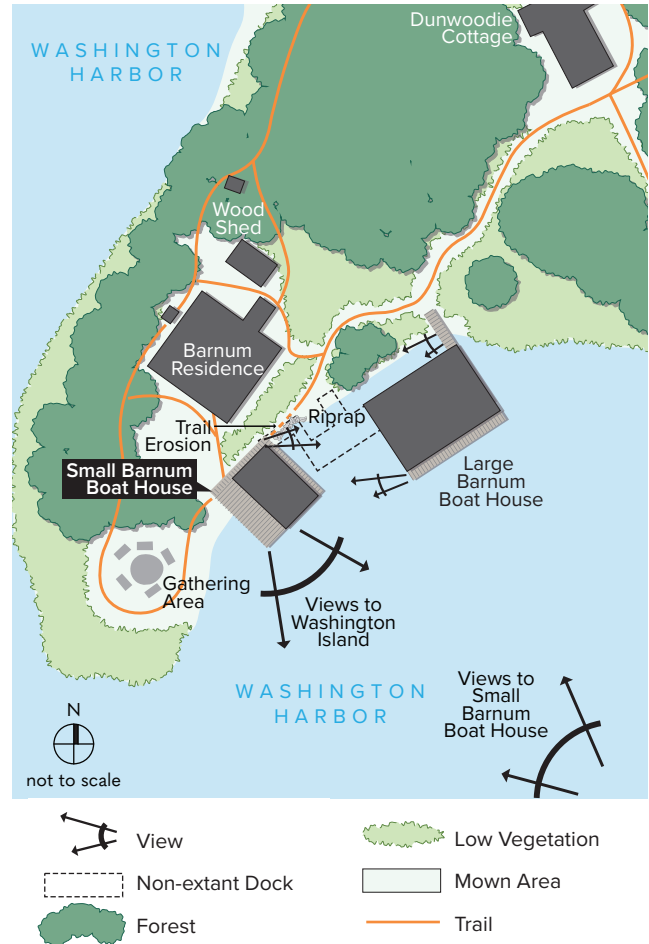


Figure 3-1. Small Barnum Boat House Cultural Landscape Condition (source: Mundus Bishop, 2024).



Figure 3-2. Small Barnum Boat House retains its setting along the shore of Barnum Island and relationships to Large Barnum Boat House (right) and Barnum Residence (center). Spatial organization is modified by the loss of the boardwalk between the two boat houses (source: <https://www.isleroyalefamilies.org/archive/archive0606.htm>, undated).

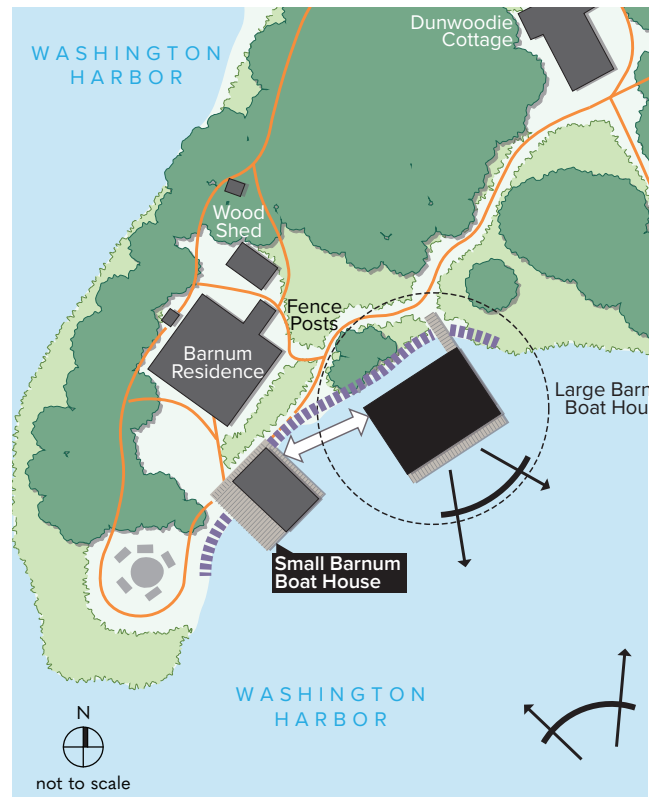
dense than the historic forest that surrounded Small Barnum Boat House and lined the shore of Barnum Island.

The site is generally in fair condition. Its condition is impacted by shoreline erosion and the establishment of a narrow, eroding trail between Large Barnum Boat House and Small Barnum Boat House.

Site Design Treatment Guidance

Treatment guidance identifies actions to stabilize and repair the cultural landscape of Small Barnum Boat House and to allow new features to provide for visitor use and improved public access.

- Preserve the setting of the cultural landscape including its compact cluster of development set along the south shoreline of Barnum Island and the spatial relationships and views to Large Barnum Boat House, Washington Island, and the Washington Harbor.
- Preserve contributing features including Small Barnum Boat House, trails between cottages and Washington Harbor, and views to Washington Island.
- Maintain views to Washington Island from Small Barnum Boat House and to Small Barnum Boat House from the water and Washington Island.
- Consider the feasibility of a future ABAAS route if docks on Barnum Island are improved for public access. Complete a topographic survey to inform the design of a future ABAAS route.
- Consider riprap and native riparian vegetation for shoreline protection. Select locally sourced riprap compatible with the scale of Large Barnum Boat House. Ensure materials are of a material and color that harmonizes with the historic setting and aesthetic.



- Maintain Views
- Re-establish a Boardwalk Connection
- Preserve the Setting of Large Barnum Boat House and Relationships and Views to Small Barnum Boat House, Washington Island, and the Water
- Consider adding Riprap and Native Riparian Vegetation for Shoreline Protection
- Preserve Contributing Trails between Cottages and the Water

Figure 3-3. Small Barnum Boat House Treatment Guidance (source: Mundus Bishop, 2024).

- Provide a boardwalk connection between Small Barnum Boat House and Large Barnum Boat House (reference: Circulation Features Treatment Guidance).

Circulation Features

Access to Barnum Island is by boat. Trails provide pedestrian access on the island from docks to cottages. Small Barnum Boat House is connected to Large Barnum Boat House, Barnum Residence, a gathering area with a fire ring and chairs to the west, and cottages to the east by trails.

Circulation Features Condition: Varies

Original circulation features are undocumented and were likely limited to trails that provided access between docks, boat houses, and cottages. Historic circulation patterns have been modified by the loss of trails due to decreased use of the island, the removal of buildings on Barnum Island, and the loss of the boardwalk between Large Barnum Boat House and Small Barnum Boat House.

Extant trails at Small Barnum Boat House retain connections and associations with historic buildings, boat docks, and Washington Harbor and remain as minimally maintained routes cleared of trees and understory vegetation. Trails from Small Barnum Boat House to Large Barnum Boat House, Barnum Residence, a gathering area to the west, and cottages to the east are contributing features. Condition is impacted by erosion, compaction, and lack of a stable, formalized trail surface.

Circulation Features Treatment Guidance

Treatment guidance identifies actions to re-establish the historic boardwalk between Small Barnum Boat House and Large Barnum Boat House and preserve contributing trails.

- Provide a boardwalk between Large Barnum Boat House and Small Barnum Boat House. Ensure the boardwalk does not impact the historic setting. Design the boardwalk to be compatible in scale with Large Barnum Boat House and materials are of a material and color that harmonizes with the historic setting and aesthetic. Repair trail erosion, soil compaction, and shoreline vegetation.
- Preserve trails from Small Barnum Boat House to Large Barnum Boat House, Barnum Residence, a gathering area to the west, and cottages to the east.



Figure 3-4. Trail from Small Barnum Boat House to Large Barnum Boat House (source: Mundus Bishop, 2024).



Figure 3-5. Trail from Small Barnum Boat House to Barnum Residence (source: Mundus Bishop, 2024).

Vegetation

Small Barnum Boat House is parallel to the shoreline of Barnum Island with native boreal coniferous vegetation to the north. The forest is primarily comprised of balsam fir, river birch, and mountain ash trees. Beard lichen drapes the branches of balsam fir trees. Dominant native understory species include Canadian bunchberry, thimbleberry, and grasses. Non-native species along the shoreline include lilies and lupines.

Vegetation Condition: Good to Poor

A loss of vegetation along the shoreline of Barnum Island has modified its historic vegetation patterns. According to historic photographs, forest vegetation was much more dense along the southern shoreline of Barnum Island and between Small Barnum Boat House and Barnum Residence. The loss of vegetation is likely associated with a large windstorm that occurred in 2010. This storm damaged or destroyed many of the trees on Barnum Island. Seasonal grazing by moose suppresses the growth of balsam fir and mountain ash, possibly contributing to the loss of vegetation.

Vegetation Treatment Guidance

Treatment guidance identifies actions to manage vegetation to repair historic patterns.

- Consider establishing native riparian plant species to stabilize the shoreline, prevent erosion, and prevent the establishment of invasive species.
- Consider maintaining a 10' fire buffer clear of vegetation around Small Barnum Boat House to protect the building.
- Re-evaluate vegetation management practices periodically to incorporate the best available science, lessons learned from internal experience and external resources (NPS, USFWS, other jurisdictions, etc.), and new weather change research, trends, and mitigation strategies.



Figure 3-6. Vegetation is modified by changes in the density and extent of vegetation along the shoreline (top image source: ISRO Archives, 1952; middle image source: <https://www.isleroyalefamilies.org/archive/archive0606.htm>, undated; bottom image source: Mundus Bishop, 2024).

Architecture Condition Assessment and Treatment

Introduction

Weather has already exacted damage at Small Barnum Boat House. Wave and ice forces, already difficult to predict and growing more so, have caused deterioration of the cribs. The impact at the foundations has caused distortion of the roof and walls above, creating gaps that allow in more weather. Together with failing roofing material, these conditions leave the framing and cladding more vulnerable to increasing snow loads and freeze-thaw cycles.

Physical Description

Small Barnum Boat House is a single-story wooden building built atop submerged wooden cribbing on the south shore of Barnum Island. A gable roof extends north-south with shallow overhangs. The rectangular building measures approximately 14 feet by 24 feet in plan.

Small Barnum Boat House, built in 1933, is significant due to its association with the historic resort and fishing uses of Barnum Island during the early 20th century. The building is largely unaltered at the exterior. A sauna room has been added to the interior, though the date of this modification is unknown. Available historic images show Small Barnum Boat House from the west or southwest without a clear view of the flue in the northeastern corner.

The U-shaped floor plan contains a 120-square-foot boat mooring slip and overhead hoist, accessed via a suspended folding door on the south façade. The northeast corner of the building contains a 50 square-foot sauna room. From land, the building is accessed on the north façade via a deck, which wraps the east and west façades as well. One window penetrates the east façade.

Primary Materials

Character-defining materials include painted channel rustic wood board siding. Wood decking wraps three façades. Wood decking is visible below cladding on the south façade, with exposure varying with water level. At the eaves, rafter tails are exposed. There are no interior finishes, except for the sauna room, which is clad in wood boards. Asphalt roll roofing is not original.



Figure 3-7. South façade of Small Barnum Boat House (source: Anderson Hallas, 2024).



Figure 3-8. North façade (source: Anderson Hallas, 2024).



Figure 3-9. Wood deck along the east façade (source: Anderson Hallas, 2024).

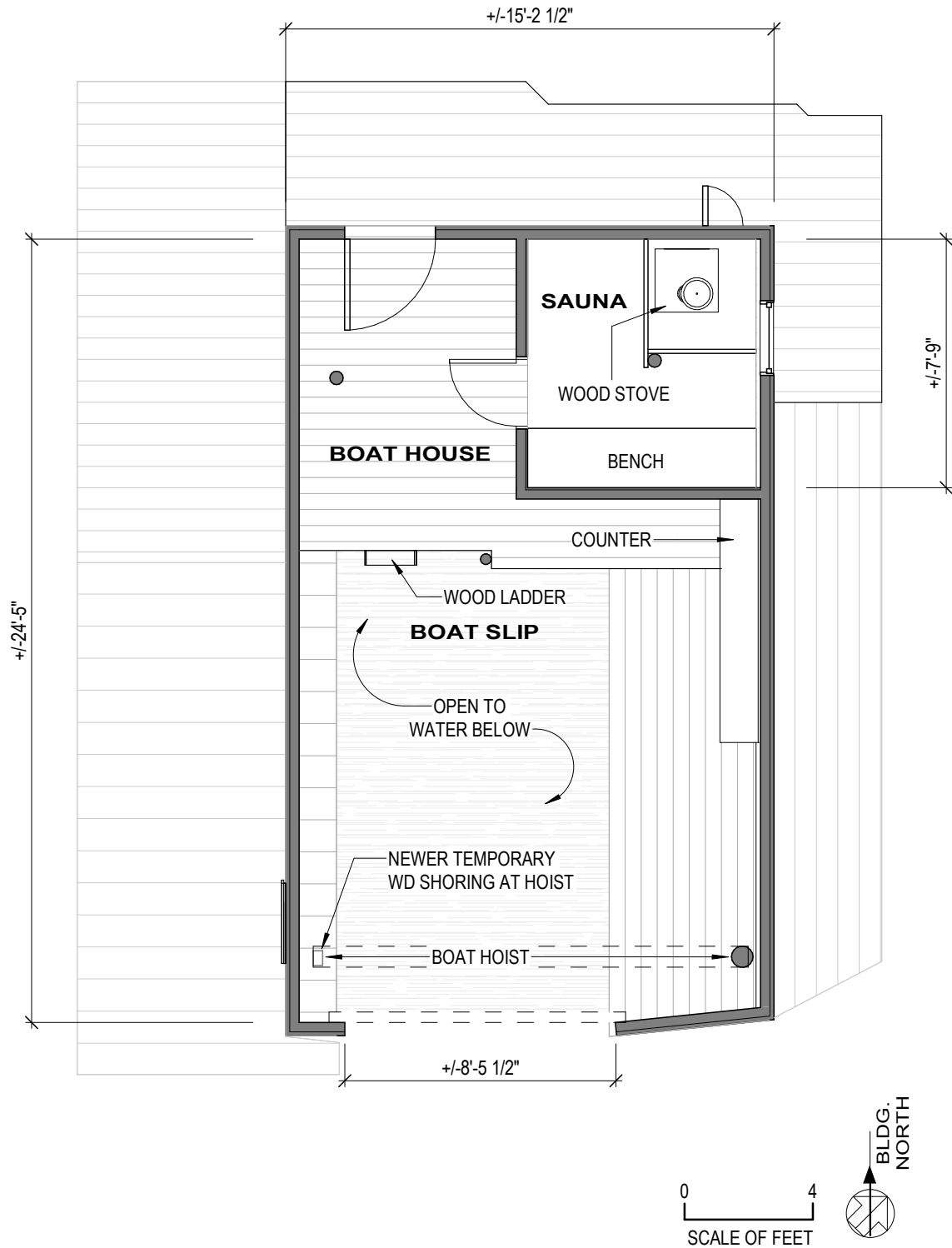


Figure 3-10. Small Barnum Boat House floor plan (source: Anderson Hallas, 2024).

Condition Assessment: Varies

Much of Small Boat House is in fair condition although problematic elements of the roof threaten worsening conditions. Much of the building's historic exterior appearance has been retained.

Applicable Codes

2024 International Building Code (IBC)

2024 International Existing Building Code (IEBC)

ASCE 7-22 Minimum Design Loads for Buildings and Other Structures

Exterior Enclosure (B20)

Exterior Walls (B2010)

Exterior walls are clad in wood channel rustic siding with five-inch exposure. Wood 1x4 butt joint trim caps the corners and tops the siding where it meets the roof. At the base of the wall, siding is wrapped in a 2x8 base trim which meets the decking below. All exterior siding and trim are painted.

Two painted tongue and groove boards have been applied diagonally to the east and north façades (refer to Structural Exterior Walls section for bracing information). On the west façade, a small folding table built of siding boards is mounted to the wall.

Exterior Walls Condition Assessment: Fair

Exterior cladding is generally in fair condition. Varying gaps were observed between boards on all façades. On the west façade, failing paint and material loss were prevalent near the base of the wall. The sauna stove hatch on the north façade, constructed of siding with interior battens, is gapped and weathered. The top siding board along the east façade is deteriorated. On the east façade, the folding table is broken and has a loose board.

Exterior Walls Treatment Guidance

Provide an in-kind replacement of damaged or deteriorated siding boards (assume 5%). It is anticipated that an additional 5% of boards will be impacted by Structural work. Provide an in-kind replacement in these areas, as well. Repair the damaged folding table on the east façade.

Prep and repaint all exterior wood elements. Remove all loose or failing paint. Apply high quality latex primer and topcoats. Recommend historic paint analysis to determine appropriate paint selection.



Figure 3-11. Tongue and groove 1x12 board on east façade (source: Anderson Hallas, 2024).



Figure 3-12. Interior face of west wall (source: Anderson Hallas, 2024).

Trim and Millwork Condition Assessment: Fair

Trim is overall in fair condition with select areas of deterioration. Corner trim at the southeast corner is deteriorated near the base.

Trim is missing around the window on the east façade, revealing gaps where siding meets the wood jambs and head.

Trim and Millwork Treatment Guidance

Similar to exterior siding, an in-kind replacement of deteriorated trim is recommended. As determined in the October 2024 treatment workshop with the park and stakeholders, no additional trim is recommended around the window. Prep and paint trim per the exterior wall treatment.

Exterior Windows (B2020)

There is one window at the Boat House, located off the sauna room on the east façade. This two-lite fixed wood window lacks trim on the interior and exterior.

Exterior Windows Condition Assessment: Good to Fair

All glazing is intact. Exterior glazing putty is crudely applied and has cracked. Debris has gathered on either side of the window, but it is otherwise in good condition.

Exterior Windows Treatment Guidance

Rehabilitate the window, clean glazing, replace all glazing putty, and repaint the sash. Apply high quality latex primer and topcoats. Recommend historic paint analysis to determine appropriate paint selection.



Figure 3-13. Missing trim around window (source: Anderson Hallas, 2024).

Exterior Doors (B2030)

Exterior doors on Small Barnum Boat House include one hinged door on the north façade and a hanging boat door on the south.

The entry door on the north façade is a wood stile and rail door that has been modified, suggesting that it may have been salvaged from elsewhere. A half-lite in the top panel has been replaced with a plywood panel. The overall width of the door has been increased to 36 inches with the addition of two expander-stiles, secured by horizontal wood battens on the interior. Hardware consists of hinges, a wood door pull, and a padlock.

On the south façade, the large boat door opening is spanned by a hanging two-panel door, which folds down on the interior. Though historic photographs show the door fully closed, it is currently stuck partially open due to structural movement. The exterior faces of the door panels are clad in channel rustic siding, matching the adjacent walls.

Exterior Doors Condition Assessment: Good and Poor

The entry door on the north façade is generally in good condition with paint intact and full operability. However, hinges are significantly rusted.

The boat door is in poor condition. This door is currently inoperable. Jambs opposite the boat door are deteriorated near the base, where they are most exposed to water. Paint on the exterior face of the door is weathered and boards are also weathered.

Exterior Doors Treatment Guidance

Rehabilitate hinges on the entry door. Remove any loose rust, provide a rust-inhibitive coating, and ensure full operability. Recommend replacing the existing padlock with a keyed bolt lock.

Rehabilitate the boat door and, in coordination with Structural work, re-plumb walls to provide full operability.

Prep and re-paint the boat door. At a future time when the entry door is due for re-painting, provide a latex-based primer and latex-based topcoat.



Figure 3-14. North door, exterior (source: Anderson Hallas, 2024).



Figure 3-15. Boat door, exterior (source: Anderson Hallas, 2024).



Figure 3-16. Boat door, interior (source: Anderson Hallas, 2024).

Roofing (B30)

Roof Coverings (B3010)

Historic roof covering material is not known. Newer asphalt roll roofing has been applied over previous campaigns atop the 1x6 sheathing without an underlayment. Metal flashing was not observed. There is a penetration in the northeast quadrant of the roof for a sauna stove flue. Lacking boot flashing, a rubberized sealant has been applied around the penetration.

Rafter tails are exposed at the eaves with plumb- and square-cut ends. The 2x6 rafters have deep birdsmouth notches at the top of wall. Roofing extends approximately one inch past sheathing, with no fascia or flashing for support. At the gable ends, 1x4 barge board is similarly plumb- and square-cut.

Roof Coverings Condition Assessment: Fair to Poor

The top layer of roof covering appears to be functioning well and withstanding water intrusion. However, several concerning factors were observed. Roofing is wrinkled, perhaps due to structural movement and/or poor application. The previous roofing layer was not removed and where visible is deteriorated and hosting bio-growth. Additionally, significant deterioration of sheathing, rafter tails, and underlying roof coverings was observed at eaves. One barge board is missing at the north rake. At the south rake, barge boards are weathered.



Figure 3-17. Roof viewed from northeast (source: Anderson Hallas, 2024).



Figure 3-18. Wrinkled asphalt roll roofing, viewed from west (source: Anderson Hallas, 2024).



Figure 3-19. Bio-growth on sheathing at east eave (source: Anderson Hallas, 2024).

Roof Coverings Treatment Guidance

Replace the roofing assembly in whole to address problematic conditions and provide access for structural work.

Replace the current roofing with a cedar shingle assembly.^{3.1} Provide a cedar breather layer for improved ventilation over the sheathing. Provide ice and water shield for eave protection only. New roof flashing is essential. Provide prefinished metal drip edge flashings at eave and rake. Install assembly in accordance with guidance provided by the Cedar Shingle and Shake Bureau (CSSB). Two options for treated shingles include the following.

- Preservative-treated shingles are designed to provide moisture resistance and discourage bio-growth. However, these shingles contain chemical preservatives that could be deemed detrimental to the lake ecology.
- Fire-rated wood shingle roofing assembly. Fire-retardant-impregnated shingles are available and would provide a Class B fire rating. If a Class A rating is required, the Class B shingles must be used together with a mineral cap sheet (similar to that used in asphalt roll roofing) that covers the entire roof deck beneath the shingles. A robust breather layer is essential in this scenario. Shingles cannot be both fire-rated and preservative-treated.

Use prefinished flashings to minimize corrosion issues presented by either type of treated shingle.

Retain the metal flue, providing flashing and sealant at the penetration. Metal flue to extend not less than three feet above highest point of flue penetration. Replace all missing barge board in kind and provide a partial replacement where existing is deteriorated. Assume 60% replacement of barge board. Repaint all exterior wood roof elements.

3.1 As the historic roofing material is unknown, the preferred option for roofing material is evaluated for resiliency and historical appropriateness. The short lifespan of asphalt roll roofing poses an on-going burden of maintenance, jeopardizing the building which it must protect. In accordance with *Preservation Brief 16: The Use of Substitute Materials on Historic Building Exteriors*, an alternative material which provides increased resiliency with an appearance similar to the historic design may be considered. Metal was considered as a substitute material at the October 2024 treatment workshop with the Park and stakeholders. Metal roofing with horizontal panels and a matte or granular finish, the metal would retain the visual appearance and scale of roll roofing with horizontal seams. At an additional discussion conducted in December 2024 with the Michigan State Historic Preservation Office (SHPO) wood shingle roofing preferred. Wood shingle roofing is documented on other structures on Barnum Island during the period of significance.

Interior Construction (C10)

Interior Doors (C1020)

Small Barnum Boat House includes an interior door that connects the sauna room to the main space. The wood five-panel door has been modified with the addition of a diagonal wood batten screwed to the sauna side. As the sauna room appears to be a non-original alteration, this door was likely salvaged from elsewhere. Hardware (hinges and brass door knob) appears to be original to the door.

Interior Doors Condition Assessment: Fair

Paint on the sauna door is heavily checked and weathered. Some paint is missing near the base of the door. Rails appear to be pulling away from the latch stile, which likely instigated the newer diagonal batten.

Interior Doors Treatment Guidance

Rehabilitate the interior door. Repair the door panel and remove the diagonal batten. Prep and repaint the door and rehabilitate hardware for smooth operation.



Figure 3-20. Interior door (source: Anderson Hallas, 2024).

Interior Finishes (C30)

Wall Finishes (C3010)

Though much of Small Barnum Boat House is unfinished, the walls of the sauna room are lined in horizontal tongue and groove 1x4 wood boards. Interior walls are lined with a Styrofoam board cavity insulation. Insulation could not be confirmed in the exterior walls of the sauna room, though it is likely similar. Wallboards are unfinished.

Wall Finishes Condition Assessment: Fair

Wallboards in the sauna room are generally in good condition with light discoloration. Deterioration was observed low on the north wall, behind the stove.

Wall Finishes Treatment Guidance

Provide a select replacement of wall boards in the sauna room where deterioration was observed (approximately 10% of the north wall). Though this finish is not historic, boards should be replaced in kind to retain the cohesive appearance.

Floor Finishes (C3020)

Floor decking is unfinished throughout much of Small Barnum Boat House. In the northwest corner, 2x6 decking appears to be historic. East of the boat slip, decking of the same dimensions extends in the opposite direction (north-south) and appears to be newer. West of the boat slip decking consists of 2x8 boards. Decking is unpainted.

In the sauna room, a newer rubberized mat flooring has been laid over 2x6 v-groove tongue and groove decking extending north-south.

Floor Finishes Condition Assessment: Fair

Decking is typically weathered, particularly where exposure is greatest such as near the north door or along the west side of the boat slip. Though coated with debris, the newer rubberized flooring in the sauna room is in fair condition.



Figure 3-21. Interior, facing east across boat slip (source: Anderson Hallas, 2024).

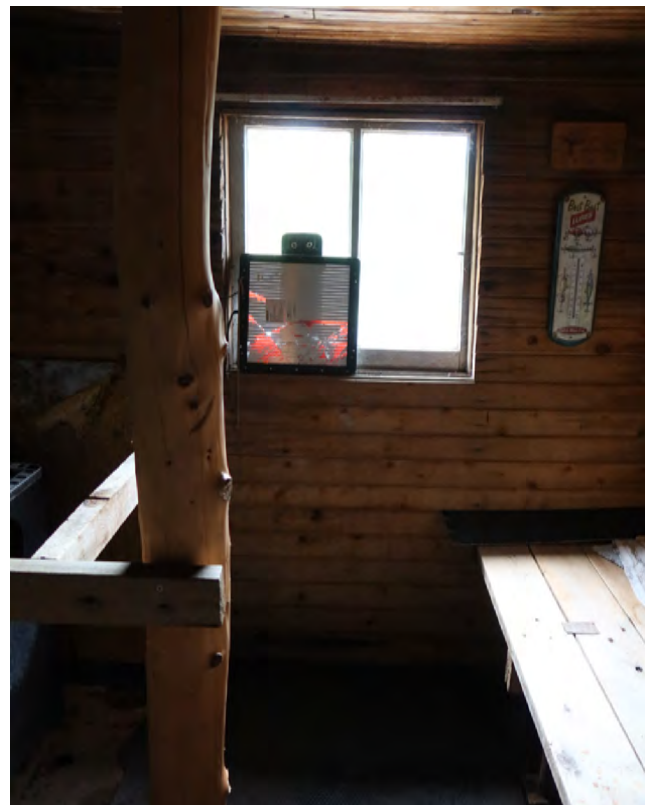


Figure 3-22. Interior finishes of sauna room (source: Anderson Hallas, 2024).

Floor Finishes Treatment Guidance

Much of the decking has been recently replaced. Recommend retaining the existing decking which is in fair condition.

The low-permeability layer of rubberized flooring in the sauna and extreme temperature difference may lead to deterioration of the underlying decking. Remove the rubberized flooring and assess the concealed decking. Replace any deteriorated decking in kind (anticipate 15% replacement). Provide a breathable flooring, such as wood or cork, which may more readily dry and not trap moisture against the decking.

Ceiling Finishes (C3030)

Ceilings are typically unfinished, except for in the sauna room. Similar to the walls, the ceiling of this room is finished in tongue and groove 1x4 wood boards. There appears to be no paint or stain applied to the boards.

Ceiling Finishes Condition Assessment: Good

Boards on the ceiling are generally in good condition with light discoloration.

Ceiling Finishes Treatment Guidance

No treatment is recommended.



Figure 3-23. Exposed floor decking; looking northwest from southeast corner (source: Anderson Hallas, 2024).



Figure 3-24. Sauna room flooring (source: Anderson Hallas, 2024).



Figure 3-25. Exposed underside of roof structure (source: Anderson Hallas, 2024).

Structural Condition Assessment and Treatment

General Structural Information

General Structural Description

Small Barnum Boat House is a rectangular building with wood-framed walls and gable style roof framing, supported above the water by log cribs and posts that extend to the lake bottom.

Applicable Structural Design Information

Applicable Codes

2024 International Building Code (IBC)

2024 International Existing Building Code (IEBC)

ASCE 7-22 Minimum Design Loads for Buildings and Other Structures

Load Requirements

Risk Category

- RC II

Live Load

- Roof – 20 psf
- Boat House floor – 100 psf

Snow Load

- Ground snow load – $P_{g(ult)} = 119$ psf (ASCE 7-22)
- Exposure factor – $C_e = 0.8$ (surface roughness category D, fully exposed)
- Thermal factor – $C_t = 1.2$ (unheated and open-air structures)
- Importance factor
 - $I_s = 1.0$ (winter use)
 - $I_s = 0.8$ (no winter use)
- Roof snow load
 - $P_{f(ult)} = 80$ psf (winter use)
 - $P_{f(ult)} = 64$ psf (no winter use)

Wind Speed (Ultimate)

- 103 mph
- Exposure Category D

Seismic

- $S_s = 0.044$
- $S_1 = 0.012$
- Site Class - Default (assumed)
- Seismic Design Category – A

Flood

- Information not available from FEMA for the site

Rain

- 15-minute rainfall intensity – 5.25 in/h
- 60-minute rainfall intensity – 2.41 in/h

Foundation (A10)

Crib Foundation (A1020)

Small Barnum Boat House is supported by rock-filled timber cribs on each side of a boat slip. Cribs are defined as gravity structures and provide lateral stability to structures due to their self-weight. The total number of cribs on each side of the boat slip was difficult to determine due to limited access and the depth of the water during June 2024 site work. Several members of the cribs appear to be buried in the shoreline. The maximum height of the cribs was approximately 4'-5" and were typically constructed out of 6" to 12" round timber members. One larger timber member extending north-south, approximately 2'-0" in diameter, was documented in the west crib.

Upper members of cribs appear to be in good condition in comparison to lower crib members. During the site inspection, several areas of deterioration and split timber members were documented on lower members of the crib. This is unusual for this type of construction in Lake Superior where upper members of cribs are typically heavily deteriorated and lower members are still in good condition. Upper members of cribs are typically more exposed to wave and ice forces and are exposed to both wet and dry conditions which promote rot and deterioration. The condition of Small Barnum Boat House cribs likely indicates that upper crib members were replaced more recently than lower crib members.

Little to no rock ballast was documented in the two cribs on the south side. These cribs were on either side of the boat slip. The loss of rock ballast from a crib causes the structure to be more susceptible to movement and damage from wave and ice forces.



Figure 3-26. Lower crib member deterioration (source: AMI, 2024).



Figure 3-27. Loss of rock ballast (source: AMI, 2024).

Crib Foundation Condition Assessment: Fair

Timber cribs are in fair condition due to the deterioration of lower members and the lack of rock ballast in outer cribs. Lower timber crib members are heavily deteriorated, but signs of immediate failure were not documented. Lateral loads due to waves and ice are extremely difficult to predict and one large storm event or cold winter may cause damage to the building.

Crib Foundation Treatment Guidance

Remove the existing floor structure and temporarily support the superstructure as necessary to gain access to the top of the existing cribs (refer to Structural Superstructure section for treatment of the existing floor structure). Inspect connections of crib members and place ballast stone into the existing cribs with minimum of 12" diameter rock (refer to Structural Superstructure section for connection of floor structure to cribs).



Figure 3-28. Loss of rock ballast (source: AMI, 2024).

Superstructure (B10)

Floor Construction (B1010)

The floor structure consists of dimensional-lumber framing supported by log cribs and posts. 3x12, 2x8, and 2x6 joists frame the eastern half of the floor structure spanning in the north-south direction. The western half is framed predominantly with 2x6 joists spanning in the east-west direction.

Floor Construction Condition Assessment: Fair to Good

Floor framing is in overall fair to good condition with several newly reconstructed areas, mainly at the northeast and southwest. Access to areas of floor framing toward the north was limited due to the water level, however, the framing appears to consist of piecemeal repairs and likely is not adequately supported.

Floor Construction Treatment Guidance

Repair/replace deteriorated floor framing members and rework irregular framing at northeast corner to verify/establish a load path to the cribs and piers (assume 10% of framing members for estimating purposes).

Provide anchorage of floor framing to the cribs with fasteners suitable for a marine environment (assume 300 fasteners for estimating purposes).



Figure 3-29. Dimensional-lumber floor framing on log cribs (source: JVA, 2024).



Figure 3-30. Floor framing at the north supported on cribs and posts (source: JVA, 2024).

Roof Construction (B1020)

The gable style roof is framed with 2x4 rafter pairs spaced at approximately 30 inches and spanning from the tops of the east and west side walls up to the 1x4 tongue and groove ridge board. The roof is sheathed with 1x boards. Although not directly connected to the rafters, 2x6 ties were recently added at the top of wall framing to counteract the rafter thrust forces.

Roof Construction Condition Assessment: Poor

Roof framing is in poor condition. It is showing signs of distress such as rafter deflection and ridge sagging. Rafters are also significantly overstressed and could not withstand code required snow loads.

The original use of the building will remain unchanged. Lateral upgrades are not triggered by code. Lateral upgrades are recommended for the long-term safety and stability of the structure. These include rectifying the lack of a roof diaphragm and bolstering the connection between roof framing and walls.

Roof Construction Treatment Guidance

Sister all rafters and replace deteriorated portions of existing rafters (assume 20 rafters for estimating purposes).

Add collar ties in the upper third of the roof at each rafter pair (assume 10 collar ties for estimating purposes).

Shore ridge to a level condition prior to adding rafter ties at each rafter pair on top of wall connected to rafter and wall top plate (assume 10 rafter ties for estimating purposes).

Install a layer of panel sheathing atop the existing board sheathing (assume 400 SF $\pm$ 10% for estimating purposes).

Provide adequate anchorage from the roof framing to the wall framing (assume cold formed steel clips at each rafter, as well as gable walls, 30 clips $\pm$ 10% for estimating purposes).



Figure 3-31. West elevation showing ridge sagging (source: JVA, 2024).



Figure 3-32. Recently installed 2x6 ties at the top of the wall framing to stabilize the roof structure (source: JVA, 2024).



Figure 3-33. North wall elevation (source: JVA, 2024).

Exterior Enclosure (B20)

Exterior Walls (B2010)

The walls of the boat house are framed with 2x4 studs spaced at approximately 30 inches and are sheathed on the exterior with horizontal board siding. Diagonal braces are installed on the outside face of the siding at the north and east walls. At the south and west walls, 2x kickers are located on the inside face of the studs or within the wall framing.

Exterior Wall Condition Assessment

The walls are in poor to fair condition, with no major signs of wall racking or deterioration. However, the east wall is noticeably leaning toward the east due to inward foundation movement at the base and outward rafter thrust movement at the top.

Exterior Wall Treatment Guidance

Replumb and stabilize walls and strengthen for lateral stability. Roof and foundation treatments will aid in the stability of the wall framing.

Provide anchorage of wall framing to floor framing with fasteners suitable for a marine environment.



Figure 3-34. South wall elevation showing east wall leaning (source: JVA, 2024).



Figure 3-35. East wall elevation (source: JVA, 2024).



Figure 3-36. West wall elevation (source: JVA, 2024).

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Johns Log Cabin Condition Assessment and Treatment

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Introduction

This chapter presents the condition assessment of Johns Log Cabin and its cultural landscape. It provides treatment guidance to inform repair of the historic building and to guide long-term protection of the historic building and the cultural landscape against climatic impacts.

Site investigations completed in June 2024 documented condition. Condition is evaluated using the following criteria.

- **Good**—Those features of the landscape that do not require treatment. Only minor or routine maintenance is needed at this time.
- **Fair**—Some deterioration, decline, or damage is noticeable; the feature may require immediate intervention. If intervention is deferred, the feature will require extensive attention in a few years.
- **Poor**—Deterioration, decline, or damage is serious; the feature is seriously deteriorated, damaged, or presents a hazardous condition. Due to the level of deterioration, damage, or danger, the feature requires extensive and immediate attention.

Treatment Approach

The treatment approach selected during the October 2024 treatment workshop for Johns Log Cabin and its cultural landscape is relocation with rehabilitation of the building in a prominent location. This allows for alterations to the cultural landscape and historic building to accommodate a compatible use.

The approach allows for the relocation of Johns Log Cabin to a new site where the potential loss of the building to shoreline erosion is eliminated or reduced. The relocation and reconstruction of Johns Log Cabin

will preserve the historic integrity of the building and cultural landscape and will not adversely affect the significance of the historic setting of the new site and the larger Barnum Island Historic District. Historic relationships, orientations, and physical and visual relationships of Johns Log Cabin to Johns Hotel, Washington Harbor, and Thompson Island will be preserved

Historic American Buildings Survey (HABS) and Historic American Landscapes Survey (HALS) documentation will be completed prior to deconstruction and relocation of the building.

The building was used for lodging during the period of significance. The planned future use for the building is visitor use (interpretive exhibits). This does not include public access to the second floor.^{4.1}

All future work planned for Johns Log Cabin will be guided by the following documents.

- The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- The Secretary of the Interior's *Standards for Rehabilitation & Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*

Accessibility

Barrier-free access was considered at the October 2024 treatment workshop for Johns Log Cabin and was determined not to be feasible due to the remote location, terrain, and potential impact on the historic structure and cultural landscape.

The feasibility of ABAAS-compliant routes will be considered in the future if docks on Barnum Island are improved to provide public access.

4.1 Guidance for the future use of Johns Log Cabin is identified in the 2019 Isle Royale National Park Nonwilderness Cultural Resource Management Plan and was confirmed by the Park, NPS Regions 3, 4, 5 staff, and stakeholders at the 2024 treatment workshop.

Cultural Landscape Condition Assessment and Treatment

Introduction

Johns Log Cabin retains its original distinct setting, characterized by its compact cluster of development on the north shore of Barnum Island, trail connections to Washington Harbor and cottages on Barnum Island, and views to Washington Harbor, Thompson Island, and Johns Hotel.

The increased frequency and severity of storms on Lake Superior may impact the cultural landscape. These impacts may include more frequent and intense storms contributing to loss of vegetation that historically surrounded the cabin and a shift in the historic composition of forests from boreal to temperate vegetation. Large storm events over time will likely reduce slope of the shoreline to a point where undermining of the land below the cabin will occur. Relocation of the building is needed to address the potential loss of the building to shoreline erosion.

Site Design

Johns Log Cabin is set within a small clearing of forest on a relatively flat area 10' (+/-) south of the shore that drops steeply to Washington Harbor. Its primary façade is oriented south to Johns Hotel with windows at the north façade oriented for views to Washington Harbor and Thompson Island. A mown trail provides access from Johns Log Cabin to Johns Hotel and the eastern end of Barnum Island.

Prominent views are from Johns Log Cabin north to Washington Harbor and Thompson Island and south to Johns Hotel. Prominent views to Johns Log Cabin are from Washington Harbor and Johns Hotel.

Site Design Condition: Fair to Poor

Johns Complex retains its original distinct setting, characterized by a compact cluster of development located on the steep north shoreline of Barnum Island with views to Johns Hotel, Washington Harbor, and Thompson Island. This cultural landscape has changed since the end of the period of significance due to the removal of adjacent buildings. The setting is diminished by the reduction in the extent of the mown clearing surrounding the building, storage of building material

to the south and east of the building, and vegetation that obstructs views from Johns Log Cabin to Lake Superior and surrounding complex development.

The site is generally in fair condition. Its condition is impacted by stormwater south of Johns Log Cabin. Stormwater currently flows to a low point along the south façade of the cabin. Perimeter drainage swales are needed to establish positive drainage away from the building.

Signs of past erosion are apparent along the shoreline. The lack of tension cracks, exposed soils on slopes, and the presence of vegetation are signs that erosion is not actively occurring. Undermining at the base of the shoreline could lead to a sudden failure of the slope during a storm event.

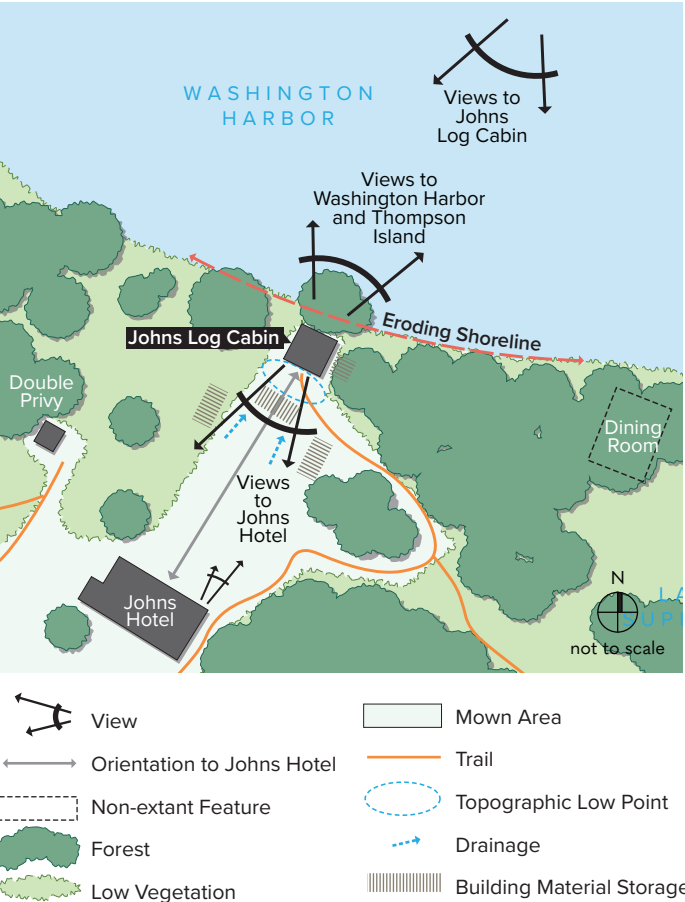


Figure 4-1. Johns Log Cabin Cultural Landscape Condition (source: Mundus Bishop, 2024).



Figure 4-2. Historically open setting at Johns Log Cabin, c. 1900, with areas to the east defined by fences (source: ISRO Archives, black photo binder).



Figure 4-4. The historic setting is modified by the encroachment of vegetation into the clearing surrounding Johns Log Cabin and storage of building material (source: Mundus Bishop, 2024).



Figure 4-3. View north to Washington Harbor and Thompson Island (source: Mundus Bishop, 2024).

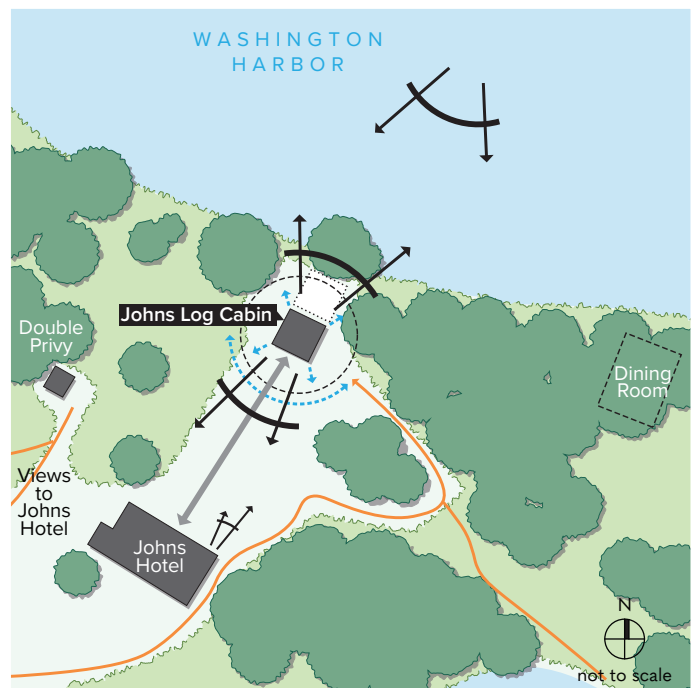


Figure 4-5. Low point along the south façade of Johns Log Cabin (source: Mundus Bishop, 2024).

Site Design Treatment Guidance

Treatment guidance identifies actions to relocate Johns Log Cabin to a new site with a setting similar to its original, provide for visitor use, and repair the historic setting of the cultural landscape.

- Move Johns Log Cabin away from the eroding shoreline. Maintain original orientations of Johns Log Cabin to Johns Hotel, the orthogonal organization of the buildings, and clear views between the buildings. Conduct a shoreline erosion study to identify the distance required to move Johns Log Cabin away from the shoreline to eliminate or reduce the susceptibility of losing the building. Ensure thorough documentation of the building and landscape before moving the building.
- Select a site that provides a similar setting to the original. Ensure the relocation and reconstruction of Johns Log Cabin preserves the historic integrity of the building and cultural landscape and does not adversely affect the significance of the historic setting of the new site and larger Barnum Island Historic District. Preserve historic relationships, orientation, and physical and visual relationships of Johns Log Cabin to Johns Hotel, Washington Harbor, and Thompson Island.
- Repair and maintain the original open clearing surrounding Johns Log Cabin. Maintain a 10' (minimum) fire buffer around the building. Allow removal of trees that present a hazard to the buildings.
- Preserve contributing features including Johns Log Cabin, trails between cottages and the water, and views from the north end of Barnum Island
- Maintain views from Johns Log Cabin to Washington Harbor and Thompson Island and from Washington Harbor to Johns Log Cabin.
- Establish and maintain positive drainage to direct surface water away from Johns Log Cabin. Ensure roof runoff is directed away from the building.
- Consider the feasibility of a future ABAAS route if docks on Barnum Island are improved for public access.
- Complete a topographic survey to inform the selection of a new site for Johns Log Cabin, design of drainage swales, and feasibility of a future ABAAS route.



- Maintain Views and Orientation to Johns Hotel, Washington Harbor, and Thompson Island
- Select a Site that Provides a Similar Setting to the Original
- Preserve the Historic Relationship, Orientation, and orthogonal organization of Johns Log Cabin to Johns Hotel
- Establish and Maintain Positive Drainage from Johns Log Cabin
- Preserve Contributing Trails between Cottages and the Water
- Original Location of Johns Log Cabin

Figure 4-6. Johns Log Cabin Treatment Guidance (source: Mundus Bishop, 2024).

Circulation Features

Access to Barnum Island is by boat. Trails provide pedestrian access on the island from docks to cottages. Johns Log Cabin is accessed by trails from docks and cottages on Barnum Island. Mown trails include a route east to the site of the non-extant Dining Room and eastern shore of Barnum Island and south to Johns Hotel, Double Privy, E. Andrew's Cottage, and dock.

Circulation Features Condition: Varies

Original circulation features are undocumented and were likely limited to trails that provided access between docks, boat houses, and cottages. Historic circulation patterns have been modified by the loss of trails due to decreased use of the island and the removal of buildings on Barnum Island. Trails documented by the Barnum Island Cultural Landscape Inventory (revised October 2017) indicate a reduction in the overall number of trails maintained. Trails no longer provide access west along the northern shoreline and to Double Privy.

Extant trails at Johns Log Cabin retain connections and associations with historic buildings, boat docks, and Washington Harbor and remain as minimally maintained routes cleared of trees and understory vegetation. Trails from Johns Log Cabin to the site of the non-extant Dining Room and eastern shore of Barnum Island and south to Johns Hotel, Double Privy, E. Andrew's Cottage, and dock are contributing features. Condition is impacted by erosion, compaction, and lack of a stable, formalized trail surface.

Circulation Treatment Guidance

Treatment guidance identifies actions to repair the historic character of Johns Log Cabin, provide for visitor use and access to Johns Log Cabin, and preserve contributing trails.



Figure 4-7. Mown trail east of Johns Log Cabin (source: Mundus Bishop, 2024).

- Preserve trails from Johns Log Cabin to the site of the non-extant Dining Room and eastern shore of Barnum Island and south to Johns Hotel, Double Privy, E. Andrew's Cottage, and dock.
- Maintain mown trails. Consider a stable, formalized trail surface if public visitation increases and contributes to erosion and impacts vegetation.
- Provide a trail connection to the new site of Johns Log Cabin.
- Design new trails and repair existing routes to follow a similar form, scale, and materials as historic trails. Ensure trails are sited and designed to preserve the setting of Johns Log Cabin. Consider providing ABAAS-compliant routes where feasible.

Small Scale Features

Small scale features of Johns Log Cabin are primarily associated with the ongoing preservation of historic buildings on Barnum Island. These include building materials stored to the south, east, and west of the cabin. Benches and a fire ring to the east of the cabin, documented by the Barnum Island Cultural Landscape Inventory (revised October 2017), were removed or are in areas of successional vegetation and could not be located. Stone remains along the trail to the east of Johns Log Cabin and may indicate the location of a fire ring or ornamental plantings.

Small Scale Condition: Varies

Small scale features are non-contributing and condition varies. Historic photographs illustrate non-extant small scale features and Johns Log Cabin including benches and fences.

Small Scale Treatment

Treatment guidance identifies the following actions to provide a setting at the new site of Johns Log Cabin that is a similar setting to the original and supports visitor use.

- Allow infrastructure needed to support visitor day, including signage and interpretive information. Ensure infrastructure is of a scale, material, and color that harmonizes with the historic setting and aesthetic. Minimize the number of features and ensure their placement does not detract from the historic setting, is subordinate to Johns Log Cabin, and does not diminish or obstruct historic views or relationships between features.



Figure 4-8. Island visitors play croquet in front of Johns' Log Cabin, c. 1910. Benches are set west of the cabin (source: ISRO Archives, George Barnum III Collection).



Figure 4-9. Stones may indicate the location of a fire ring or ornamental plantings (source: Mundus Bishop, 2024).

Vegetation

Johns Log Cabin is in a small clearing surrounded by boreal forest with areas of successional vegetation to the west and southeast. The forest is primarily comprised of balsam fir, river birch, and mountain ash trees. Beard lichen drapes the branches of balsam fir trees. Dominant native understory species include Canadian Bunchberry and grasses. Vegetation at the top and along the steep shoreline contributes to stabilization and prevents large areas of erosion.

Vegetation Condition: Good to Poor

Historic photographs indicate vegetation evolved throughout the period of significance. The cabin was set in a mown clearing suitable for playing croquet around 1910 and appears less maintained by 1935 with taller grasses and trees in close proximity to the cabin.

A loss of vegetation along the shoreline of Barnum Island has modified its historic vegetation patterns. According to historic photographs, forest vegetation was much denser along the southern shoreline of Barnum Island. The loss of vegetation is likely associated with a large windstorm that occurred in 2010. This storm damaged or destroyed many of the trees on Barnum Island. Seasonal grazing by moose suppresses the growth of balsam fir and mountain ash, possibly contributing to the loss of vegetation.

Vegetation management is needed to preserve the clearing surrounding Johns Log Cabin and views to Washington Harbor and Thompson Island. Mature trees in close proximity to Johns Log Cabin are at risk of becoming hazard trees. Trees near the top of the shoreline likely have roots stretching below the cabin that may cause significant damage to the cabin if trees fall down the slope.

Vegetation Treatment

Treatment guidance identifies actions to manage vegetation to repair historic patterns.

- mixture of native and hardy sod-forming grasses. Allow grasses to seed periodically.
- Manage vegetation for views to and from Johns Log Cabin. Perform pruning and thinning to maintain a 10' fire buffer around the building and to prevent damage to Johns Log Cabin.
- Maintain shoreline vegetation. Consider establishing native riparian plant species to stabilize the shoreline, prevent erosion, and prevent the establishment of invasive species in areas cleared for viewshed management or fire buffers.
- Re-evaluate vegetation management practices periodically to incorporate best available science, lessons learned from internal experience and external resources (NPS, USFWS, other jurisdictions, etc.), and new weather change research, trends, and mitigation strategies.



Figure 4-10. Shoreline vegetation provides cliff stabilization while obstructing views from inside Johns Log Cabin to Washington Harbor and Thompson Island (source: Anderson Hallas, 2024).

- Repair the historic pattern of open lawn surrounding Johns Log Cabin. Provide a seed

Architecture Condition Assessment and Treatment

Introduction

The eroding shoreline has brought this small log cabin even closer to earth. Without foundations and bearing on the eroding soil, the building now leans toward the water. Character-defining log construction that has survived over one hundred years is now threatened by close contact with moisture from the ground, fostering fungal decay across the building. Daubing between the logs, which would have historically helped to protect the log joints from water, has failed. Likewise, deteriorated roofing sheds water on the log faces rather than away and leaves the whole building vulnerable to increasing rain, snow, and wind.

Physical Description

Johns Log Cabin is a simple two-story log cabin with a 12-foot square footprint and gable roof. Each floor consists of a single room with a connecting stair in the northeast corner.

Constructed in 1910, Large Barnum Boat House is significant due to its association with the historic resort and fishing uses of the island during the early 20th century. The building is the last remaining cottage associated with Johns Hotel. Johns Log Cabin contributes to Johns Hotel National Register listing. Significant under National Register Criterion A, these buildings are associated with a history of resorts and fishing on Barnum Island and Isle Royale.

Log wall construction is exposed at the exterior and interior of Johns Log Cabin. A gable roof extending north-south caps the second floor. A single-sash window is centered on each gable end, surrounded by wood shingle cladding, which fills the gable. The north (lake-facing) and south (Johns Hotel-facing) gable-end façades are also marked by operable windows on the first floor. A battened wood door provides entry on the south façade.

Primary Materials

Character-defining materials include log wall construction with saddle-joints at corners and daubing between logs. Log walls continue to grade without a



Figure 4-11. Johns Log Cabin south façade (source: Anderson Hallas, 2024).



Figure 4-12. Log construction viewed at east façade (source: Anderson Hallas, 2024).



Figure 4-13. East slope of roof (source: Anderson Hallas, 2024).

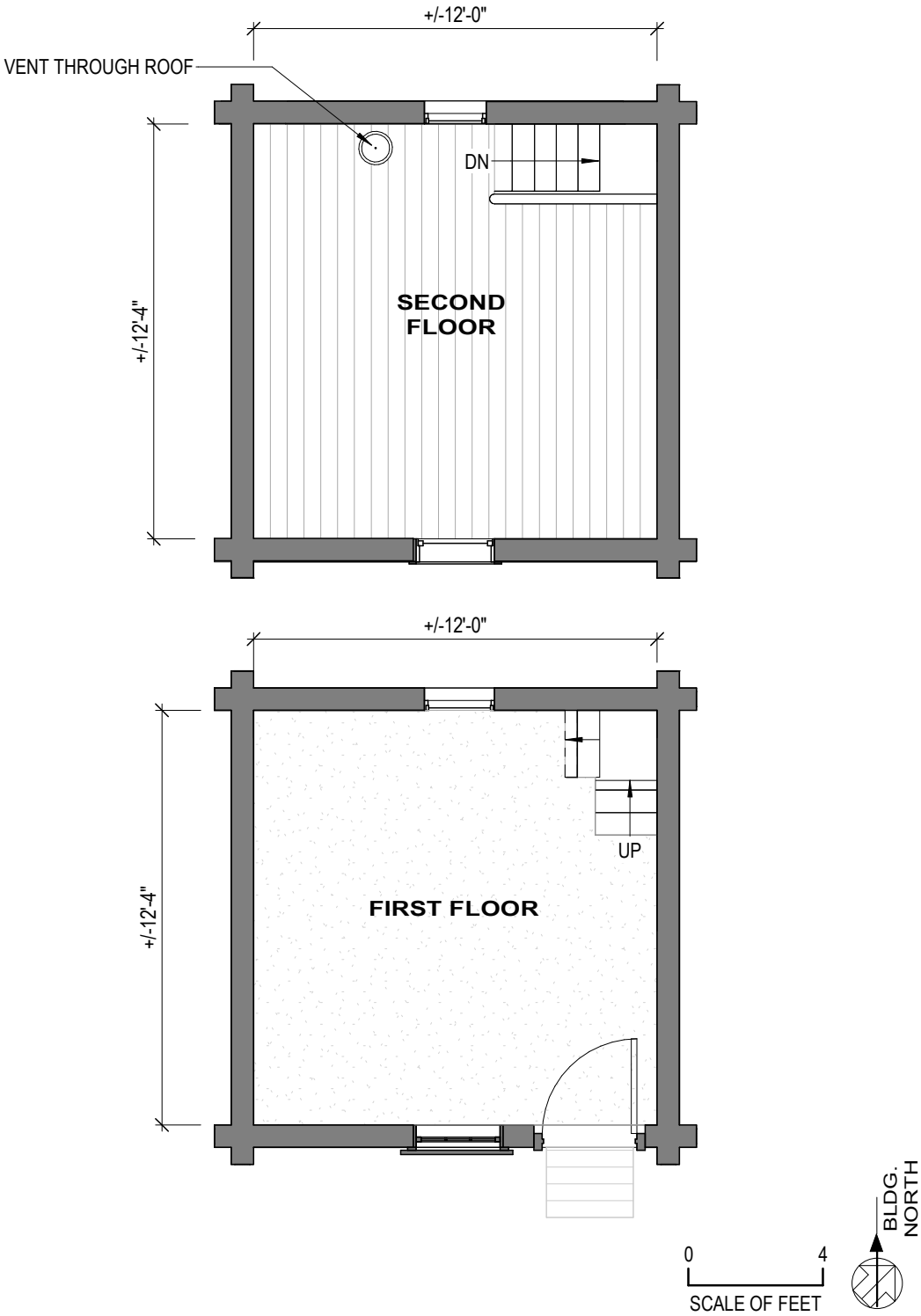


Figure 4-14. Johns Log Cabin floor plan (source: Anderson Hallas, 2024).

visible foundation. There are no interior finishes on walls or ceilings. Wood floor decking is covered by carpet. Asphalt roll roofing is not original; wood shingle roofing is documented to be original. A metal flue penetrates the west roof slope near the north façade, a remnant of a since-removed stove.

Condition Assessment: Poor to Fair

Portions of Johns Log Cabin, such as the log walls, are in poor condition, jeopardizing other building elements. The roof is generally in fair condition with areas of worsened condition. The overall building form remains intact with few modifications.

Applicable Codes

2024 International Building Code (IBC)

2024 International Existing Building Code (IEBC)

ASCE 7-22 Minimum Design Loads for Buildings and Other Structures

Exterior Enclosure (B20)

Exterior Walls (B2010)

Exterior walls consist of log construction with varied oakum, wood strip fill, and cementitious daubing. Logs of varying diameters, approximately seven to eight inches, meet with saddle-notch joints at the corners. At gable ends, wood-framed walls are clad in wood shingles of varying widths. All elements are unpainted.

Exterior Walls Condition Assessment: Poor

Much of the log construction is in poor condition with deteriorated logs and loose or missing wood strip fill and daubing. Extensive bio-growth was observed on the north and west façades (refer to Structural Exterior Walls section for additional analysis).

Holes in the north wall were observed where wood strip fill and daubing are missing. Gable end shingles are in fair to poor condition with significant cupping and splitting where most exposed, and in better condition where protected near the roof.



Figure 4-15. Barnum Log House, c. 1935 (source: ISRO Archives).



Figure 4-16. Bio-growth at west façade (source: Anderson Hallas, 2024).



Figure 4-17. Deterioration at north façade (source: Anderson Hallas, 2024).

Exterior Walls Treatment Guidance

Salvage wood strip fill and oakum in preparation for relocation and rehabilitation (refer to Structural Exterior Walls section for log treatment). Salvage a sample of daubing for material analysis. Provide new oakum and wood strip fill at the interior where missing (anticipate 50% replacement) and daubing over wood strips at the exterior (assume 100% replacement of daubing and exterior wood strips). New daubing should match historic in composition, color, and hardness. It is critical that daubing be no less than 1/4-inch thick at edges and sloped to drain to the exterior.

It is unlikely that wood shingle siding at the gable ends can be salvaged intact for reuse. Replace shingles in kind. New shingles should match existing in species, profile, and exposure.

Trim and Millwork Condition Assessment: Poor to Fair

Trim and millwork is in fair and poor condition with deteriorated window casing on the first floor. Window casing on the second floor is generally in fair condition. Trim is missing at the head of the door.

Trim and Millwork Treatment Guidance

Salvage all casing and trim that are in good to fair condition for reuse (assume 50% of all casing and trim is replaced). Provide in-kind replacement of deteriorated window casing on the first floor (assume both sills and 70% of jambs to be replaced). Provide partial repair of deteriorated board ends at second floor windows (assume 15% replacement). Provide new exterior head casing at the door.

Exterior casing and trim appear to be historically unfinished. Provide a preservative treatment, such as liquid-applied borate, to all new and existing wood.



Figure 4-18. Second floor north window, interior (source: Anderson Hallas, 2024).

Exterior Windows (B2020)

Johns Log Cabin includes four windows: two per floor, each centered on the north or south façade. Wood windows are operable, multi lite, and finished with casing at the exterior.

The two upstairs windows are single-hung sash, which slide upwards in a track exposed to the interior. The north sash is divided into two lites, while the south contains only one lite. On the first floor, window operation varies. The north window consists of a single in-swing sash, divided into four lites. To the south is a double hung window, with each sash containing six lites.

Three windows have exterior screens. The fourth, located on the south façade, first floor, is shuttered with plywood from the exterior.

Exterior Windows Condition Assessment: Fair

Most glazing is intact although two lites are missing from the south window on the first floor. Operability of second-floor windows was confirmed. First-floor windows could not be accessed for testing. Paint and glazing putty is cracked and partially missing. The first-floor north window is racked from structural movement, posing a risk of glazing breakage.

Windows Treatment Guidance

Remove and salvage all sash, to be rehabilitated and reinstalled. Provide concealed bucks at window openings to reduce future racking of openings during relocation and rehabilitation. Historic log joinery for openings to be replicated.

Rehabilitation of windows to include replacement of glazing putty, squaring sash, and returning operability. Additionally, remove all loose or failing paint and provide a new latex-based primer with a latex-based topcoat. Provide new glazing where missing (two lites).

Provide new fixed exterior screens with metal insect mesh and wood frame to match historic in profile. Prep and paint wood frames with a high-quality exterior latex-based primer and topcoat. Provide new screen clips where missing (50% replacement).



Figure 4-19. Second floor south window, exterior (source: Anderson Hallas, 2024).



Figure 4-20. Deteriorated paint and putty at first-floor north window (source: Anderson Hallas, 2024).

Exterior Doors (B2030)

There is one exterior door at Johns Log Cabin, located on the south façade. Constructed of 1x6 vertical tongue and groove wood boards with 1x6 interior wood battens, lending this style the vernacular name “Z-brace door”, the door and its hinges and knob appear to be historic. Images included in the National Register listing indicate that this door existed as early as 1952. Latching hardware has been replaced with a padlock staple and hasp. On the exterior, a spring close hangs from the hinge casing, evidence of a since-removed screen door.

Exterior Doors Condition Assessment: Fair

The door is operable but weathered. Without latching hardware, the door remains open unless padlocked. Hardware is rusted and wood is darkened from weather.

Exterior Doors Treatment Guidance

Remove and salvage the door, to be rehabilitated and reinstalled. During relocation and rehabilitation, historic log joinery for openings to be replicated. Rehabilitate hardware hinges to provide full operability. Replace existing padlock with a keyed bolt lock. Salvage the existing knob and latch and replace with an ABAAS-compliant lever latch. Color selection of new hardware (such as an aged bronze) can help to reduce visual impact. To retain the historic knob, it could be modified to remove the latch function and mounted lower or higher on the door in companion with an ABAAS-compliant lever latch.

It is unclear whether the exterior face of the door was ever painted as there is no paint remaining today. Treat the exterior face with a wood preservative, such as borate, to provide protection without a finish coat. Prep the interior face of the door and apply a new coat of varnish.

Provide a metal sweep at the base of the door to protect interior finishes and exclude rodents.

This door has sufficient clear width (35 inches) for ABAAS-compliant access. However, hardware and level change are not compliant. As noted above, replace the latch for compliance. Provide an in-kind replacement of the wood threshold, sloped to meet ABAAS

requirements. At the exterior, replace the wood stoop with a raised wood landing, level with the finish floor, and provide a sloped walk for access.



Figure 4-21. Entry door and boarded window at south façade (source: Anderson Hallas, 2024).



Figure 4-22. Exterior entry door, with window boarded with plywood (source: Anderson Hallas, 2024).

Roofing (B30)

Roof Coverings (B3010)

The existing roof covering consists of asphalt roll sheets applied directly over the 1x8 board sheathing. No underlayment was observed. No flashing was observed at roof edges or peak. The flue penetration on the west slope has boot flashing, lapped appropriately by the asphalt roll roofing.

At the eaves, exposed 2x4 rafters are tapered down to 2x2, extending approximately eight inches beyond the building. Board sheathing is exposed without fascia. The rake at either gable end is built-up, consisting of a 1x6 barge board and 1x8 soffit.

Roof Coverings Condition Assessment: Poor

A new layer of roof covering has been provided over the existing on the eastern slope but is torn at the edges, where an excessive overhang attempts to protect the wood below but is unsupported. The western slope roof covering is older and hosts biogrowth in addition to tearing at the edges.

Underside of sheathing is darkened in spots, indicative of previous water intrusion. Approximately 50% of barge board at the roof eaves is missing.



Figure 4-23. West roof slope (source: Anderson Hallas, 2024).



Figure 4-24. Soffit and missing barge board on north rake (source: Anderson Hallas, 2024).

Roof Coverings Treatment Guidance

Replace the roofing assembly in whole to address problematic conditions and provide access for structural work.

Following relocation and rehabilitation of the roof structure, provide new roofing assembly consisting of prefinished metal flashing at eaves, rakes, ridge, underlayment, and new roofing. Salvage and reinstall the metal flue, providing prefinished metal flashing and sealant at the penetration.

Replace the current roofing with a cedar shingle assembly. Cedar shingles to be 18 inches in length with 5-inch exposure and random widths. Regularly remove debris accumulating on the roofing shingles to prevent biogrowth and deterioration.

Provide a cedar breather layer for improved ventilation over the sheathing. Provide ice and water shield for eave protection only. Provide prefinished metal drip edge flashings at eave and rake. Install assembly in accordance with guidance provided by the Cedar Shingle and Shake Bureau (CSSB). Two options for treated shingles include the following.

- Preservative-treated shingles are designed to provide moisture resistance and discourage biogrowth. However, these shingles contain chemical preservatives that could be deemed detrimental to the lake ecology.
- Fire-rated wood shingle roofing assembly. Fire-retardant-impregnated shingles are available and would provide a Class B fire rating. If a Class A rating is required, the Class B shingles must be used together with a mineral cap sheet (similar to that used in asphalt roll roofing) that covers the entire roof deck beneath the shingles. A robust breather layer is essential in this scenario. Shingles cannot be both fire-rated and preservative-treated.

Use prefinished flashings to minimize corrosion issues presented by either type of treated shingle.

Replace all missing barge boards in kind and provide a partial replacement where the existing is deteriorated. Assume 60% replacement of barge board.

Stairs (C20)

Stair (C2020)

Steep wood stairs in the northeast corner of the building connect the two floors. With typical eight-inch-deep treads, risers vary from three to 15 inches in height. A rectangular landing connects the bottom two steps to the top run and provides a 90-degree turn.

Stairs are simply finished with unpainted 1x wood boards without nosings. There are no handrails or guards.

Stairs Condition Assessment: Poor

The stair assembly is generally in poor condition. The stringer is damaged causing severe racking of risers (refer to Structural Floor Construction section for an assessment of the stair structure). Stored materials covered some of the stairs during observation. Boards are typically lightly stained but intact. Treads are slightly worn and deterioration is noted at the ends and surface of boards. Slight buckling of treads and risers throughout assembly.

Stairs Treatment Guidance

Replace broken stringers and retain the existing top run. Rebuild the bottom run and landing per IBC to act as a viewing platform of the second floor. As the top run of stairs would not be code compliant, it is recommended that public access be limited to the first floor and the bottom run of stairs.

Clean wood risers and treads. No new finish of these elements, which are currently unfinished, is recommended.



Figure 4-25. Stairs viewed from first floor (source: Anderson Hallas, 2024).

Interior Finishes (C30)

Floor Finishes (C3020)

Floor decking, consisting of 1x6 tongue and groove boards, is covered in broadloom carpet. Similar 1x6 tongue and groove decking is present at the second floor; however, 50% is exposed and appears to be unfinished.

Floor Finishes Condition Assessment: Poor to Fair

Carpet is heavily worn, stained, and holds debris. Where exposed, floor decking is in fair condition with some darkened areas.

Floor Finishes Treatment Guidance

Remove all carpet and stored materials. Salvage all flooring boards which do not exhibit rot or deterioration for re-installation (assume 70% salvage) and provide an in-kind replacement of remaining boards. Floorboards are currently unfinished and thus no new finish is recommended.



Figure 4-26. First floor carpet (source: Anderson Hallas, 2024).



Figure 4-27. Second floor decking and carpet (source: Anderson Hallas, 2024).

Structural Condition Assessment and Treatment

General Structural Information

Primary Materials

Johns Log Cabin is a square log building bearing directly on the soil without a conventional foundation. It has log-framed floors and a dimensional-lumber framed gable style roof.

Applicable Structural Design Information

Applicable Codes

2024 International Building Code (IBC)

2024 International Existing Building Code (IEBC)

ASCE 7-22 Minimum Design Loads for Buildings and Other Structures

Load Requirements

Risk Category

- RC I (unoccupied use)
- RC II (public use)

Live Load

- Roof – 20 psf
- First-floor – 40 psf (non-public use)
- Attic – 20 psf (non-public use)

Snow Load

- Ground snow load – $P_{g(ult)} = 119$ psf (ASCE 7-22)
- Exposure factor – $C_e = 0.9$ (surface roughness category D, partially exposed)
- Thermal factor – $C_t = 1.2$ (unheated and open-air structures)
- Importance factor
 - $I_s = 0.8$ (unoccupied use)
 - $I_s = 1.0$ (public use)
- Roof snow load
 - $P_{f(ult)} = 72$ psf (unoccupied use)
 - $P_{f(ult)} = 90$ psf (public use)



Figure 4-28. Overview of Johns Log Cabin (source: JVA, 2024).

Wind Speed (Ultimate)

- 96 mph (unoccupied use)
- 103 mph (public use)
- Exposure D

Seismic

- $S_s = 0.044$
- $S_1 = 0.012$
- Site Class - Default (assumed)
- Seismic Design Category – A

Flood

- Information not available from FEMA for the site

Rain

- 15-minute rainfall intensity – 5.25 in/h
- 60-minute rainfall intensity – 2.41 in/h

Foundations (A10)

Standard Foundations (A1010)

Johns Log Cabin lacks a conventional foundation system and the bottom logs of the structure bear directly on the soil.

Standard Foundation Condition Assessment: Poor

The foundation is in poor condition. The absence of a conventional foundation places the wood structure in direct contact with soil and holds moisture against the structure. This facilitates the spread of decay fungi and insect colonization within wood members. Decay and soil movement have caused the structure to settle toward the northeast.

Standard Foundation Treatment Guidance

For the greatest longevity, place the log structure on a new foundation consisting of stone clad reinforced concrete or CMU piers on spread footings at frost depth (48"). Alternatively, the structure can be set upon treated sill logs with a 6 inch deep base of clean draining gravel (assume 150 CF of concrete $\pm$ 10% for concrete foundation, and 25 CF $\pm$ 10% of clean gravel for estimating purposes).

Superstructure (B10)

Floor Construction (B1010)

The first floor and second floor are framed with 4-inch to 5-inch diameter log joists spanning in the east-west direction and supporting 1x6 tongue and groove flooring. Log floor joists are spaced at approximately 24 inches and 28 inches at the first floor and second floor, respectively. The stair providing access to the second floor is constructed of dimensional-lumber stringers supporting the treads.

Floor Construction Condition Assessment: Fair to Poor

First floor framing is in fair to poor condition. First floor framing was not fully observable due to finishes. Visible portions of floor framing appear to be in direct contact with the soil. This can harbor moisture against



Figure 4-29. Lower logs in contact with soil, and no foundation (source: JVA, 2024).



Figure 4-30. Logs in contact with soil (source: JVA, 2024).



Figure 4-31. First-floor beam ends exposed to exterior and in close proximity to soil (source: JVA, 2024).

the wood causing decay fungi to flourish leading to the accelerated deterioration of the structure.

Second-floor framing is in poor condition. Joists are visibly deflected and do not have adequate capacity to support attic storage or residential live loads. Ends of floor framing members are exposed on the exterior of the building and are showing signs of deterioration.

The stair is in poor condition. The stringers have failed, rendering the stair unsafe in its current condition.

Floor Construction Treatment

Replace floor framing with treated members (assume (5) 4x6 x 12-foot long members for estimating purposes).

Provide a perimeter beam to support floor framing and span between new concrete or masonry piers (assume 4 pressure treated timber beams x 12-foot long for estimating purposes).

Provide mid-span support for joists (assume 1 dropped pressure treated timber beam x 12-foot long for estimating purposes).

Assumed public access is prohibited on the second-floor. Repair deteriorated joist ends or replace the joist.

Replace existing stair in kind.



Figure 4-32. View of first-floor framing from a gap in the exterior logs (source: JVA, 2024).



Figure 4-33. Second-floor beams (source: JVA, 2024).

Roof Construction (B1020)

The gable roof is framed with 2x4 rafter pairs spaced at approximately 26 to 29 inches and spanning from the tops of the east and west side walls up to the ridge. On the east side of the building, new rafter tails have been installed to support the eave. There is no ridge beam or ridge board, however, each rafter pair is held together by a 1x8 collar tie in the upper third of the roof span. The roof is sheathed with 1x boards.

Roof Construction Condition Assessment: Fair

Roof framing is in fair condition with no widespread signs of deterioration or structural distress such as deflection. Rafters could not withstand code required snow loads.

If the cabin remains unoccupied, lateral upgrades are not triggered by code. Lateral upgrades are recommended for the long-term safety and stability of the structure. These include rectifying the lack of a roof diaphragm and creating a positive connection between the roof framing and log walls.

Roof Construction Treatment Guidance

Sister all rafters (assume 18 rafters for estimating purposes).

Install a layer of plywood atop the existing boardsheathing (assume 180 SF $\pm$ 10% for estimating purposes).

Provide adequate anchorage from the roof framing to the wall framing (assume cold formed steel clips at each roof rafter, as well as gable walls, 20 clips $\pm$ 10% for estimating purposes).



Figure 4-34. Roof framing (source: JVA, 2024).



Figure 4-35. Roof rafters with a lack of ridge member (source: JVA, 2024).

Exterior Enclosure (B20)

Exterior Walls (B2010)

Exterior walls are constructed of stacked logs with saddle notch corner joinery. The stacked log wall construction extends from grade up to the roof eave height. The gable end walls are constructed of vertical 1x boards extending from the top wall log to a rafter pair in line with the wall. Gable end window openings are framed with 2x lumber.

Exterior Walls Condition Assessment: Poor

Exterior walls are in poor condition. Deterioration due to decay fungi is present in approximately 70% of the exterior wall logs with most of the deterioration concentrated near the base of the structure and across the entire north elevation.

Exterior Walls Treatment Guidance

Disassemble structure after marking each member for reassembly. Replace deteriorated logs in kind. Verify or provide spikes or log screws between the wall logs. (assume 400 SF $\pm$ 10% for estimating purposes).



Figure 4-36. North wall elevation (source: JVA, 2024).



Figure 4-37. South wall elevation (source: JVA, 2024).



Figure 4-38. East wall elevation (source: JVA, 2024).



Figure 4-39. West wall elevation (source: JVA, 2024).

Appendices

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Appendix A: Large Barnum Boat House Historic Property Project Documentation

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 1: PROPOSED PROJECT INFORMATION

Instructions:

Use Section 1 to identify key staff for the HPPD development, describe the proposed project, and define the draft Area of Potential Effects (APE).

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 1, for goals and process guidance.

Project Lead (PL)	John Rosemurgy
Cultural Resource Specialist (CRS)	Seth DePasqual
Facilities Manager (FM)	
Consulting Parties	Mundus Bishop (Landscape Architecture), Anderson Hallas (Architecture), JVA (Structural Engineer), AMI (Marine Structural Engineer) Landmark Environmental (Hazardous Materials)
Stakeholders and other Participants	
Planning, Environment and Public Comment Number (PEPC)	
Project Management Information System Project Identification Number (PIMS)	333132
Project Title	Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin Historic Property Project Documentation and Climate Change Treatment Plans
Subject Matter Experts Needed	historic landscape architect, historic architect, structural engineer, marine structural engineer

Project Description and/or Project Scope of Work

Enter text here from PMIS or most developed scoping document. NPS staff should do the first pass of the project description. Include enough information to understand how the project will affect the historic property or properties. If the detail is not available the first time through, use information that is available and move forward—you may need to loop back as the need for more information is identified. List all project components that may affect historic properties. Include references to drawings, specifications, and as much detail as possible about the proposed work to be done.

The HPPD team may revisit the project description and APE as the team's understanding of the historic property or properties, character-defining features associated with historic structures and/or contributing characteristics associated with cultural landscapes, and the project's potential effects are refined.

The project description may be revised to minimize or avoid adverse effects to the historic property.

Note: If all necessary project details cannot be provided internally, professional design work may need to be contracted. If a contract is needed, attach the HPPD in whatever state of completion it is in to the scope and indicate that the contents are to be incorporated. Develop the proposed project to meet the SOI's Standards and avoid adverse effects or justify why this is not the preferred approach.

To paste into this cell, double-click.

Project Justification

Enter text here, from PMIS or most developed scoping document.

To paste into this cell, double-click.

Measurable Results

Enter text here from PMIS or most developed scoping document.

To paste into this cell, double-click.

Consequence of Failure to Act

Enter text here from PMIS or most developed scoping document.

To paste into this cell, double-click.

DRAFT Area of Potential Effects

To understand which historic properties may be affected by the proposed project, develop a DRAFT Area of Potential Effects (APE). The Area of Potential Effects (APE) as defined by NHPA 36 CFR 800.16 (d) means: "...The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." ¹

This DRAFT APE is intended to inform the HPPD and help to guide the development of the project (work/undertaking) in alignment with the SOI's Standards for the Treatment of Historic Properties to meet the NPS stewardship mandate. The FINAL APE must be developed in consultation with the SHPO/THPOs and other consulting parties and therefore may be different from the DRAFT APE; however, integration of this step in the process supports stewardship and improved consultation." ²

Insert brief text describing the APE below. Upload graphic with caption-annotated plan diagram with boundary and all potentially affected historic properties identified.

To paste into this cell, double-click.

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Is your project estimated to be \$2M or more?	No
If "Yes," provide date you received IRB investment concept approval:	MM/DD/YYYY
If "No," do you have a project formulated or funded? (select one answer from dropdown)	No
If "Formulated? Yes" provide formulated fiscal year:	YYYY
If "Funded? Yes," provide date:	MM/DD/YYYY
If "No," provide "Project Park Approved" date:	MM/DD/YYYY
2. Was the Area of Potential Effects (APE) developed collaboratively by FM and CRS staff?	<select one>
If "Yes," provide date:	MM/DD/YYYY
If "No," provide today's date:	MM/DD/YYYY

3. Is the Project Description Draft or Final?	Draft
Draft Document Date:	MM/DD/YYYY
Final Document Date:	MM/DD/YYYY

4. Does the Park have any of the following reports or plans on file that need to be considered for integration in the project scope? Select Yes or No for each report or plan type below. (check all that apply)	
Accessibility Plan	No
Climate Change Vulnerability Assessment	<select one>
Security Assessment	<select one>
Other	<select one>
If "Other," please list here:	

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 1: Proposed Project Information

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 2: ADMINISTRATIVE DATA

Instructions:

Use this section to aggregate administrative data from baseline documentation for all historic structures and cultural landscapes in the draft APE.

Complete Section 2 separately for each historic structure and cultural landscape that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "2-Property CRIS ID or FMSS #."

Run customized CRIS HPPD CL and HS reports for each cultural landscape and historic structure to obtain information needed to address the gray CRIS fields. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. If the information is missing from CRIS, consult with CRS team member to gather information from other documentation on file or scope for missing information to fill in the gray fields. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Pull FMSS location and asset information for each historic property that may be affected by the project from FMSS.

The information necessary to complete this section should be available in existing data sources and should be pulled directly from the sources indicated to ensure alignment and accuracy. If the information is not on file or adequately up to date, it needs to be completed or scoped prior to proceeding with design and the formal NHPA Section 106 process.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 2, for goals and process guidance.

Park Name	Isle Royale National Park
Park Alpha Code	ISRO
FMSS Location	50984
Asset Type (e.g., 4100, 3100, etc.)	3100, 4100
Federal Real Property (FRP) Historical Status(es) <i>Select FRP status from FRP reporting work with FM.</i>	3 = National Register eligible
Proposed Use <i>Enter text from the approved investment concept workbook (for projects >2M) or PMIS (for projects <2M).</i>	Interpretation

Historic Property [CRIS] Resource Name:	Large Barnum Boat House
Historic Property [CRIS Resource ID] Number:	73186
Structure ID:	Large Barnum Boat House (HS348)
Resource Type	Historic Structure
County/State	Keweenaw County
Land Tract Number(s)	02-110
Boundary Lat/Long/GeoDatum/ Position Source + Accuracy	89.232650404119 (lat), -47.8783167692801 (long); GeoDatum: N/A Position Accuracy: N/A
National Register Status(es) (from CRIS)	Eligible - SHPO Consensus Determination
National Historic Landmark (NHL) Status	No
Management Category	Should be Preserved and Maintained
Ultimate Treatment:	
The approved treatment plan identified in the park's Nonwilderness Cultural Resource Management Plan for the "historic Barnum dock and boathouse" is stabilization and interpretation (ISRO Nonwilderness Cultural Resources Management Plan 2019, 30).	
Construction Date (see Section 3 for chronology):	
1910	
Historic Use:	
Secondary Structure (Garage)	
Current Use:	
Undetermined	
Instructions:	
If the property is a cultural landscape, include the following in addition to above:	
Area (Acres)	4.5 Acres

Boundary Description	The boundary of the Isle Royale National Park includes submerged lands within the four and one-half miles of the shoreline of Isle Royale and the immediately surrounding islands (Sullivan 1944). The Barnum District, including associated features, is located on Barnum Island. The island is located in "NW 1/4 of section 11, township 63 North, Range 39 West containing 4.50 acres with improvements" (Isle Royale Property Lease 1939).
Site Plan	
Confirm CRIS report has site plan with caption/description or provide a link to another site plan source.	
See CRIS report.	

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Is your project phased?	Yes
2. Per the definition in HPPD Handbook Appendix B: Terminology, does an Approved Treatment Plan exist with enough detail to inform development of the project scope?	Yes
If "Yes," provide date of document.	MM/DD/YYYY
If "Yes," use the Approved Treatment Plan to guide development of the project scope of work.	
If "No," provide date of "no" answer.	MM/DD/YYYY
If "No," what is the source of treatment guidance for the scope of work?	
3. Does the FRP reporting number align with CRIS National Register Status?	<select one>
If "No," work with Facility Manager to update the FRP reporting so that it is the same as National Register Status in CRIS.	

4. Will the project result in complete implementation of an Approved Treatment Plan and Ultimate Treatment and Use? If project will be phased or ultimate treatment and use will be achieved over time, capture that information below.

Yes

Immediate work tasks (0–1 year):

In progress

Short-term work tasks (1–3 years):

In progress

Mid-term work tasks (3–5 years):

In progress

Long-term work tasks (5–10 years):

In progress

5. Does complete, accurate, and current CRIS data exist for each of the historic properties that the project may affect?

Yes

If "No," work with CRS to determine if adequate documentation exists or develop a scope of work to gather necessary information.

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

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4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 3: HISTORIC PROPERTIES INFORMATION

Instructions:

Use this section to identify the following for all historic structures and cultural landscapes that the project may affect:

- Relevant baseline information about historic property significance and integrity;
- Character-defining features for historic structures and contributing characteristics for cultural landscapes;
- Other documentation on file that can inform project design, an assessment of effect, and project execution.

Complete Section 3 separately for each historic property that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "3-Property CRIS ID or FMSS #."

All of the information necessary to complete this section should be available in CRIS. Run customized CRIS HPPD CL and HS reports for each cultural landscape and historic structure that may be affected by the project to obtain information for this section. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. If the information is missing from CRIS, consult with CRS team member to gather information from other documentation on file or scope for missing information to fill in the gray fields. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 3, for goals and process guidance.

CRIS Primary Historic Properties Information

Historic Property CRIS Resource Name:	Large Barnum Boat House
Historic Property CRIS Resource ID Number:	73186

Statement of Significance/Historic Property Significance Description

If known, include National Register criteria and level of significance. Some historic properties may have multiple statements of significance. Please include all that apply.

Recreation at Isle Royale dates back to 1892 when John F. Johns opened the first rustic resort. "Isle Royale had long been famous for its sublime beauty, isolation, and the unusual purity of the air, remarkably free from pollen and pollution which was the cause of so much of the distress among hay fever sufferers in the Midwest summers. These and others factors helped attract visitors to the island as early as the 1860s and eventually resulted in the development of a small but consistent tourist trade" (Little 1978, 15).

Johns, a former miner and fisherman, developed his island property to attract tourist wanting to visit the area for its healthful benefits and abundant recreational fishing. Others soon followed the moneymaking opportunity by constructing more comfortable accommodations. "The 'golden era' of tourism on Isle Royale occurred between the 1910s and 1920s, when the island was easily reached by passenger steamer, and lodging was available at a range of resort facilities, from rustic fish camps to full service hotels that offered tennis, golf, bowling, and social events" (Franks 1999, 92).

John F. Johns sold the island to Duluth millionaire George Barnum in 1902. Barnum then invited several friends to have cabins built on the island using his carpenter Ole Daniels. By the 1920s Barnum Island was a busy private summer colony (Franks 1999, 148).

The Barnum Island District landscape is associated with the resort and recreational development theme and context of Isle Royale (Franks 1999, 92). It is locally significant under criteria A - associated with events that have made a significant contribution to the broad pattern of our history and criteria C - embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic value, or represents significant and distinguishable entity whose components may lack individual distinction. Criteria A is applicable because the site is representative of one of the first of only a few private resort colonies at Isle Royale that were established between the 1880s and 1920s. Criteria C is applicable because the structures exhibit a continuity of design, materials, and workmanship and are associated with a single craftsman.

National Register Periods of Significance (With Historic Context Themes)

	Start Year/Era and End Year/Era	Historic Context Theme	Subtheme (Optional)	Facet (Optional)
1	CE 1860 - CE 1940	Creating Social Institutions and Movements	Recreation	General Recreation
2	CE 1930 - CE 1940	Transforming the Environment	Conservation of Natural Resources	Origin And Development Of The National Park Service
3				
4				
5				
6				

Chronology and Physical Description				
Chronology of previous changes to the features, spaces, or materials specifically being affected by the proposed project (work/undertaking)				
	Start Year or Era	End Year or Era	Major Event	Major Event Description
1	1910	1910	Built	Large Barnum Boat House, designed by George Barnum, was completed.
2	1979	1979	Stabilized	Large Barnum Boat House was stabilized.
3	2023	2023	Stabilized	Washington Harbor Preservation Group replaced the top plate of the walls with dimensional lumber around the perimeter of the interior and exterior north and south walls.
4				
5				
6				
Physical History				
The following section provides information on the physical development and evolution of the historic property, organized by time period. Enter hyperlink to existing documentation or enter text that does not exceed 5 pages. Insert graphics and captions. Label graphics as Figure 1, 2, 3, etc. and reference them in text. Add as many as needed to reflect relevant historic conditions.				
1860-1902 Development for tourism on Barnum Island can be traced back to “ca. 1892 when John F. Johns, a miner-turned-fisherman-turned resort owner opened his resort complex, referred to as ‘Johns Hotel’” (Franks 1999, 97). Previously recreation seekers would line up accommodations with fishing families in the area, but the Johns turned it into a business. The Johns family built 14 structures which included five small log cabins for tourists, a main building offering additional comforts, a barn for cows, chickens, and hogs, a dining cabin, ice house, root house, and a store-post office. Views to the lake were cleared, and a white picket fence installed to separate the live stock from the guests (Franks 1999, 97-98). “John F. Johns sold his hotel complex in 1902, leaving absolutely no place for tourists or sportsmen to stop on the west end of the island. ‘One of the noblest health and pleasure resorts in the world is lying ready for somebody to choose as the location of a summer hotel and summer cottages,’ lamented the Duluth Herald” (Franks 1999, 102). The second wave of development on Barnum Island occurred in 1902 when George G. Barnum, millionaire grain merchant from Duluth, purchased the island for his private use. Barnum first stayed at the Johns Hotel in 1889. He admired the location enough to return to the island and prompted him to request of the Johns to build a small cabin specifically for his purposes. Barnum purchased the island and its structures in 1902 and shortly afterwards had a larger cabin constructed on the west end of the island. Barnum invited his friends to construct cabins on the island using his carpenter from Duluth, Ole Daniels. Daniels built five structures on the island between 1903 and 1905 and in the 1920s returned to build an additional five structures (Franks 1999, 149). The frame cottages are all one story with either pyramidal flared hip roofs or low-pitched gabled-roofs with gabled dormers. Roofing material for all of the cottages is rolled asphalt and most have droplap siding with corner boards with the exception of the large boathouse which is a vertical log structure. The privies also share design uniformity, “all four associated with the Barnum Colony have gabled roofs, droplap siding with corner boards, and four-panel doors with black glass doorknobs” (Franks 1999, 149). It was not long before Barnum Island became an active private summer colony of wealthy individuals, which was in sharp contrast to the commercial fishing community across the inlet. By 1922, however, those who had come to love the island were concerned with the preservation of the natural beauty they had come to appreciate, especially with the possibility of a pulp harvesting operation looming if business proposals were to have taken place. The result was the creation of Isle Royale National Park in 1931, which offered preservation and protection for the resources, but not so for the individual landowners. Land acquisition took many years and as a result of lawyer interaction on Barnum’s behalf, he was offered a life estate for the youngest immediate family member. George Barnum, believed to have been an opponent of the park service,				

Cultural Landscape Analysis and Evaluation Summary

Barnum Island retains many of the characteristics associated with private resort colony that once thrived there in the 1920 and 1930s. The Johns Hotel and double privy (National Register 1997) also contribute to the overall integrity since the buildings were present and utilized by members of the Barnum Colony. Changes that have occurred since the period of significance are mostly associated with deterioration due to neglected maintenance and or extreme climate. Vegetative cover on the island may also be denser then it was historically, when the island changed ownership from the Johns to the Barnums. The Johns had livestock which would have grazed vegetation and required a designated pasture area. Such a clearing is no longer extant. Presently visible are some cleared views and some older fallen timber, which has resulted in new clearings and piles of brush that need to be cleaned up. The Johns hotel, log cabin, and double privy are in stable condition, but will require extensive work in the future.

Features of the island that have high integrity in location, setting, feeling, materials, workmanship, association, and design include structures, circulation patterns, cluster patterns, views, land use, and small scale features. Visitors to the island experience the overall setting, feeling, and association that the Barnum Colony members once experienced.

Landscape Characteristics and Features

Buildings and Structures: Large Barnum Boat House is a one-room wood structure, built atop submerged wood cribbing on the south shore of Barnum Island. A dutch gable roof runs east-west along the rectangular building, which measures roughly 28 feet by 40 feet in plan. Large Barnum Boat House, built in 1910, retains significance associated with the resort and fishing use of the island during the early 20th century.

Small Scale Features: Small scale features include discarded fence posts, remnants of a wheel barrow, and other materials associated with the boat houses and surrounding cottages. All are non-contributing.

Circulation Features: Trails include a route east to the Dunwoodie Cottage and a route west to Small Boat House and Barnum Residence. Trails contribute to the cultural landscape.

Vegetation: Large Barnum Boat House is set in a small clearing surrounded by native boreal coniferous vegetation. The forest is primarily comprised of balsam fir, river birch, and mountain ash trees. Beard lichen drape the branches of balsam fir trees. Dominant native understory species include Canadian Bunchberry, thimbleberry, and grasses. Non-native species along the shoreline include lillies and lupines.

Table 3-1: Character-Defining Features (Contributing)

Use this table to identify character-defining features if the historic property is a historic structure or contributing features if the historic property is a cultural landscape. Create a separate table for each historic property in the APE. If the historic property is a cultural landscape, pull the FMSS Crosswalk Report for the CRIS-CL record to complete the table. The CRIS HS database does not include CDFs. If the historic property is a historic structure, pull CDF information from other documentation on file or scope for necessary information. Use HPPD Section 5 to determine information needed to inform an assessment of effect.

	Historic Property in APE Character-defining feature for historic structures or contributing landscape characteristic or feature for cultural landscapes that may be affected by the project	Associated CRIS Resource Name	Associated CRIS Resource ID	FMSS Record Type	FMSS Record Number
1	Large Barnum Boat House	Barnum Island	73186	Location	50984
2	Large Barnum Boat House Form - Sited on Lake Superior with shore-side boardwalk; Long narrow deck along south façade; Rectangular footprint; Single-story; Asymmetrical U-shaped floor plan; Expressive log structure of varying diameters	Barnum Island	73186	Location	50984
3	Large Barnum Boat House Form Exterior Features - Dutch gable running parallel to shoreline; Bird wire along roof peak; Simple shallow eaves with exposed log rafter tails; Unpainted vertical log slab cladding; Unpainted shiplap siding (north façade and gable ends); Wood cribbing structure	Barnum Island	73186	Location	50984
4	Large Barnum Boat House Openings - Typically no trim/casing at openings; Large sliding boat door (west façade) with overhead track; Fixed windows (south façade); Vertical log slab door to deck (south façade); Wood panel entry door (north façade)	Barnum Island	73186	Location	50984
5	Large Barnum Boat House Interior Features - Exposed wood structure (unpainted); U-shaped floor plan with central boat slip; Boat hoist supported on forked timber columns	Barnum Island	73186	Location	50984

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Has each historic property that may be affected by the project been evaluated for listing in the National Register of Historic Places?	Yes
If "No," provide today's date:	MM/DD/YYYY
If "No," verify with CRS that DOEs for each property exist. Do not proceed with design or treatment until eligibility status is clear. Note: If any of the historic properties have not been evaluated, a Determination of Eligibility (DOE) is necessary before moving forward with design/treatment.	
If "Yes," provide date of "yes" response:	8/2/2024
If "Yes," confirm the Statement(s) of Significance is/are not out of date and that no major changes have occurred. If the Statement(s) of Significance is/are current, continue to the next question.	

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 3: Primary Historic Properties Information



SECTION 4: CURRENT CONDITIONS ASSESSMENT

Instructions:

Use this section to document the current condition of each historic structure and cultural landscape that may be affected by the proposed project.

Complete Section 4 separately for each historic property that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "4-Property CRIS ID or FMSS #."

If the project scope is targeting treatment at an area that is much smaller than the overall historic property, documentation is only necessary for the parts of the property that may be affected by the project.

All of the information necessary to complete this section should be available in CRIS. Run customized CRIS HPPD reports for each cultural landscape and historic structure that may be affected by the project to obtain information for this section. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Condition assessments for HPPD must use CRIS definitions and not FMSS or other definitions.

If the information is not on file or adequately up to date, it needs to be completed prior to proceeding with design and the formal NHPA Section 106 process. Consult with CRS team member to gather information from other documentation on file or scope for missing information.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 4, for goals and process guidance.

CRIS Current Conditions Assessment

Historic Property CRIS Name: Large Barnum Boat House

Historic Property CRIS Number: 73186

Current Condition

Current Condition: Fair

Condition Date: 6/12/2024

Condition Narrative

Note changes in condition or aspects of condition that are important. Note improvements needed to achieve good condition, if relevant. For historic structures, use the condition assessment form linked to Appendix A of the HPPD Handbook.

The historic setting and building condition is impacted by erosion. Trails along the shoreline are likely contributing to accelerated erosion. Grading and resurfacing of trails is needed to achieve good condition.

Barnum Large Boat House roof in poor condition. Roof framing is deflected and does not support code required snow loads. Multiple rafters are fractured. Roofing is in poor condition where asphalt roll roofing material is missing and sheathing is subject to weathering and deterioration, including the north eave. Where remaining, the roof covering is wrinkled and torn. Roof covering on the north slope hosts bio-growth. Advanced deterioration of the roof expedites the deterioration of other features, jeopardizing the building. Replacement of roof coverings and roof framing is needed to achieve good condition.

Walls are in poor condition. Several of the perimeter walls are leaning and racking in different directions due to foundation movement and inadequate roof structure. The framing at the base of the walls is significantly deteriorated around the perimeter. Reestablishment of a plumb condition of the walls and replacement of deteriorated members is needed to achieve a good condition.

Floor decking is in fair to poor condition. Decking material is deteriorated due to moisture exposure. Partial decking replacement is needed to achieve good condition.

Cribbing deterioration/movement has caused the building to settle nonuniformly. These foundation conditions contribute to the unstable condition of the building and has caused the boat slip to become narrower at its entrance at the west elevation of the building. Resultant distortion of walls and roof were also observed.

Condition Photographs

Include 5–6 photos of the current condition of the historic property. These may come from a variety of sources (CRIS, NP Gallery, park files, or other) and must include one of the context, one each for the main parts of the overall property, and a couple illustrating detailed conditions. Photos should be a minimum of 4"x 6" in size.

- For a cultural landscape, this may include annotated images of the context, overall project area, and specific parts of the landscape that the project may affect.
- For a historic structure, this may include annotated images of the context of the structure (structure in its setting), one image of each structure elevation, and images of specific details that the project may affect.



Figure 1. Missing and/or deteriorated roof coverings on south slope (source: Anderson Hallas, 2024).



Figure 2. Roofing missing at north eave (source: Anderson Hallas, 2024).



Figure 3. Water intrusion at base of north wall (source: Anderson Hallas, 2024).



Figure 4. Crushed timber member (source: AMI, 2024).



Figure 5. Tilting shims and loss of rock ballast (source: AMI, 2024).



Figure 6. Broken rafters and shoring (source: JVA, 2024).

Impacts				
Note existing impacts from CRIS pick list, other documents, or field verification.				
	Type	Impact Type— Other	Narrative	Date Identified
1	Improper Drainage		Trail lacks positive drainage with stormwater contributing to erosion.	6/12/2024
2	Exposure to Elements		Exposure to weather and water contributes to deterioration of building material (e.g., perimeter and exposed ends of floor structure, floor decking, roof framing). Storm events and ice action contribute to the loss of rock ballast in crib foundations, causing the structure to be more susceptible to movement and wave/ice forces.	6/12/2024
3	Structural Deterioration		Foundation movement contributes to movement of the superstructure and impacts the condition of exterior walls.	6/12/2024
4				
5				
6				

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Have you aggregated and formatted your photos as described in this section?	Yes
If "Yes," provide date of "yes" response:	8/2/2024
If "No," provide today's date:	MM/DD/YYYY
If "No," format photos prior to moving on to the next step.	

3. Are there management plans on file that contradict the stewardship directive for any of the historic properties that may be affected by the project?

No

If "Yes," identify the relevant plans on file and list the discrepancies below:

To paste into this cell, double-click.

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 4: Current Conditions Assessment



SECTION 5: POTENTIAL EFFECTS OF PROJECT SCOPE TO HISTORIC PROPERTY INTEGRITY

Instructions: Complete Section 5 for the project.

Use this section to identify the project scope's potential effects to the integrity of historic properties present in the draft Area of Potential Effect (APE). Historic properties are defined as listed or eligible for listing in the National Register of Historic Places. The HPPD is only focused on the known historic structures and cultural landscapes present within your project APE. Note that official assessment of effects per 36 CFR 800.5 includes reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (see 36 CFR 800.5 <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.5>). The final project APE may include properties or impacts that are not yet known.

The APE should include the extents of a vertical area (below grade) for archeological resources as well as any historic views to/from the historic property. Official APEs need to be determined by the NPS agency official in consultation with consulting parties.

For best results completing Section 5, ensure that the project CRS has reviewed sections 1 through 4 and confirmed that they contain enough information to proceed with Section 5 and consulting parties have been contacted for early input and notification of the planned project.

Use information from sections 1 through 4 to fill Table 5-1 for all historic properties and associated character-defining features for structures as well as contributing features for cultural landscapes that are within the proposed Area of Potential Effects (APE). NOTE: Table 5-1 should be reviewed and edited as applicable with each phase or milestone within the project development and design until an official assessment of effect can be made by qualified personnel and documented in the Planning, Environment, Public Comment (PEPC) system.

Column A. Identify the historic property using CRIS name. If CRIS name does not exist, use FMSS name and number. The historic property name will be repeated in Column A for each character-defining feature for historic structures and each contributing characteristic or feature for cultural landscapes.

Column B. Character-defining features for historic structures and contributing landscape characteristics or features for cultural landscapes that may be affected by the project. Copy information from Table 3-1 for each historic property into Table 5-1.

Column C. Identify as many of the seven aspects of integrity for the historic properties that the project could affect. Draw information from Sections 1-4 contents.

Column D. Minimally explain how the scope will or will not change character-defining features for a historic structure or contributing landscape characteristics or features for a cultural landscape. Refer to HPPD sections 1-4 and other supporting information needed (e.g., maps, survey, drawings, specifications, photographs, scope of work for project, site plan, work order).

Column E. Reference and cite the design documents that illustrate or specify the proposed changes (e.g., maps, survey, drawing number, specifications, photographs, SOW, site plan, work order). Upload or hyperlink as applicable to the Design Documents Appendix.

See the HPPD Handbook, Section 5, for goals and process guidance.

Table 5-1: Project Effects

	A	Potentially Affected Properties		Project Information	
	A	B	C	D	E
	Properties in APE CRIS Name (if CRIS name does not exist, use FMSS name and number)	Character-defining feature for historic structures or contributing landscape characteristic/feature for cultural landscapes that may be affected by the project. From Section 3: Historic Property Information, Table 3-1.	Potential Effect to Integrity Identify as many of the seven aspects of the historic properties integrity that the project could affect.	Scope of Project Explain how the proposed project will or will not change the character-defining features for structures or contributing landscape characteristics or features for cultural landscapes.	Reference Design Documents Identify documents, their locations, and page numbers or other information to help users understand the changes proposed. These may be maps, surveys, drawings, specifications, photographs, SOW, site plans, or work orders.
1	Large Barnum Boat House	Large Barnum Boat House	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
2	Large Barnum Boat House	Form - Sited on Lake Superior with shore-side boardwalk, Long narrow deck along south façade, Single-story, Asymmetrical U-shaped floor	☒ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
3	Large Barnum Boat House	Exterior Features - Dutch gable set parallel to shoreline, Bird wire along roof peak, Simple shallow eaves with exposed log rafter tails, Unpainted vertical	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
4	Large Barnum Boat House	Openings - Large sliding boat door (west façade) with overhead track, Fixed divided light wood windows (south façade), Vertical log slab door to	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
5	Large Barnum Boat House	Interior Features - Exposed wood structure (unpainted), U-shaped floor plan with central boat slip, Boat hoist supported on forked timber columns	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.

A-22 Large Barnum Island Boat House, Small Barnum Island Boat House, and Johns Log Cabin HPPD and Treatment Plan

6	Large Barnum Boat House	Trails between cottages and to water	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
7	Large Barnum Boat House	Trail around perimeter of island	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
8	Large Barnum Boat House	Other various trails	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
9	Large Barnum Boat House	Views to Washington Island fishing community	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 2 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.

☐ Design ☐ Association
☐ Setting ☐ Feeling
☐ Location ☐ Workmanship
☐ Materials

National Historic Preservation Act (NHPA) Documentation

Consulting Parties Communication Documentation

Note dates, names, brief summary of communication with consulting parties (SHPO, THPOs, and other consulting parties) and link to meeting notes and other related documents.
 Note that if a National Historic Landmark (NHL) may be affected by the project, the NPS NHL program must be notified. To paste into this cell, double-click.

Stakeholders and other Participants in the Section 106 Process per 36 CFR 800.2

Note dates, names, brief summary of communications and link to meeting notes and other related documents. To paste into this cell, double-click.

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Were professionals meeting the applicable SOI Professional Qualifications Standards involved in completing Section 5?

Yes

If "No," work with CRS to complete Section 5.

2. At this time, is the scope of work consistent with an Approved Treatment Plan (for example: HSR, CLR, or other, as noted in Section 2 Guidance Questions for Best Practices and defined in the HPPD Handbook Appendix B: Terminology) or does it meet the SOI Standards for the recommended treatment as documented by the Management Category in Section 2 of this HPPD?

Yes

2a. If "Yes," provide date of "yes" response and proceed to question 3.

2/11/2024

2b. If "No," can the project scope/design details be revised, taking into account technical and economical feasibility, to avoid adverse effects to historic properties within the APE?

<select one>

If response to 2b is "Yes," revise scope/design to avoid or minimize details that do not meet the SOI's Standards, taking into account technical and economical feasibility to avoid adverse effects to historic properties within the APE and update HPPD sections 1 and 5.

If response to 2b is "No," include a statement of justification that explains why the chosen treatment was selected and document minimization of adverse effects on the integrity of the historic property and proceed to question 3.
 Refer to 36 CFR 800.11 for documentation standards for statements of justification of adverse effect.

Enter justification or hyperlink to attachments. To paste into this cell, double-click.

3. Has the CRS determined that information necessary to begin formal Section 106 review process is contained in HPPD sections 1 through 5?

<select one>

If "Yes," formally initiate the Section 106 process and proceed through project development and execution continuum.

If "No," and considering the responses above, use the space below to identify additional information needed or next steps to formally initiate Section 106 review process.

To paste into this cell, double-click.

END OF SECTION 5: Potential Effects of Project Scope to Historic Property Integrity



SECTION 6: HISTORIC PROPERTY PROJECT SUMMARY REPORT

Instructions:

Use this section to prepare a summary report with information about actual work completed during the construction phase.

The intention of Section 6 is to create a "before and after" summary report documenting critical information and noting major discoveries and treatment decisions made during construction. The focus should be on capturing and highlighting important project execution information that is not included or primary in other project documentation close out procedures.

This section creates a starting point for planning future documentation, maintenance, or preservation projects that affect the same property.

See the HPPD Handbook, Section 6, for goals and process guidance.

If the project construction work is executed by park personnel, they should use this section to document work during and after construction.

If the project construction work is executed by a support center (for example HPTC or OCLP), work with the project manager to complete this section during and after construction.

If the project construction work is executed by a contractor, use information from the contracting officer representative's and/or construction manager representative's status reports or other construction close-out documents to complete this section.

Project Administration

PMIS Number	333132
Project Title (as it appears in Funded PMIS entry and/or on the Final Construction Documents)	Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin Historic Property Project Documentation and Climate Change Treatment Plans

Project Compliance

PEPC Number	333132
Final NHPA Assessment of Effect (from PEPC entry)	<select one>
Final NEPA Pathway: (from PEPC entry)	<select one>

Construction Documentation

Construction Contract Number	Provide hyperlink. To paste into this cell, double-click.
Construction Contract Award Date	Provide hyperlink. To paste into this cell, double-click.
Project Agreement Title, Number and Date Signed	Provide hyperlink. To paste into this cell, double-click.
Notice to Proceed Date	Provide hyperlink. To paste into this cell, double-click.
Construction Period of Performance Completion Date	
Construction Documents	Provide hyperlink to documents. To paste into this cell, double-click.
Were there any construction modifications?	<select one>
If "Yes," provide hyperlink.	Provide hyperlink. To paste into this cell, double-click.
Key Project Personnel. PM, COR, CMR, Contractor, or Center/Group	
Project Manager (PM):	
COR:	
CMR:	
Contractor or Center or Group completing work:	
Other (indicate role):	

Post-Construction Documentation

As-Built Drawings	Provide hyperlink. To paste into this cell, double-click.
Operations and Maintenance Manuals	Provide hyperlink. To paste into this cell, double-click.
Vendors List	Provide hyperlink or list here. To paste into this cell, double-click.
Product Data Sheets	Provide hyperlink. To paste into this cell, double-click.

Project Description

Executive Summary:

To paste into this cell, double-click.

Project Narrative:

To paste into this cell, double-click.

Photographic Documentation
(Attach or link minimum of six photographs with descriptions. Add additional pages as necessary.)

Link or insert photograph here.

Figure 1. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 2. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Insert photograph here.

Figure 3. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 4. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 5. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Insert photograph here.

Figure 6. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 7. Replace this text with a written description of photograph. To paste into this cell, double-click.

Table 6-1: Affected Historic Property Conditions

Use this table to record pre- and post-treatment conditions of the character-defining features for historic structures and contributing characteristics/features for cultural landscapes, identified in Table 5-1 of Section 5. Note change to the CDF from a stewardship level and include photograph or brief description in the documentation.

Duplicate rows to add as many as necessary to address all character-defining (contributing) aspects and features.

Historic Property in APE CRIS Name (from Section 5: Historic Property Information Table 5-1)	Character-Defining Feature for historic structures or contributing landscape characteristic/feature for cultural landscapes (from Section 5: Historic Property Information Table 5-1)	Pre-Treatment Condition (good, fair, poor)	Post-Treatment Condition (good, fair, poor)
1 Large Barnum Boat House	Large Barnum Boat House	<select one>	<select one>
2 Large Barnum Boat House	Form - Sited on Lake Superior with shore-side boardwalk, long narrow deck along south facade. Single story.	<select one>	<select one>
3 Large Barnum Boat House	Exterior Features - Dutch gable set parallel to shoreline, Bird wing along roof peak. Simple shallow eaves with	<select one>	<select one>
4 Large Barnum Boat House	Openings - Large sliding boat door (west façade) with overhead track. Fixed divided light wood windows (south	<select one>	<select one>
5 Large Barnum Boat House	Interior Features - Exposed wood structure (unpainted), U-shaped floor plan with central boat slip. Boat hoist	<select one>	<select one>
6 Large Barnum Boat House	Trails between cottages and to water	<select one>	<select one>
7 Large Barnum Boat House	Trail around perimeter of island	<select one>	<select one>
8 Large Barnum Boat House	Other various trails	<select one>	<select one>
9 Large Barnum Boat House	Views to Washington Island fishing community	<select one>	<select one>
10 #REF!	#REF!	<select one>	<select one>
11 #REF!	#REF!	<select one>	<select one>
12 #REF!	#REF!	<select one>	<select one>
13 #REF!	#REF!	<select one>	<select one>
14 #REF!	#REF!	<select one>	<select one>
15 #REF!	#REF!	<select one>	<select one>
16 #REF!	#REF!	<select one>	<select one>
17 #REF!	#REF!	<select one>	<select one>
18 #REF!	#REF!	<select one>	<select one>

Closeout Questions

1. Has a PMIS Component Status Report or Project Completion Report been completed?	No
If "Yes," provide date of completion:	MM/DD/YYYY
2. Did this project achieve ultimate treatment and use per HSR/CLR or other approved resource management document?	<select one>
If "Yes," work with FM to create cyclic maintenance plan for ongoing preservation maintenance. If "No," pursue planning for further repair/rehabilitation treatments. (Refer to Section 2, Question 4, and other strategic plans to pursue planning for further repair and rehabilitation treatments.)	
3. Did construction/treatment alter National Register listing status?	<select one>
4. Who completed Table 6-1 (initials and NPS position)?	Initials Position MM/DD/YYYY

Bibliography

Cite documents referenced and those valuable for future reference related to the historic property.

United States Department of the Interior, National Park Service. Barnum Island CRIS-HS Single Record Report. Houghton, Michigan: Isle Royale National Park, 2017 (revised).

United States Department of the Interior, National Park Service. Large Barnum Boathouse CRIS-HS Single Record Report. Houghton, Michigan: Isle Royale National Park, 2019.

United States Department of the Interior, National Park Service. Using Climate Change Scenarios to Explore Management at Isle Royale National Park - January 2013 Workshop Report. Houghton, Michigan: Isle Royale National Park, 2013.

United States Department of the Interior, National Park Service. Washington and Barnum Islands Cultural Landscape Report / Environmental Assessment - 95% Draft. Houghton, Michigan: Isle Royale National Park, 2010.

End of Section 6: Historic Property Project Summary Report

Appendix B: Small Barnum Boat House Historic Property Project Documentation

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 1: PROPOSED PROJECT INFORMATION

Instructions:

Use Section 1 to identify key staff for the HPPD development, describe the proposed project, and define the draft Area of Potential Effects (APE).

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 1, for goals and process guidance.

Project Lead (PL)	John Rosemurgy
Cultural Resource Specialist (CRS)	Seth DePasqual
Facilities Manager (FM)	
Consulting Parties	Mundus Bishop (Landscape Architecture), Anderson Hallas (Architecture), JVA (Structural Engineer), AMI (Marine Structural Engineer) Landmark Environmental (Hazardous Materials)
Stakeholders and other Participants	
Planning, Environment and Public Comment Number (PEPC)	
Project Management Information System Project Identification Number (PIMS)	333132
Project Title	Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin Historic Property Project Documentation and Climate Change Treatment Plans
Subject Matter Experts Needed	historic landscape architect, historic architect, structural engineer, marine structural engineer

Project Description and/or Project Scope of Work

Enter text here from PMIS or most developed scoping document. NPS staff should do the first pass of the project description. Include enough information to understand how the project will affect the historic property or properties. If the detail is not available the first time through, use information that is available and move forward—you may need to loop back as the need for more information is identified. List all project components that may affect historic properties. Include references to drawings, specifications, and as much detail as possible about the proposed work to be done.

The HPPD team may revisit the project description and APE as the team's understanding of the historic property or properties, character-defining features associated with historic structures and/or contributing characteristics associated with cultural landscapes, and the project's potential effects are refined.

The project description may be revised to minimize or avoid adverse effects to the historic property.

Note: If all necessary project details cannot be provided internally, professional design work may need to be contracted. If a contract is needed, attach the HPPD in whatever state of completion it is in to the scope and indicate that the contents are to be incorporated. Develop the proposed project to meet the SOI's Standards and avoid adverse effects or justify why this is not the preferred approach.

To paste into this cell, double-click.

Project Justification

Enter text here, from PMIS or most developed scoping document.

To paste into this cell, double-click.

Measurable Results

Enter text here from PMIS or most developed scoping document.

To paste into this cell, double-click.

Consequence of Failure to Act

Enter text here from PMIS or most developed scoping document.

To paste into this cell, double-click.

DRAFT Area of Potential Effects

To understand which historic properties may be affected by the proposed project, develop a DRAFT Area of Potential Effects (APE). The Area of Potential Effects (APE) as defined by NHPA 36 CFR 800.16 (d) means: "...The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." ¹

This DRAFT APE is intended to inform the HPPD and help to guide the development of the project (work/undertaking) in alignment with the SOI's Standards for the Treatment of Historic Properties to meet the NPS stewardship mandate. The FINAL APE must be developed in consultation with the SHPO/THPOs and other consulting parties and therefore may be different from the DRAFT APE; however, integration of this step in the process supports stewardship and improved consultation."²

Insert brief text describing the APE below. Upload graphic with caption-annotated plan diagram with boundary and all potentially affected historic properties identified.

To paste into this cell, double-click.

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Is your project estimated to be \$2M or more?	No
If "Yes," provide date you received IRB investment concept approval:	MM/DD/YYYY
If "No," do you have a project formulated or funded? (select one answer from dropdown)	No
If "Formulated? Yes" provide formulated fiscal year:	YYYY
If "Funded? Yes," provide date:	MM/DD/YYYY
If "No," provide "Project Park Approved" date:	MM/DD/YYYY
2. Was the Area of Potential Effects (APE) developed collaboratively by FM and CRS staff?	<select one>
If "Yes," provide date:	MM/DD/YYYY
If "No," provide today's date:	MM/DD/YYYY

3. Is the Project Description Draft or Final?	Draft
Draft Document Date:	MM/DD/YYYY
Final Document Date:	MM/DD/YYYY

4. Does the Park have any of the following reports or plans on file that need to be considered for integration in the project scope? (check all that apply)		Select Yes or No for each report or plan type below.
Accessibility Plan	No	
Climate Change Vulnerability Assessment	<select one>	
Security Assessment	<select one>	
Other	<select one>	
If "Other," please list here:		

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 1: Proposed Project Information

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 2: ADMINISTRATIVE DATA

Instructions:

Use this section to aggregate administrative data from baseline documentation for all historic structures and cultural landscapes in the draft APE.

Complete Section 2 separately for each historic structure and cultural landscape that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "2-Property CRIS ID or FMSS #."

Run customized CRIS HPPD CL and HS reports for each cultural landscape and historic structure to obtain information needed to address the gray CRIS fields. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. If the information is missing from CRIS, consult with CRS team member to gather information from other documentation on file or scope for missing information to fill in the gray fields. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Pull FMSS location and asset information for each historic property that may be affected by the project from FMSS.

The information necessary to complete this section should be available in existing data sources and should be pulled directly from the sources indicated to ensure alignment and accuracy. If the information is not on file or adequately up to date, it needs to be completed or scoped prior to proceeding with design and the formal NHPA Section 106 process.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 2, for goals and process guidance.

Park Name	Isle Royale National Park
Park Alpha Code	ISRO
FMSS Location	50984
Asset Type (e.g., 4100, 3100, etc.)	3100, 4100
Federal Real Property (FRP) Historical Status(es) <i>Select FRP status from FRP reporting work with FM.</i>	3 = National Register eligible
Proposed Use <i>Enter text from the approved investment concept workbook (for projects >2M) or PMIS (for projects <2M).</i>	Interpretation

CRIS Administrative Data

Historic Property [CRIS] Resource Name:	Small Barnum Boat House
Historic Property [CRIS Resource ID] Number:	73185
Structure ID:	Barnum Small Boat House (HS349)
Resource Type	Historic Structure
County/State	Keweenaw County
Land Tract Number(s)	02-110
Boundary Lat/Long/GeoDatum/ Position Source + Accuracy	89.232650404119 (lat), -47.8783167692801 (long); GeoDatum: N/A Position Accuracy: N/A
National Register Status(es) (from CRIS)	Eligible - SHPO Consensus Determination
National Historic Landmark (NHL) Status	No
Management Category	Should be Preserved and Maintained
Ultimate Treatment:	
The approved treatment plan identified in the park's Nonwilderness Cultural Resource Management Plan for the "historic Barnum dock and boathouse" is stabilization and interpretation (ISRO Nonwilderness Cultural Resources Management Plan 2019, 30).	
Construction Date (see Section 3 for chronology):	
1933	
Historic Use:	
Secondary Structure (Garage)	
Current Use:	
Undetermined	
Instructions:	
If the property is a cultural landscape, include the following in addition to above:	
Area (Acres)	4.5 Acres

Boundary Description	The boundary of the Isle Royale National Park includes submerged lands within the four and one-half miles of the shoreline of Isle Royale and the immediately surrounding islands (Sullivan 1944). The Barnum District, including associated features, is located on Barnum Island. The island is located in "NW 1/4 of section 11, township 63 North, Range 39 West containing 4.50 acres with improvements" (Isle Royale Property Lease 1939).
Site Plan	
Confirm CRIS report has site plan with caption/description or provide a link to another site plan source.	
See CRIS report.	

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Is your project phased?	Yes
2. Per the definition in HPPD Handbook Appendix B: Terminology, does an Approved Treatment Plan exist with enough detail to inform development of the project scope?	Yes
If "Yes," provide date of document.	MM/DD/YYYY
If "Yes," use the Approved Treatment Plan to guide development of the project scope of work.	
If "No," provide date of "no" answer.	MM/DD/YYYY
If "No," what is the source of treatment guidance for the scope of work?	
3. Does the FRP reporting number align with CRIS National Register Status?	<select one>
If "No," work with Facility Manager to update the FRP reporting so that it is the same as National Register Status in CRIS.	

4. Will the project result in complete implementation of an Approved Treatment Plan and Ultimate Treatment and Use? If project will be phased or ultimate treatment and use will be achieved over time, capture that information below.

Yes

Immediate work tasks (0–1 year):

In progress

Short-term work tasks (1–3 years):

In progress

Mid-term work tasks (3–5 years):

In progress

Long-term work tasks (5–10 years):

In progress

5. Does complete, accurate, and current CRIS data exist for each of the historic properties that the project may affect?

Yes

If "No," work with CRS to determine if adequate documentation exists or develop a scope of work to gather necessary information.

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 3: HISTORIC PROPERTIES INFORMATION

Instructions:

Use this section to identify the following for all historic structures and cultural landscapes that the project may affect:

- Relevant baseline information about historic property significance and integrity;
- Character-defining features for historic structures and contributing characteristics for cultural landscapes;
- Other documentation on file that can inform project design, an assessment of effect, and project execution.

Complete Section 3 separately for each historic property that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "3-Property CRIS ID or FMSS #."

All of the information necessary to complete this section should be available in CRIS. Run customized CRIS HPPD CL and HS reports for each cultural landscape and historic structure that may be affected by the project to obtain information for this section. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. If the information is missing from CRIS, consult with CRS team member to gather information from other documentation on file or scope for missing information to fill in the gray fields. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 3, for goals and process guidance.

CRIS Primary Historic Properties Information

Historic Property CRIS Resource Name:	Small Barnum Boat House
Historic Property CRIS Resource ID Number:	73185

Statement of Significance/Historic Property Significance Description

If known, include National Register criteria and level of significance. Some historic properties may have multiple statements of significance. Please include all that apply.

Recreation at Isle Royale dates back to 1892 when John F. Johns opened the first rustic resort. "Isle Royale had long been famous for its sublime beauty, isolation, and the unusual purity of the air, remarkably free from pollen and pollution which was the cause of so much of the distress among hay fever sufferers in the Midwest summers. These and others factors helped attract visitors to the island as early as the 1860s and eventually resulted in the development of a small but consistent tourist trade" (Little 1978, 15).

Johns, a former miner and fisherman, developed his island property to attract tourist wanting to visit the area for its healthful benefits and abundant recreational fishing. Others soon followed the moneymaking opportunity by constructing more comfortable accommodations. "The 'golden era' of tourism on Isle Royale occurred between the 1910s and 1920s, when the island was easily reached by passenger steamer, and lodging was available at a range of resort facilities, from rustic fish camps to full service hotels that offered tennis, golf, bowling, and social events" (Franks 1999, 92).

John F. Johns sold the island to Duluth millionaire George Barnum in 1902. Barnum then invited several friends to have cabins built on the island using his carpenter Ole Daniels. By the 1920s Barnum Island was a busy private summer colony (Franks 1999, 148).

The Barnum Island District landscape is associated with the resort and recreational development theme and context of Isle Royale (Franks 1999, 92). It is locally significant under criteria A - associated with events that have made a significant contribution to the broad pattern of our history and criteria C – embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic value, or represents significant and distinguishable entity whose components may lack individual distinction. Criteria A is applicable because the site is representative of one of the first of only a few private resort colonies at Isle Royale that were established between the 1880s and 1920s. Criteria C is applicable because the structures exhibit a continuity of design, materials, and workmanship and are associated with a single craftsman.

National Register Periods of Significance (With Historic Context Themes)

	Start Year/Era and End Year/Era	Historic Context Theme	Subtheme (Optional)	Facet (Optional)
1	CE 1860 - CE 1940	Creating Social Institutions and Movements	Recreation	General Recreation
2	CE 1930 - CE 1940	Transforming the Environment	Conservation of Natural Resources	Origin And Development Of The National Park Service
3				
4				
5				
6				

Chronology and Physical Description

Chronology of previous changes to the features, spaces, or materials specifically being affected by the proposed project (work/undertaking)

	Start Year or Era	End Year or Era	Major Event	Major Event Description
1	1933	1933	Built	Small Barnum Boat House, designed by George Barnum, was completed.
2				
3				
4				
5				
6				

Physical History

The following section provides information on the physical development and evolution of the historic property, organized by time period.

Enter hyperlink to existing documentation or enter text that does not exceed 5 pages.

Insert graphics and captions. Label graphics as Figure 1, 2, 3, etc. and reference them in text. Add as many as needed to reflect relevant historic conditions.

1860-1902

Development for tourism on Barnum Island can be traced back to “ca. 1892 when John F. Johns, a miner-turned-fisherman-turned resort owner opened his resort complex, referred to as ‘Johns Hotel’” (Franks 1999, 97). Previously recreation seekers would line up accommodations with fishing families in the area, but the Johns turned it into a business. The Johns family built 14 structures which included five small log cabins for tourists, a main building offering additional comforts, a barn for cows, chickens, and hogs, a dining cabin, ice house, root house, and a store-post office. Views to the lake were cleared, and a white picket fence installed to separate the live stock from the guests (Franks 1999, 97-98). “John F. Johns sold his hotel complex in 1902, leaving absolutely no place for tourists or sportsmen to stop on the west end of the island. ‘One of the noblest health and pleasure resorts in the world is lying ready for somebody to choose as the location of a summer hotel and summer cottages,’ lamented the Duluth Herald” (Franks 1999, 102).

The second wave of development on Barnum Island occurred in 1902 when George G. Barnum, millionaire grain merchant from Duluth, purchased the island for his private use. Barnum first stayed at the Johns Hotel in 1889. He admired the location enough to return to the island and prompted him to request of the Johns to build a small cabin specifically for his purposes. Barnum purchased the island and its structures in 1902 and shortly afterwards had a larger cabin constructed on the west end of the island.

Barnum invited his friends to construct cabins on the island using his carpenter from Duluth, Ole Daniels. Daniels built five structures on the island between 1903 and 1905 and in the 1920s returned to build an additional five structures (Franks 1999, 149). The frame cottages are all one story with either pyramidal flared hip roofs or low-pitched gabled-roofs with gabled dormers. Roofing material for all of the cottages is rolled asphalt and most have droplap siding with corner boards with the exception of the large boathouse which is a vertical log structure. The privies also share design uniformity, “all four associated with the Barnum Colony have gabled roofs, droplap siding with corner boards, and four-panel doors with black glass doorknobs” (Franks 1999, 149).

It was not long before Barnum Island became an active private summer colony of wealthy individuals, which was in sharp contrast to the commercial fishing community across the inlet. By 1922, however, those who had come to love the island were concerned with the preservation of the natural beauty they had come to appreciate, especially with the possibility of a pulp harvesting operation looming if business proposals were to have taken place. The result was the creation of Isle Royale National Park in 1931, which offered preservation and protection for the resources, but not so for the individual landowners. Land acquisition took many years and as a result of lawyer interaction on Barnum's behalf, he was offered a life estate for the youngest immediate family member. George Barnum, believed to have been an opponent of the park service,

Cultural Landscape Analysis and Evaluation Summary

Barnum Island retains many of the characteristics associated with private resort colony that once thrived there in the 1920 and 1930s. The Johns Hotel and double privy (National Register 1997) also contribute to the overall integrity since the buildings were present and utilized by members of the Barnum Colony. Changes that have occurred since the period of significance are mostly associated with deterioration due to neglected maintenance and or extreme climate. Vegetative cover on the island may also be denser then it was historically, when the island changed ownership from the Johns to the Barnums. The Johns had livestock which would have grazed vegetation and required a designated pasture area. Such a clearing is no longer extant. Presently visible are some cleared views and some older fallen timber, which has resulted in new clearings and piles of brush that need to be cleaned up. The Johns hotel, log cabin, and double privy are in stable condition, but will require extensive work in the future.

Features of the island that have high integrity in location, setting, feeling, materials, workmanship, association, and design include structures, circulation patterns, cluster patterns, views, land use, and small scale features. Visitors to the island experience the overall setting, feeling, and association that the Barnum Colony members once experienced.

Landscape Characteristics and Features

Buildings and Structures: Small Barnum Boat House is a single-story wooden structure built atop submerged wooden cribbing on the south shore of Barnum Island. A gable roof runs north-south with shallow overhangs. The rectangular building measures approximately 14 feet by 24 feet in plan. Small Barnum Boat House, built in 1933, retains significance associated with resort and fishing use of the island in the early 20th century.

Circulation Features: Trails include a route north to Barnum Residence, west to Large Barnum Boat House, and east to a gathering area with a fire ring and chairs. Trails contribute to the cultural landscape.

Vegetation: Small Barnum Boat House is set parallel to the shoreline of Barnum Island with native boreal coniferous vegetation to the north. The forest is primarily comprised of balsam fir, river birch, and mountain ash trees. Beard lichen drape the branches of balsam fir trees. Dominant native understory species include Canadian Bunchberry, thimbleberry, and grasses. Non-native species along the shoreline include lillies and lupines.

Table 3-1: Character-Defining Features (Contributing)

Use this table to identify character-defining features if the historic property is a historic structure or contributing features if the historic property is a cultural landscape. Create a separate table for each historic property in the APE. If the historic property is a cultural landscape, pull the FMSS Crosswalk Report for the CRIS-CL record to complete the table. The CRIS HS database does not include CDFs. If the historic property is a historic structure, pull CDF information from other documentation on file or scope for necessary information. Use HPPD Section 5 to determine information needed to inform an assessment of effect.

	Historic Property in APE Character-defining feature for historic structures or contributing landscape characteristic or feature for cultural landscapes that may be affected by the project	Associated CRIS Resource Name	Associated CRIS Resource ID	FMSS Record Type	FMSS Record Number
1	Small Barnum Boat House	Barnum Island	73185	Location	50983
2	Small Barnum Boat House Form - Sited on Lake Superior with shore-side dock; Deck wraps 3 façades; Rectangular footprint Single-story; Asymmetrical U-shaped floor plan	Barnum Island	73185	Location	50983
3	Small Barnum Boat Exterior Features - Single gable running perpendicular to shoreline; Bird wire along roof peak; Simple shallow eaves with exposed rafter tails; Barge board at gable ends; Painted channel rustic siding; Unpainted decking; Wood cribbing structure	Barnum Island	73185	Location	50983
4	Small Barnum Boat Openings - Simple butt joint casing with square profile (doors); Fold-up boat door (south façade); Salvaged/modified entry door (north façade)	Barnum Island	73185	Location	50983
5	Small Barnum Interior Features - Exposed wood structure (unpainted); U-shaped floor plan with central boat slip; Boat hoist supported on log columns; Lower flooring around boat slip	Barnum Island	73185	Location	50983
6					
7					
8					
9					
10					
11					
12				<select one>	
13				<select one>	
14				<select one>	
15				<select one>	
16				<select one>	
17				<select one>	
18				<select one>	

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Has each historic property that may be affected by the project been evaluated for listing in the National Register of Historic Places?

Yes

If "No," provide today's date:	MM/DD/YYYY
If "No," verify with CRS that DOEs for each property exist. Do not proceed with design or treatment until eligibility status is clear. Note: If any of the historic properties have not been evaluated, a Determination of Eligibility (DOE) is necessary before moving forward with design/treatment.	
If "Yes," provide date of "yes" response:	8/2/2024
If "Yes," confirm the Statement(s) of Significance is/are not out of date and that no major changes have occurred. If the Statement(s) of Significance is/are current, continue to the next question.	

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.



SECTION 4: CURRENT CONDITIONS ASSESSMENT

Instructions:

Use this section to document the current condition of each historic structure and cultural landscape that may be affected by the proposed project.

Complete Section 4 separately for each historic property that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "4-Property CRIS ID or FMSS #."

If the project scope is targeting treatment at an area that is much smaller than the overall historic property, documentation is only necessary for the parts of the property that may be affected by the project.

All of the information necessary to complete this section should be available in CRIS. Run customized CRIS HPPD reports for each cultural landscape and historic structure that may be affected by the project to obtain information for this section. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Condition assessments for HPPD must use CRIS definitions and not FMSS or other definitions.

If the information is not on file or adequately up to date, it needs to be completed prior to proceeding with design and the formal NHPA Section 106 process. Consult with CRS team member to gather information from other documentation on file or scope for missing information.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 4, for goals and process guidance.

CRIS Current Conditions Assessment

Historic Property CRIS Name: Small Barnum Boat House

Historic Property CRIS Number: 73185

Current Condition

Current Condition: Fair

Condition Date: 6/12/2024

Condition Narrative

Note changes in condition or aspects of condition that are important. Note improvements needed to achieve good condition, if relevant. For historic structures, use the condition assessment form linked to Appendix A of the HPPD Handbook.

The historic setting and building condition is impacted by erosion. Trails along the shoreline are likely contributing to accelerated erosion. Grading and resurfacing of trails is needed to achieve good condition.

The roof structure is exhibiting signs of distress, including rafter deflection and ridge sagging. Bio-growth and significant deterioration of sheathing, rafter tails, and underlying roof coverings was observed at the eaves. One barge board is missing at the north rake. At the south rake, barge boards are weathered. Roofing is wrinkled. General roof strengthening, structural corrections, removal of underlying deteriorated roof coverings, and replacement of asphalt roll roofing material are needed to achieve good condition.

Interior floor decking is typically weathered, particularly where exposure is greatest such as near the north door or along the west side of the boat slip. Select replacement in kind is needed to achieve good condition. Investigation of the northern floor structure and repair/replacement of deteriorated members is needed to achieve a good condition.

Wall cladding is in fair condition with signs of paint failure on lower segments of walls and gaps between boards. Select replacement in kind at the base of walls and repainting is needed to achieve good condition. Wall framing is in fair condition. The east wall is leaning toward the east due to inward foundation movement at the base and outward rafter thrust movement at the top. Reestablishment of a plumb condition of the east wall is needed to achieve a good condition.

Condition Photographs

Include 5–6 photos of the current condition of the historic property. These may come from a variety of sources (CRIS, NP Gallery, park files, or other) and must include one of the context, one each for the main parts of the overall property, and a couple illustrating detailed conditions. Photos should be a minimum of 4" x 6" in size.

- For a cultural landscape, this may include annotated images of the context, overall project area, and specific parts of the landscape that the project may affect.
- For a historic structure, this may include annotated images of the context of the structure (structure in its setting), one image of each structure elevation, and images of specific details that the project may affect.



Figure 1. Wrinkled asphalt roll roofing, viewed from east (source: Anderson Hallas, 2024).



Figure 2. Bio-growth and deterioration at east eave (source: Anderson Hallas, 2024).



Figure 3. Lower crib member deterioration (source: AMI, 2024).



Figure 4. Loss of rock ballast (source: AMI, 2024).



Figure 5. West elevation showing ridge sagging and wrinkled roof covering (source: JVA, 2024).



Figure 6. South wall elevation showing east wall leaning (source: JVA, 2024).

Impacts				
Note existing impacts from CRIS pick list, other documents, or field verification.				
	Type	Impact Type— Other	Narrative	Date Identified
1	Improper Drainage		Trail lacks positive drainage with stormwater contributing to erosion.	6/12/2024
2	Exposure to Elements		Exposure to weather and water contributes to deterioration of building material (e.g., perimeter and exposed ends of floor structure, floor decking, roof framing).	6/12/2024
3	Structural Deterioration		Foundation movement contributes to movement of the superstructure and impacts the condition of exterior walls.	6/12/2024
4				
5				
6				

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Have you aggregated and formatted your photos as described in this section?

Yes

If "Yes," provide date of "yes" response:

8/2/2024

If "No," provide today's date:

MM/DD/YYYY

If "No," format photos prior to moving on to the next step.

3. Are there management plans on file that contradict the stewardship directive for any of the historic properties that may be affected by the project?

No

If "Yes," identify the relevant plans on file and list the discrepancies below:

To paste into this cell, double-click.

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 4: Current Conditions Assessment



SECTION 5: POTENTIAL EFFECTS OF PROJECT SCOPE TO HISTORIC PROPERTY INTEGRITY

Instructions: Complete Section 5 for the project.

Use this section to identify the project scope's potential effects to the integrity of historic properties present in the draft Area of Potential Effect (APE). Historic properties are defined as listed or eligible for listing in the National Register of Historic Places. The HPPD is only focused on the known historic structures and cultural landscapes present within your project APE. Note that official assessment of effects per 36 CFR 800.5 includes reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (see 36 CFR 800.5 <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.5>). The final project APE may include properties or impacts that are not yet known.

The APE should include the extents of a vertical area (below grade) for archeological resources as well as any historic views to/from the historic property. Official APEs need to be determined by the NPS agency official in consultation with consulting parties.

For best results completing Section 5, ensure that the project CRS has reviewed sections 1 through 4 and confirmed that they contain enough information to proceed with Section 5 and consulting parties have been contacted for early input and notification of the planned project.

Use information from sections 1 through 4 to fill Table 5-1 for all historic properties and associated character-defining features for structures as well as contributing features for cultural landscapes that are within the proposed Area of Potential Effects (APE). NOTE: Table 5-1 should be reviewed and edited as applicable with each phase or milestone within the project development and design until an official assessment of effect can be made by qualified personnel and documented in the Planning, Environment, Public Comment (PEPC) system.

Column A. Identify the historic property using CRIS name. If CRIS name does not exist, use FMSS name and number. The historic property name will be repeated in Column A for each character-defining feature for historic structures and each contributing characteristic or feature for cultural landscapes.

Column B. Character-defining features for historic structures and contributing landscape characteristics or features for cultural landscapes that may be affected by the project. Copy information from Table 3-1 for each historic property into Table 5-1.

Column C. Identify as many of the seven aspects of integrity for the historic properties that the project could affect. Draw information from Sections 1-4 contents.

Column D. Minimally explain how the scope will or will not change character-defining features for a historic structure or contributing landscape characteristics or features for a cultural landscape. Refer to HPPD sections 1-4 and other supporting information needed (e.g., maps, survey, drawings, specifications, photographs, scope of work for project, site plan, work order).

Column E. Reference and cite the design documents that illustrate or specify the proposed changes (e.g., maps, survey, drawing number, specifications, photographs, SOW, site plan, work order). Upload or hyperlink as applicable to the Design Documents Appendix.

See the HPPD Handbook, Section 5, for goals and process guidance.

Table 5-1: Project Effects

	A	Potentially Affected Properties		Project Information	
	A	B	C	D	E
	Properties in APE CRIS Name (if CRIS name does not exist, use FMSS name and number)	Character-defining feature for historic structures or contributing landscape characteristic/feature for cultural landscapes that may be affected by the project. From Section 3: Historic Property Information, Table 3-1.	Potential Effect to Integrity Identify as many of the seven aspects of the historic properties integrity that the project could affect.	Scope of Project Explain how the proposed project will or will not change the character-defining features for structures or contributing landscape characteristics or features for cultural landscapes.	Reference Design Documents Identify documents, their locations, and page numbers or other information to help users understand the changes proposed. These may be maps, surveys, drawings, specifications, photographs, SOW, site plans, or work orders.
1	Small Barnum Boat House	Small Barnum Boat House	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
2	Small Barnum Boat House	Form - Sited on Lake Superior with shore-side dock, Deck wraps 3 façades, Rectangular footprint, Single-story, Asymmetrical U-shaped floor	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
3	Small Barnum Boat House	Exterior Features - Single gable set perpendicular to shoreline, Bird wire along roof peak, Simple shallow eaves with exposed rafter tails, Barge	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
4	Small Barnum Boat House	Openings - Simple butt joint casing with square profile (doors), Fold-up boat door (south façade), salvaged/modified entry door	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
5	Small Barnum Boat House	Interior Features - Exposed wood structure (unpainted), U-shaped floor plan with central boat slip, Boat hoist supported on log columns, Lower flooring	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.

A-48 Large Barnum Island Boat House, Small Barnum Island Boat House, and Johns Log Cabin HPPD and Treatment Plan

6	Small Barnum Boat House	Trails between cottages and to water	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
7	Small Barnum Boat House	Trail around perimeter of island	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
8	Small Barnum Boat House	Other various trails	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
9	Small Barnum Boat House	Views to Washington Island fishing community	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 3 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.

☐ Design ☐ Association
☐ Setting ☐ Feeling
☐ Location ☐ Workmanship
☐ Materials

National Historic Preservation Act (NHPA) Documentation

Consulting Parties Communication Documentation

Note dates, names, brief summary of communication with consulting parties (SHPO, THPOs, and other consulting parties) and link to meeting notes and other related documents.
 Note that if a National Historic Landmark (NHL) may be affected by the project, the NPS NHL program must be notified. To paste into this cell, double-click.

Stakeholders and other Participants in the Section 106 Process per 36 CFR 800.2

Note dates, names, brief summary of communications and link to meeting notes and other related documents. To paste into this cell, double-click.

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Were professionals meeting the applicable SOI Professional Qualifications Standards involved in completing Section 5?

Yes

If "No," work with CRS to complete Section 5.

2. At this time, is the scope of work consistent with an Approved Treatment Plan (for example: HSR, CLR, or other, as noted in Section 2 Guidance Questions for Best Practices and defined in the HPPD Handbook Appendix B: Terminology) or does it meet the SOI Standards for the recommended treatment as documented by the Management Category in Section 2 of this HPPD?

Yes

2a. If "Yes," provide date of "yes" response and proceed to question 3.

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2b. If "No," can the project scope/design details be revised, taking into account technical and economical feasibility, to avoid adverse effects to historic properties within the APE?

<select one>

If response to 2b is "Yes," revise scope/design to avoid or minimize details that do not meet the SOI's Standards, taking into account technical and economical feasibility to avoid adverse effects to historic properties within the APE and update HPPD sections 1 and 5.

If response to 2b is "No," include a statement of justification that explains why the chosen treatment was selected and document minimization of adverse effects on the integrity of the historic property and proceed to question 3.
 Refer to 36 CFR 800.11 for documentation standards for statements of justification of adverse effect.

Enter justification or hyperlink to attachments. To paste into this cell, double-click.

3. Has the CRS determined that information necessary to begin formal Section 106 review process is contained in HPPD sections 1 through 5?

<select one>

If "Yes," formally initiate the Section 106 process and proceed through project development and execution continuum.

If "No," and considering the responses above, use the space below to identify additional information needed or next steps to formally initiate Section 106 review process.

To paste into this cell, double-click.

END OF SECTION 5: Potential Effects of Project Scope to Historic Property Integrity



SECTION 6: HISTORIC PROPERTY PROJECT SUMMARY REPORT

Instructions:

Use this section to prepare a summary report with information about actual work completed during the construction phase.

The intention of Section 6 is to create a "before and after" summary report documenting critical information and noting major discoveries and treatment decisions made during construction. The focus should be on capturing and highlighting important project execution information that is not included or primary in other project documentation close out procedures.

This section creates a starting point for planning future documentation, maintenance, or preservation projects that affect the same property.

See the HPPD Handbook, Section 6, for goals and process guidance.

If the project construction work is executed by park personnel, they should use this section to document work during and after construction.

If the project construction work is executed by a support center (for example HPTC or OCLP), work with the project manager to complete this section during and after construction.

If the project construction work is executed by a contractor, use information from the contracting officer representative's and/or construction manager representative's status reports or other construction close-out documents to complete this section.

Project Administration

PMIS Number	333132
Project Title (as it appears in Funded PMIS entry and/or on the Final Construction Documents)	Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin Historic Property Project Documentation and Climate Change Treatment Plans

Project Compliance

PEPC Number	333132
Final NHPA Assessment of Effect (from PEPC entry)	<select one>
Final NEPA Pathway: (from PEPC entry)	<select one>

Construction Documentation

Construction Contract Number	Provide hyperlink. To paste into this cell, double-click.
Construction Contract Award Date	Provide hyperlink. To paste into this cell, double-click.
Project Agreement Title, Number and Date Signed	Provide hyperlink. To paste into this cell, double-click.
Notice to Proceed Date	Provide hyperlink. To paste into this cell, double-click.
Construction Period of Performance Completion Date	
Construction Documents	Provide hyperlink to documents. To paste into this cell, double-click.
Were there any construction modifications?	<select one>
If "Yes," provide hyperlink.	Provide hyperlink. To paste into this cell, double-click.
Key Project Personnel. PM, COR, CMR, Contractor, or Center/Group	
Project Manager (PM):	
COR:	
CMR:	
Contractor or Center or Group completing work:	
Other (indicate role):	

Post-Construction Documentation

As-Built Drawings	Provide hyperlink. To paste into this cell, double-click.
Operations and Maintenance Manuals	Provide hyperlink. To paste into this cell, double-click.
Vendors List	Provide hyperlink or list here. To paste into this cell, double-click.
Product Data Sheets	Provide hyperlink. To paste into this cell, double-click.

Project Description

Executive Summary:

To paste into this cell, double-click.
Project Narrative:
To paste into this cell, double-click.
Photographic Documentation (Attach or link minimum of six photographs with descriptions. Add additional pages as necessary.)
<i>Link or insert photograph here.</i>
Figure 1. <i>Replace this text with a written description of photograph. To paste into this cell, double-click.</i>
<i>Link or insert photograph here.</i>
Figure 2. <i>Replace this text with a written description of photograph. To paste into this cell, double-click.</i>

Insert photograph here.

Figure 3. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 4. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 5. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Insert photograph here.

Figure 6. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 7. Replace this text with a written description of photograph. To paste into this cell, double-click.

Table 6-1: Affected Historic Property Conditions

Use this table to record pre- and post-treatment conditions of the character-defining features for historic structures and contributing characteristics/features for cultural landscapes, identified in Table 5-1 of Section 5. Note change to the CDF from a stewardship level and include photograph or brief description in the documentation.

Duplicate rows to add as many as necessary to address all character-defining (contributing) aspects and features.

Historic Property in APE CRIS Name (from Section 5: Historic Property Information Table 5-1)	Character-Defining Feature for historic structures or contributing landscape characteristic/feature for cultural landscapes (from Section 5: Historic Property Information Table 5-1)	Pre-Treatment Condition (good, fair, poor)	Post-Treatment Condition (good, fair, poor)
1 Small Barnum Boat House	Small Barnum Boat House	<select one>	<select one>
2 Small Barnum Boat House	Form - Sited on Lake Superior with shore-side dock, Deck wraps 2 facades. Rectangular footprint. Single story.	<select one>	<select one>
3 Small Barnum Boat House	Exterior Features - Single gable set perpendicular to shoreline. Bird wire along roof peak. Simple shallow eaves.	<select one>	<select one>
4 Small Barnum Boat House	Openings - Simple butt joint casing with square profile (doors). Fold up boat door (south facade).	<select one>	<select one>
5 Small Barnum Boat House	Interior Features - Exposed wood structure (unpainted), U-shaped floor plan with central boat slip. Boat hoist.	<select one>	<select one>
6 Small Barnum Boat House	Trails between cottages and to water	<select one>	<select one>
7 Small Barnum Boat House	Trail around perimeter of island	<select one>	<select one>
8 Small Barnum Boat House	Other various trails	<select one>	<select one>
9 Small Barnum Boat House	Views to Washington Island fishing community	<select one>	<select one>
10 #REF!	#REF!	<select one>	<select one>
11 #REF!	#REF!	<select one>	<select one>
12 #REF!	#REF!	<select one>	<select one>
13 #REF!	#REF!	<select one>	<select one>
14 #REF!	#REF!	<select one>	<select one>
15 #REF!	#REF!	<select one>	<select one>
16 #REF!	#REF!	<select one>	<select one>
17 #REF!	#REF!	<select one>	<select one>
18 #REF!	#REF!	<select one>	<select one>

Closeout Questions

1. Has a PMIS Component Status Report or Project Completion Report been completed?	No
If "Yes," provide date of completion:	MM/DD/YYYY
2. Did this project achieve ultimate treatment and use per HSR/CLR or other approved resource management document?	<select one>
If "Yes," work with FM to create cyclic maintenance plan for ongoing preservation maintenance. If "No," pursue planning for further repair/rehabilitation treatments. (Refer to Section 2, Question 4, and other strategic plans to pursue planning for further repair and rehabilitation treatments.)	
3. Did construction/treatment alter National Register listing status?	<select one>
4. Who completed Table 6-1 (initials and NPS position)?	Initials Position MM/DD/YYYY

Bibliography

Cite documents referenced and those valuable for future reference related to the historic property.

United States Department of the Interior, National Park Service. Barnum Island CRIS-HS Single Record Report. Houghton, Michigan: Isle Royale National Park, 2017 (revised).

United States Department of the Interior, National Park Service. Large Barnum Boathouse CRIS-HS Single Record Report. Houghton, Michigan: Isle Royale National Park, 2019.

United States Department of the Interior, National Park Service. Using Climate Change Scenarios to Explore Management at Isle Royale National Park - January 2013 Workshop Report. Houghton, Michigan: Isle Royale National Park, 2013.

United States Department of the Interior, National Park Service. Washington and Barnum Islands Cultural Landscape Report / Environmental Assessment - 95% Draft. Houghton, Michigan: Isle Royale National Park, 2010.

End of Section 6: Historic Property Project Summary Report

Appendix C: Johns Log Cabin Historic Property Project Documentation

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 1: PROPOSED PROJECT INFORMATION

Instructions:

Use Section 1 to identify key staff for the HPPD development, describe the proposed project, and define the draft Area of Potential Effects (APE).

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 1, for goals and process guidance.

Project Lead (PL)	John Rosemurgy
Cultural Resource Specialist (CRS)	Seth DePasqual
Facilities Manager (FM)	
Consulting Parties	Mundus Bishop (Landscape Architecture), Anderson Hallas (Architecture), JVA (Structural Engineer), AMI (Marine Structural Engineer) Landmark Environmental (Hazardous Materials)
Stakeholders and other Participants	
Planning, Environment and Public Comment Number (PEPC)	
Project Management Information System Project Identification Number (PIMS)	333132
Project Title	Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin Historic Property Project Documentation and Climate Change Treatment Plans
Subject Matter Experts Needed	historic landscape architect, historic architect, structural engineer, marine structural engineer

Project Description and/or Project Scope of Work

Enter text here from PMIS or most developed scoping document. NPS staff should do the first pass of the project description. Include enough information to understand how the project will affect the historic property or properties. If the detail is not available the first time through, use information that is available and move forward—you may need to loop back as the need for more information is identified. List all project components that may affect historic properties. Include references to drawings, specifications, and as much detail as possible about the proposed work to be done.

The HPPD team may revisit the project description and APE as the team's understanding of the historic property or properties, character-defining features associated with historic structures and/or contributing characteristics associated with cultural landscapes, and the project's potential effects are refined.

The project description may be revised to minimize or avoid adverse effects to the historic property.

Note: If all necessary project details cannot be provided internally, professional design work may need to be contracted. If a contract is needed, attach the HPPD in whatever state of completion it is in to the scope and indicate that the contents are to be incorporated. Develop the proposed project to meet the SOI's Standards and avoid adverse effects or justify why this is not the preferred approach.

To paste into this cell, double-click.

Project Justification

Enter text here, from PMIS or most developed scoping document.

To paste into this cell, double-click.

Measurable Results

Enter text here from PMIS or most developed scoping document.

To paste into this cell, double-click.

Consequence of Failure to Act

Enter text here from PMIS or most developed scoping document.

To paste into this cell, double-click.

DRAFT Area of Potential Effects

To understand which historic properties may be affected by the proposed project, develop a DRAFT Area of Potential Effects (APE). The Area of Potential Effects (APE) as defined by NHPA 36 CFR 800.16 (d) means: "...The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." ¹

This DRAFT APE is intended to inform the HPPD and help to guide the development of the project (work/undertaking) in alignment with the SOI's Standards for the Treatment of Historic Properties to meet the NPS stewardship mandate. The FINAL APE must be developed in consultation with the SHPO/THPOs and other consulting parties and therefore may be different from the DRAFT APE; however, integration of this step in the process supports stewardship and improved consultation." ²

Insert brief text describing the APE below. Upload graphic with caption-annotated plan diagram with boundary and all potentially affected historic properties identified.

To paste into this cell, double-click.

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Is your project estimated to be \$2M or more?	No
If "Yes," provide date you received IRB investment concept approval:	MM/DD/YYYY
If "No," do you have a project formulated or funded? (select one answer from dropdown)	No
If "Formulated? Yes" provide formulated fiscal year:	YYYY
If "Funded? Yes," provide date:	MM/DD/YYYY
If "No," provide "Project Park Approved" date:	MM/DD/YYYY
2. Was the Area of Potential Effects (APE) developed collaboratively by FM and CRS staff?	<select one>
If "Yes," provide date:	MM/DD/YYYY
If "No," provide today's date:	MM/DD/YYYY

3. Is the Project Description Draft or Final?	Draft
Draft Document Date:	MM/DD/YYYY
Final Document Date:	MM/DD/YYYY

4. Does the Park have any of the following reports or plans on file that need to be considered for integration in the project scope? Select Yes or No for each report or plan type below. (check all that apply)	
Accessibility Plan	No
Climate Change Vulnerability Assessment	<select one>
Security Assessment	<select one>
Other	<select one>
If "Other," please list here:	

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 1: Proposed Project Information

4/1/2025

Historic Property Project Documentation (HPPD)



SECTION 2: ADMINISTRATIVE DATA

Instructions:

Use this section to aggregate administrative data from baseline documentation for all historic structures and cultural landscapes in the draft APE.

Complete Section 2 separately for each historic structure and cultural landscape that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "2-Property CRIS ID or FMSS #."

Run customized CRIS HPPD CL and HS reports for each cultural landscape and historic structure to obtain information needed to address the gray CRIS fields. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. If the information is missing from CRIS, consult with CRS team member to gather information from other documentation on file or scope for missing information to fill in the gray fields. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Pull FMSS location and asset information for each historic property that may be affected by the project from FMSS.

The information necessary to complete this section should be available in existing data sources and should be pulled directly from the sources indicated to ensure alignment and accuracy. If the information is not on file or adequately up to date, it needs to be completed or scoped prior to proceeding with design and the formal NHPA Section 106 process.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 2, for goals and process guidance.

Park Name	Isle Royale National Park
Park Alpha Code	ISRO
FMSS Location	50984
Asset Type (e.g., 4100, 3100, etc.)	3100, 4100
Federal Real Property (FRP) Historical Status(es) <i>Select FRP status from FRP reporting work with FM.</i>	3 = National Register eligible
Proposed Use <i>Enter text from the approved investment concept workbook (for projects >2M) or PMIS (for projects <2M).</i>	Interpretation

CRIS Administrative Data

Historic Property [CRIS] Resource Name:	Johns Log Cabin
Historic Property [CRIS Resource ID] Number:	73179
Structure ID:	Johns Log Cabin (HS343)
Resource Type	Historic Structure
County/State	Keweenaw County
Land Tract Number(s)	02-110
Boundary Lat/Long/GeoDatum/ Position Source + Accuracy	89.232650404119 (lat), -47.8783167692801 (long); GeoDatum: N/A Position Accuracy: N/A
National Register Status(es) (from CRIS)	Eligible - SHPO Consensus Determination
National Historic Landmark (NHL) Status	No
Management Category	Should be Preserved and Maintained
Ultimate Treatment:	
The approved treatment plan identified in the park's Nonwilderness Cultural Resource Management Plan for the "Johns Cabin" is restoration and interpretation (ISRO Nonwilderness Cultural Resources Management Plan 2019, 57).	
Construction Date (see Section 3 for chronology):	
1892	
Historic Use:	
Lodge (Inn, Cabin)	
Current Use:	
Undetermined	
Instructions:	
If the property is a cultural landscape, include the following in addition to above:	
Area (Acres)	4.5 Acres

Boundary Description	The boundary of the Isle Royale National Park includes submerged lands within the four and one-half miles of the shoreline of Isle Royale and the immediately surrounding islands (Sullivan 1944). The Barnum District, including associated features, is located on Barnum Island. The island is located in "NW 1/4 of section 11, township 63 North, Range 39 West containing 4.50 acres with improvements" (Isle Royale Property Lease 1939).
Site Plan	
Confirm CRIS report has site plan with caption/description or provide a link to another site plan source.	
See CRIS report.	

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Is your project phased?	Yes
2. Per the definition in HPPD Handbook Appendix B: Terminology, does an Approved Treatment Plan exist with enough detail to inform development of the project scope?	Yes
If "Yes," provide date of document.	MM/DD/YYYY
If "Yes," use the Approved Treatment Plan to guide development of the project scope of work.	
If "No," provide date of "no" answer.	MM/DD/YYYY
If "No," what is the source of treatment guidance for the scope of work?	
3. Does the FRP reporting number align with CRIS National Register Status?	<select one>
If "No," work with Facility Manager to update the FRP reporting so that it is the same as National Register Status in CRIS.	

4. Will the project result in complete implementation of an Approved Treatment Plan and Ultimate Treatment and Use? If project will be phased or ultimate treatment and use will be achieved over time, capture that information below.

Yes

Immediate work tasks (0–1 year):

In progress

Short-term work tasks (1–3 years):

In progress

Mid-term work tasks (3–5 years):

In progress

Long-term work tasks (5–10 years):

In progress

5. Does complete, accurate, and current CRIS data exist for each of the historic properties that the project may affect?

Yes

If "No," work with CRS to determine if adequate documentation exists or develop a scope of work to gather necessary information.

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.



SECTION 3: HISTORIC PROPERTIES INFORMATION

Instructions:

Use this section to identify the following for all historic structures and cultural landscapes that the project may affect:

- Relevant baseline information about historic property significance and integrity;
- Character-defining features for historic structures and contributing characteristics for cultural landscapes;
- Other documentation on file that can inform project design, an assessment of effect, and project execution.

Complete Section 3 separately for each historic property that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "3-Property CRIS ID or FMSS #."

All of the information necessary to complete this section should be available in CRIS. Run customized CRIS HPPD CL and HS reports for each cultural landscape and historic structure that may be affected by the project to obtain information for this section. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. If the information is missing from CRIS, consult with CRS team member to gather information from other documentation on file or scope for missing information to fill in the gray fields. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 3, for goals and process guidance.

CRIS Primary Historic Properties Information

Historic Property CRIS Resource Name:	Johns Log Cabin
Historic Property CRIS Resource ID Number:	73179

Statement of Significance/Historic Property Significance Description

If known, include National Register criteria and level of significance. Some historic properties may have multiple statements of significance. Please include all that apply.

Recreation at Isle Royale dates back to 1892 when John F. Johns opened the first rustic resort. "Isle Royale had long been famous for its sublime beauty, isolation, and the unusual purity of the air, remarkably free from pollen and pollution which was the cause of so much of the distress among hay fever sufferers in the Midwest summers. These and others factors helped attract visitors to the island as early as the 1860s and eventually resulted in the development of a small but consistent tourist trade" (Little 1978, 15).

Johns, a former miner and fisherman, developed his island property to attract tourist wanting to visit the area for its healthful benefits and abundant recreational fishing. Others soon followed the moneymaking opportunity by constructing more comfortable accommodations. "The 'golden era' of tourism on Isle Royale occurred between the 1910s and 1920s, when the island was easily reached by passenger steamer, and lodging was available at a range of resort facilities, from rustic fish camps to full service hotels that offered tennis, golf, bowling, and social events" (Franks 1999, 92).

John F. Johns sold the island to Duluth millionaire George Barnum in 1902. Barnum then invited several friends to have cabins built on the island using his carpenter Ole Daniels. By the 1920s Barnum Island was a busy private summer colony (Franks 1999, 148).

The Barnum Island District landscape is associated with the resort and recreational development theme and context of Isle Royale (Franks 1999, 92). It is locally significant under criteria A - associated with events that have made a significant contribution to the broad pattern of our history and criteria C – embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic value, or represents significant and distinguishable entity whose components may lack individual distinction. Criteria A is applicable because the site is representative of one of the first of only a few private resort colonies at Isle Royale that were established between the 1880s and 1920s. Criteria C is applicable because the structures exhibit a continuity of design, materials, and workmanship and are associated with a single craftsman.

National Register Periods of Significance (With Historic Context Themes)

	Start Year/Era and End Year/Era	Historic Context Theme	Subtheme (Optional)	Facet (Optional)
1	CE 1860 - CE 1940	Creating Social Institutions and Movements	Recreation	General Recreation
2	CE 1930 - CE 1940	Transforming the Environment	Conservation of Natural Resources	Origin And Development Of The National Park Service
3				
4				
5				
6				

Chronology and Physical Description				
Chronology of previous changes to the features, spaces, or materials specifically being affected by the proposed project (work/undertaking)				
	Start Year or Era	End Year or Era	Major Event	Major Event Description
1	1892	1892	Built	Johns Log Cabin, a secondary residence designed by John F. Johns, was completed.
2				
3				
4				
5				
6				

Physical History
The following section provides information on the physical development and evolution of the historic property, organized by time period. Enter hyperlink to existing documentation or enter text that does not exceed 5 pages. Insert graphics and captions. Label graphics as Figure 1, 2, 3, etc. and reference them in text. Add as many as needed to reflect relevant historic conditions.
1860-1902 Development for tourism on Barnum Island can be traced back to “ca. 1892 when John F. Johns, a miner-turned-fisherman-turned resort owner opened his resort complex, referred to as ‘Johns Hotel’” (Franks 1999, 97). Previously recreation seekers would line up accommodations with fishing families in the area, but the Johns turned it into a business. The Johns family built 14 structures which included five small log cabins for tourists, a main building offering additional comforts, a barn for cows, chickens, and hogs, a dining cabin, ice house, root house, and a store-post office. Views to the lake were cleared, and a white picket fence installed to separate the live stock from the guests (Franks 1999, 97-98). “John F. Johns sold his hotel complex in 1902, leaving absolutely no place for tourists or sportsmen to stop on the west end of the island. ‘One of the noblest health and pleasure resorts in the world is lying ready for somebody to choose as the location of a summer hotel and summer cottages,’ lamented the Duluth Herald” (Franks 1999, 102). The second wave of development on Barnum Island occurred in 1902 when George G. Barnum, millionaire grain merchant from Duluth, purchased the island for his private use. Barnum first stayed at the Johns Hotel in 1889. He admired the location enough to return to the island and prompted him to request of the Johns to build a small cabin specifically for his purposes. Barnum purchased the island and its structures in 1902 and shortly afterwards had a larger cabin constructed on the west end of the island. Barnum invited his friends to construct cabins on the island using his carpenter from Duluth, Ole Daniels. Daniels built five structures on the island between 1903 and 1905 and in the 1920s returned to build an additional five structures (Franks 1999, 149). The frame cottages are all one story with either pyramidal flared hip roofs or low-pitched gabled-roofs with gabled dormers. Roofing material for all of the cottages is rolled asphalt and most have droplap siding with corner boards with the exception of the large boathouse which is a vertical log structure. The privies also share design uniformity, “all four associated with the Barnum Colony have gabled roofs, droplap siding with corner boards, and four-panel doors with black glass doorknobs” (Franks 1999, 149).

Cultural Landscape Analysis and Evaluation Summary

Barnum Island retains many of the characteristics associated with private resort colony that once thrived there in the 1920 and 1930s. The Johns Hotel and double privy (National Register 1997) also contribute to the overall integrity since the buildings were present and utilized by members of the Barnum Colony. Changes that have occurred since the period of significance are mostly associated with deterioration due to neglected maintenance and or extreme climate. Vegetative cover on the island may also be denser then it was historically, when the island changed ownership from the Johns to the Barnums. The Johns had livestock which would have grazed vegetation and required a designated pasture area. Such a clearing is no longer extant. Presently visible are some cleared views and some older fallen timber, which has resulted in new clearings and piles of brush that need to be cleaned up. The Johns hotel, log cabin, and double privy are in stable condition, but will require extensive work in the future.

Features of the island that have high integrity in location, setting, feeling, materials, workmanship, association, and design include structures, circulation patterns, cluster patterns, views, land use, and small scale features. Visitors to the island experience the overall setting, feeling, and association that the Barnum Colony members once experienced.

Landscape Characteristics and Features

Buildings and Structures: Johns Log Cabin is a simple two-story log cabin with a 12-foot square footprint and gable roof. Each floor consists of a single room with a connecting stair in the northeast corner. Johns Log Cabin, the last remaining cottage associated with Johns Hotel, contributes to the Johns Hotel National Register listing.

Small Scale Features: Small scale features are primarily associated with ongoing preservation of historic structures on Barnum Island. Building material is stored to the south, east, and west of the cabin. Benches and a fire ring to the east of the cabin, documented by the Barnum Island Cultural Landscape Inventory (revised October 2017), were removed or are in areas of successional vegetation and could not be located. Stone remains along the trail to the east of Johns Log Cabin and may indicate the location of a fire ring or ornamental plantings. All are non-contributing.

Circulation Features: Mown trails include a route east to the site of the non-extant Dining Room and eastern shore of Barnum Island and south to Johns Hotel, Double Privy, E. Andrew's Cottage, and dock. Trails contribute to the cultural landscape.

Vegetation: Johns Log Cabin is set in a small clearing surrounded by boreal forest with areas of successional vegetation to the west and south east. The forest is primarily comprised of balsam fir, river birch, and mountain ash trees. Beard lichen drape the branches of balsam fir trees. Dominant native understory species include Canadian Bunchberry and grasses.

Table 3-1: Character-Defining Features (Contributing)

Use this table to identify character-defining features if the historic property is a historic structure or contributing features if the historic property is a cultural landscape. Create a separate table for each historic property in the APE. If the historic property is a cultural landscape, pull the FMSS Crosswalk Report for the CRIS-CL record to complete the table. The CRIS HS database does not include CDFs. If the historic property is a historic structure, pull CDF information from other documentation on file or scope for necessary information. Use HPPD Section 5 to determine information needed to inform an assessment of effect.

	Historic Property in APE Character-defining feature for historic structures or contributing landscape characteristic or feature for cultural landscapes that may be affected by the project	Associated CRIS Resource Name	Associated CRIS Resource ID	FMSS Record Type	FMSS Record Number
1	Johns Log Cabin	Barnum Island	73185	Location	50983
2	Johns Log Cabin Form - Log construction; Two-story square plan; Sited in grassy clearing	Barnum Island	73185	Location	50983
3	Johns Log Cabin Exterior Features - Simple gable roof; Simple eaves without gutters; Tapered exposed rafter tails; Soffits only at gable ends; Saddle notch log joins at corners; Second-floor framing ends expressed at exterior; Shingles at gable ends	Barnum Island	73185	Location	50983
4	Johns Log Cabin Openings - Simple butt joint casing with square profile; All openings located on gable-end façades Battered wood entry door (south façade); Operable multi-lite windows on first and second floors	Barnum Island	73185	Location	50983
5	Johns Log Cabin Interior Features - Exposed wood structure (unpainted); Exposed interior face of log walls with wood strip fill and daubing; Single-room floors	Barnum Island	73185	Location	50983
6					
7					
8					
9					
10					
11					
12				<select one>	
13				<select one>	
14				<select one>	
15				<select one>	
16				<select one>	
17				<select one>	
18				<select one>	

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Has each historic property that may be affected by the project been evaluated for listing in the National Register of Historic Places?

Yes



SECTION 4: CURRENT CONDITIONS ASSESSMENT

Instructions:

Use this section to document the current condition of each historic structure and cultural landscape that may be affected by the proposed project.

Complete Section 4 separately for each historic property that may be affected by the project. Duplicate this sheet, one for each property. If more than one historic property is involved, rename each sheet using an approach that works for your team. For example, each sheet could be named using this approach: "4-Property CRIS ID or FMSS #."

If the project scope is targeting treatment at an area that is much smaller than the overall historic property, documentation is only necessary for the parts of the property that may be affected by the project.

All of the information necessary to complete this section should be available in CRIS. Run customized CRIS HPPD reports for each cultural landscape and historic structure that may be affected by the project to obtain information for this section. Content in the CRIS HPPD reports is organized by HPPD section to support cross-referencing of required information. Depending on your HPPD team preference, the CRIS HPPD reports can be organized and attached by section or in another way that works best for you. Note that CRIS HS (historic structure) and CRIS CL (cultural landscape) are two different databases created in different ways and containing different information. Use CRIS HS HPPD report for historic structures and CRIS CL HPPD report for cultural landscapes.

Condition assessments for HPPD must use CRIS definitions and not FMSS or other definitions.

If the information is not on file or adequately up to date, it needs to be completed prior to proceeding with design and the formal NHPA Section 106 process. Consult with CRS team member to gather information from other documentation on file or scope for missing information.

Additional guidance is included in notes that are identified by a red tag in the upper right corner of cells. To see the contents, hover over the tag.

See the HPPD Handbook, Section 4, for goals and process guidance.

CRIS Current Conditions Assessment

Historic Property CRIS Name:	Johns Log Cabin
Historic Property CRIS Number:	73179

Current Condition

Current Condition	Fair
Condition Date	6/12/2024

Condition Narrative

Note changes in condition or aspects of condition that are important. Note improvements needed to achieve good condition, if relevant. For historic structures, use the condition assessment form linked to Appendix A of the HPPD Handbook.

Stormwater south of Johns Log Cabin flows to a low point along the south facade of the cabin. Swales are needed to establish positive drainage away from the building and achieve good condition.

Log walls are in poor condition with deteriorated logs and loose or missing wood strip fill and daubing. Extensive bio-growth was observed on the north and west façades. Log deterioration, consolidation, and settlement likely contribute to settlement of the building toward the northeast. Replacement of deteriorated logs is required to achieve good condition.

The foundation is in poor condition. The wood structure in direct contact with soil which can harbor moisture against the structure and facilitate the spread of decay fungi and insect colonization within wood members. Due to decay and soil movement, the structure has settled toward the northeast. A new reinforced concrete foundation is required to achieve good condition.

Upper floor framing is deflecting significantly and does not support attic storage or residential live loads. Floor framing members are exposed on the exterior of the building and exhibit signs of deterioration.

Fascia boards are deteriorated or missing at both gables.

Roofing is in poor condition. Newer asphalt roll roofing has been providing over the existing covering on the east slope; however, older roofing, which hosts bio-growth, remains on the west slope. Unsupported roof covering at the eaves is torn. Replacement of roofing material is needed to achieve good condition.

Roof framing is in fair condition. Members are marginally overstressed with code-required snow loads. Sistering rafters with members of matching depth is required to achieve good condition.

Condition Photographs

Include 5–6 photos of the current condition of the historic property. These may come from a variety of sources (CRIS, NP Gallery, park files, or other) and must include one of the context, one each for the main parts of the overall property, and a couple illustrating detailed conditions. Photos should be a minimum of 4”x 6” in size.

- For a cultural landscape, this may include annotated images of the context, overall project area, and specific parts of the landscape that the project may affect.
- For a historic structure, this may include annotated images of the context of the structure (structure in its setting), one image of each structure elevation, and images of specific details that the project may affect.



Figure 1. Low point along the south façade of Johns Log Cabin (source: Mundus Bishop, 2024).



Figure 2. Deterioration at north façade (source: Anderson Hallas, 2024).



Figure 3. Lower logs in contact with soil, and no foundation (source: JVA, 2024).



Figure 4. Soffit and missing barge board unsupported and roof covering excessively overhanging sheathing on the north rake (source: Anderson Hallas, 2024).



Figure 5. Distortion and roofing in poor condition at east façade (source: Anderson Hallas, 2024).



Figure 6. Distortion and roofing in poor condition at west façade (source: Anderson Hallas, 2024).

Impacts

Note existing impacts from CRIS pick list, other documents, or field verification.

	Type	Impact Type— Other	Narrative	Date Identified
1	Vegetation/Invasive Plants		Mature trees in close proximity to Johns Log Cabin are at risk of becoming hazard trees.	6/12/2024
2	Improper Drainage		Stormwater south of Johns Log Cabin flows to a low point near the south façade of the cabin and contributes to erosion and deterioration of building material.	6/12/2024
3	Structural Deterioration		The absence of a conventional foundation places the wood structure in direct contact with soil which can harbor moisture against the structure and facilitate the spread of decay fungi and insect colonization within wood members. Due to decay and soil movement, the structure has settled toward the northeast.	6/12/2024
4				
5				
6				

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Have you aggregated and formatted your photos as described in this section?	Yes
If "Yes," provide date of "yes" response:	8/2/2024
If "No," provide today's date:	MM/DD/YYYY
If "No," format photos prior to moving on to the next step.	

3. Are there management plans on file that contradict the stewardship directive for any of the historic properties that may be affected by the project?

No

If "Yes," identify the relevant plans on file and list the discrepancies below:

To paste into this cell, double-click.

Next Steps: Work with CRS/FM and use this space to identify next steps and additional information needed or to track information for future reference.

To paste into this cell, double-click.

End of Section 4: Current Conditions Assessment



SECTION 5: POTENTIAL EFFECTS OF PROJECT SCOPE TO HISTORIC PROPERTY INTEGRITY

Instructions: Complete Section 5 for the project.

Use this section to identify the project scope's potential effects to the integrity of historic properties present in the draft Area of Potential Effect (APE). Historic properties are defined as listed or eligible for listing in the National Register of Historic Places. The HPPD is only focused on the known historic structures and cultural landscapes present within your project APE. Note that official assessment of effects per 36 CFR 800.5 includes reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative (see 36 CFR 800.5 <https://www.ecfr.gov/current/title-36/chapter-VIII/part-800/subpart-B/section-800.5>). The final project APE may include properties or impacts that are not yet known.

The APE should include the extents of a vertical area (below grade) for archeological resources as well as any historic views to/from the historic property. Official APEs need to be determined by the NPS agency official in consultation with consulting parties.

For best results completing Section 5, ensure that the project CRS has reviewed sections 1 through 4 and confirmed that they contain enough information to proceed with Section 5 and consulting parties have been contacted for early input and notification of the planned project.

Use information from sections 1 through 4 to fill Table 5-1 for all historic properties and associated character-defining features for structures as well as contributing features for cultural landscapes that are within the proposed Area of Potential Effects (APE). NOTE: Table 5-1 should be reviewed and edited as applicable with each phase or milestone within the project development and design until an official assessment of effect can be made by qualified personnel and documented in the Planning, Environment, Public Comment (PEPC) system.

Column A. Identify the historic property using CRIS name. If CRIS name does not exist, use FMSS name and number. The historic property name will be repeated in Column A for each character-defining feature for historic structures and each contributing characteristic or feature for cultural landscapes.

Column B. Character-defining features for historic structures and contributing landscape characteristics or features for cultural landscapes that may be affected by the project. Copy information from Table 3-1 for each historic property into Table 5-1.

Column C. Identify as many of the seven aspects of integrity for the historic properties that the project could affect. Draw information from Sections 1-4 contents.

Column D. Minimally explain how the scope will or will not change character-defining features for a historic structure or contributing landscape characteristics or features for a cultural landscape. Refer to HPPD sections 1-4 and other supporting information needed (e.g., maps, survey, drawings, specifications, photographs, scope of work for project, site plan, work order).

Column E. Reference and cite the design documents that illustrate or specify the proposed changes (e.g., maps, survey, drawing number, specifications, photographs, SOW, site plan, work order). Upload or hyperlink as applicable to the Design Documents Appendix.

See the HPPD Handbook, Section 5, for goals and process guidance.

Table 5-1: Project Effects

	A	Potentially Affected Properties		Project Information	
	A	B	C	D	E
	Properties in APE CRIS Name (if CRIS name does not exist, use FMSS name and number)	Character-defining feature for historic structures or contributing landscape characteristic/feature for cultural landscapes that may be affected by the project. From Section 3: Historic Property Information, Table 3-1.	Potential Effect to Integrity Identify as many of the seven aspects of the historic properties integrity that the project could affect.	Scope of Project Explain how the proposed project will or will not change the character-defining features for structures or contributing landscape characteristics or features for cultural landscapes.	Reference Design Documents Identify documents, their locations, and page numbers or other information to help users understand the changes proposed. These may be maps, surveys, drawings, specifications, photographs, SOW, site plans, or work orders.
1	Johns Log Cabin	Johns Log Cabin	☐ Design ☐ Setting ☒ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	Relocation has potential effect to the integrity of location.	Reference Chapter 4 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
2	Johns Log Cabin	Form - Log construction, Two-story square plan, Sited in grassy clearing	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 4 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
3	Johns Log Cabin	Exterior Features - Simple gable roof (ends facing Lake Superior and Johns Hotel), Simple eaves without gutters, Tapered exposed rafter tails, Soffits only at gable ends, Saddle notch log joints at corners, Second-floor framing ends expressed at exterior, Shingles at gable ends	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 4 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.
4	Johns Log Cabin	Openings - Simple butt joint casing with square profile, All openings located on gable-end façades, Battened wood entry door (south façade), Operable	☐ Design ☐ Setting ☐ Location ☐ Materials ☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	Reference Chapter 4 of Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin HPPD and Climate Change Treatment Plan.

A-74 Large Barnum Island Boat House, Small Barnum Island Boat House, and Johns Log Cabin HPPD and Treatment Plan

5	Johns Log Cabin	Interior Features - Exposed wood structure (unpainted), Exposed interior face of log walls with wood strip fill and daubing, Single-room floors,	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	No potential effect to the integrity of character-defining feature.
6	Johns Log Cabin	Trails between cottages and to water	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	No potential effect to the integrity of character-defining feature.
7	Johns Log Cabin	Views from north end of island	☐ Design ☐ Setting ☐ Location ☐ Materials	☐ Association ☐ Feeling ☐ Workmanship	No potential effect to the integrity of character-defining feature.	No potential effect to the integrity of character-defining feature.

☐ Design ☐ Association
☐ Setting ☐ Feeling
☐ Location ☐ Workmanship
☐ Materials

National Historic Preservation Act (NHPA) Documentation

Consulting Parties Communication Documentation

Note dates, names, brief summary of communication with consulting parties (SHPO, THPOs, and other consulting parties) and link to meeting notes and other related documents.
 Note that if a National Historic Landmark (NHL) may be affected by the project, the NPS NHL program must be notified. To paste into this cell, double-click.

Stakeholders and other Participants in the Section 106 Process per 36 CFR 800.2

Note dates, names, brief summary of communications and link to meeting notes and other related documents. To paste into this cell, double-click.

Guidance Questions for Best Practices

Instructions: Answer the following questions with the most current information on hand.

1. Were professionals meeting the applicable SOI Professional Qualifications Standards involved in completing Section 5?	Yes
If "No," work with CRS to complete Section 5.	
2. At this time, is the scope of work consistent with an Approved Treatment Plan (for example: HSR, CLR, or other, as noted in Section 2 Guidance Questions for Best Practices and defined in the HPPD Handbook Appendix B: Terminology) or does it meet the SOI Standards for the recommended treatment as documented by the Management Category in Section 2 of this HPPD?	Yes
2a. If "Yes," provide date of "yes" response and proceed to question 3.	1/28/2025
2b. If "No," can the project scope/design details be revised, taking into account technical and economical feasibility, to avoid adverse effects to historic properties within the APE?	<select one>
If response to 2b is "Yes," revise scope/design to avoid or minimize details that do not meet the SOI's Standards, taking into account technical and economical feasibility to avoid adverse effects to historic properties within the APE and update HPPD sections 1 and 5.	
If response to 2b is "No," include a statement of justification that explains why the chosen treatment was selected and document minimization of adverse effects on the integrity of the historic property and proceed to question 3. Refer to 36 CFR 800.11 for documentation standards for statements of justification of adverse effect.	
Enter justification or hyperlink to attachments. To paste into this cell, double-click.	
3. Has the CRS determined that information necessary to begin formal Section 106 review process is contained in HPPD sections 1 through 5?	<select one>
If "Yes," formally initiate the Section 106 process and proceed through project development and execution continuum.	
If "No," and considering the responses above, use the space below to identify additional information needed or next steps to formally initiate Section 106 review process.	

To paste into this cell, double-click.

END OF SECTION 5: Potential Effects of Project Scope to Historic Property Integrity



SECTION 6: HISTORIC PROPERTY PROJECT SUMMARY REPORT

Instructions:

Use this section to prepare a summary report with information about actual work completed during the construction phase.

The intention of Section 6 is to create a "before and after" summary report documenting critical information and noting major discoveries and treatment decisions made during construction. The focus should be on capturing and highlighting important project execution information that is not included or primary in other project documentation close out procedures.

This section creates a starting point for planning future documentation, maintenance, or preservation projects that affect the same property.

See the HPPD Handbook, Section 6, for goals and process guidance.

If the project construction work is executed by park personnel, they should use this section to document work during and after construction.

If the project construction work is executed by a support center (for example HPTC or OCLP), work with the project manager to complete this section during and after construction.

If the project construction work is executed by a contractor, use information from the contracting officer representative's and/or construction manager representative's status reports or other construction close-out documents to complete this section.

Project Administration

PMIS Number	333132
Project Title (as it appears in Funded PMIS entry and/or on the Final Construction Documents)	Large Barnum Boat House, Small Barnum Boat House, and Johns Log Cabin Historic Property Project Documentation and Climate Change Treatment Plans

Project Compliance

PEPC Number	333132
Final NHPA Assessment of Effect (from PEPC entry)	<select one>
Final NEPA Pathway: (from PEPC entry)	<select one>

Construction Documentation

Construction Contract Number	Provide hyperlink. To paste into this cell, double-click.
Construction Contract Award Date	Provide hyperlink. To paste into this cell, double-click.
Project Agreement Title, Number and Date Signed	Provide hyperlink. To paste into this cell, double-click.
Notice to Proceed Date	Provide hyperlink. To paste into this cell, double-click.
Construction Period of Performance Completion Date	
Construction Documents	Provide hyperlink to documents. To paste into this cell, double-click.
Were there any construction modifications?	<select one>
If "Yes," provide hyperlink.	Provide hyperlink. To paste into this cell, double-click.
Key Project Personnel. PM, COR, CMR, Contractor, or Center/Group	
Project Manager (PM):	
COR:	
CMR:	
Contractor or Center or Group completing work:	
Other (indicate role):	

Post-Construction Documentation

As-Built Drawings	Provide hyperlink. To paste into this cell, double-click.
Operations and Maintenance Manuals	Provide hyperlink. To paste into this cell, double-click.
Vendors List	Provide hyperlink or list here. To paste into this cell, double-click.
Product Data Sheets	Provide hyperlink. To paste into this cell, double-click.

Project Description

Executive Summary:

To paste into this cell, double-click.

Project Narrative:

To paste into this cell, double-click.

Photographic Documentation
(Attach or link minimum of six photographs with descriptions. Add additional pages as necessary.)

Link or insert photograph here.

Figure 1. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 2. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Insert photograph here.

Figure 3. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 4. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 5. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Insert photograph here.

Figure 6. *Replace this text with a written description of photograph. To paste into this cell, double-click.*

Link or insert photograph here.

Figure 7. Replace this text with a written description of photograph. To paste into this cell, double-click.

Table 6-1: Affected Historic Property Conditions

Use this table to record pre- and post-treatment conditions of the character-defining features for historic structures and contributing characteristics/features for cultural landscapes, identified in Table 5-1 of Section 5. Note change to the CDF from a stewardship level and include photograph or brief description in the documentation.

Duplicate rows to add as many as necessary to address all character-defining (contributing) aspects and features.

Historic Property in APE CRIS Name (from Section 5: Historic Property Information Table 5-1)	Character-Defining Feature for historic structures or contributing landscape characteristic/feature for cultural landscapes (from Section 5: Historic Property Information Table 5-1)	Pre-Treatment Condition (good, fair, poor)	Post-Treatment Condition (good, fair, poor)
1 Johns Log Cabin	Johns Log Cabin	<select one>	<select one>
2 Johns Log Cabin	Form - Log construction, Two-story square plan, Sited in grassy clearing	<select one>	<select one>
3 Johns Log Cabin	Exterior Features - Simple gable roof (ends facing Lake Superior and Johns Hotel). Simple eaves without gutters.	<select one>	<select one>
4 Johns Log Cabin	Openings - Simple butt joint casing with square profile. All openings located on gable end facades. Battened wood	<select one>	<select one>
5 Johns Log Cabin	Interior Features - Exposed wood structure (unpainted), Exposed interior face of log walls with wood strip fill and	<select one>	<select one>
6 Johns Log Cabin	Trails between cottages and to water	<select one>	<select one>
7 Johns Log Cabin	Views from north end of island	<select one>	<select one>
8 #REF!	#REF!	<select one>	<select one>
9 #REF!	#REF!	<select one>	<select one>
10 #REF!	#REF!	<select one>	<select one>
11 #REF!	#REF!	<select one>	<select one>
12 #REF!	#REF!	<select one>	<select one>
13 #REF!	#REF!	<select one>	<select one>
14 #REF!	#REF!	<select one>	<select one>
15 #REF!	#REF!	<select one>	<select one>
16 #REF!	#REF!	<select one>	<select one>
17 #REF!	#REF!	<select one>	<select one>
18 #REF!	#REF!	<select one>	<select one>

Closeout Questions

1. Has a PMIS Component Status Report or Project Completion Report been completed?	No
If "Yes," provide date of completion:	MM/DD/YYYY
2. Did this project achieve ultimate treatment and use per HSR/CLR or other approved resource management document?	<select one>
If "Yes," work with FM to create cyclic maintenance plan for ongoing preservation maintenance. If "No," pursue planning for further repair/rehabilitation treatments. (Refer to Section 2, Question 4, and other strategic plans to pursue planning for further repair and rehabilitation treatments.)	
3. Did construction/treatment alter National Register listing status?	<select one>
4. Who completed Table 6-1 (initials and NPS position)?	Initials Position MM/DD/YYYY

Bibliography

Cite documents referenced and those valuable for future reference related to the historic property.

United States Department of the Interior, National Park Service. Barnum Island CRIS-HS Single Record Report. Houghton, Michigan: Isle Royale National Park, 2017 (revised).

United States Department of the Interior, National Park Service. Large Barnum Boathouse CRIS-HS Single Record Report. Houghton, Michigan: Isle Royale National Park, 2019.

United States Department of the Interior, National Park Service. Using Climate Change Scenarios to Explore Management at Isle Royale National Park - January 2013 Workshop Report. Houghton, Michigan: Isle Royale National Park, 2013.

United States Department of the Interior, National Park Service. Washington and Barnum Islands Cultural Landscape Report / Environmental Assessment - 95% Draft. Houghton, Michigan: Isle Royale National Park, 2010.

End of Section 6: Historic Property Project Summary Report

Appendix D: Bibliography

Reports

Birnbaum, Charles A. and Christine Capella Peters. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Washington, DC: U.S. Department of the Interior, National Park Service, 1996.

Eggleston, Jenifer, Jennifer Parker, and Jennifer Wellock. *The Secretary of the Interior's Standards for Rehabilitation & Guidelines on Flood Adaptation for Rehabilitating Historic Buildings*. Washington, DC: U.S. Department of the Interior, National Park Service, 2021.

Melnick, Robert Z., Noah P. Kerr, Veronica Malinay, and Olivia Burry-Trice. *Climate Change and Cultural Landscapes: A Guide to Research, Planning, and Stewardship*. Eugene, Oregon: Cultural Landscape Research Group, University of Oregon, 2017.

Rockman, Marcy, Marissa Morgan, Sonya Ziaja, George Hambrecht, and Alison Meadow. 2016. *Cultural Resources Climate Change Strategy*. Washington, DC: Cultural Resources, Partnerships, and Science and Climate Change Response Program, National Park Service, 2017.

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Appendix E: Treatment Terminology

The following terminology is used in this report to describe recommended actions.¹

Consider is to routinely evaluate if a treatment action can be undertaken. Budget constraints and long-term maintenance may result in delayed treatment action. As circumstances change, the treatment action should be reevaluated and eventually completed.

Design intent refers to the creative objectives that were applied to the development of a historic property.

Introduce is the addition of a new, nonhistoric feature compatible with the cultural landscape. This may also include the replacement of a missing historic feature.

In-kind refers to the replacement of features extensively deteriorated or missing parts of features using materials that match the historic detail, configuration, and appearance as closely as possible.

Maintain refers to measures that sustain the form, integrity and materials of contributing features, either on a regular basis or as a nonrecurring event.

Preserve refers to those measures necessary to sustain the existing form, integrity, and materials of contributing features. It includes initial stabilization work, where necessary, as well as ongoing preservation maintenance and repair of historic materials and features.

Protect refers to actions to safeguard a historic feature by defending or guarding it against further deterioration or loss. Such action is generally of temporary nature and anticipates future preservation treatment.

Reconstruct refers to the act or process of depicting, by means of new work, the form, features, and detailing of a non-surviving historic structure or any part thereof, for the purpose of replicating its appearance at a specific time in its original location.

Rehabilitate refers to the act or process of allowing a compatible use through repair, alteration, or additions as long as those features that convey the historical, cultural, or architectural values are preserved.

Repair refers to those measures that are necessary to correct deteriorated, damaged, or faulty materials of features. These measures are more extensive than regular maintenance and undertake work necessary to bring a contributing feature or area to good condition.

Restore refers to those measures necessary to accurately depict the form, features, and character of a property as it appeared during a particular period of time by means of the removal of features from other periods in history and reconstruction of missing features from the restoration period.

Retain are those actions that are necessary to allow a feature (contributing or noncontributing) to remain in place in its current configuration and condition.

Stabilize refers to those measures that require more work than standard maintenance practices, and that are necessary to prevent the further deterioration, failure, or loss of contributing features.

¹ Adapted from The Secretary of the Interior's Standards for the Treatment of Historic Properties as amended and annotated, 1995 and <http://www.nps.gov/dscw/definitions.htm>.

Appendix F: Condition and Maintenance Deficiency Rating Summary

Site investigations completed in June 2024 documented the existing condition of the study area. Existing condition and maintenance deficiency priority ratings are evaluated using the following criteria. This criteria is based on the NPS Facilities Management Software System (FMSS) and the Facility Condition Assessment Survey.

Qualitative Condition Ratings

- **Good**—Features of that do not require treatment or features where minor or routine maintenance is sufficient to maintain current condition.
- **Fair**—Some deterioration, decline, or damage is noticeable and may require more routine maintenance. If intervention is deferred, the feature will require extensive attention in a few years.
- **Poor**—Deterioration, decline, or damage is serious; the feature is seriously deteriorated, damaged, or presents a hazardous condition. Due to the level of deterioration, damage, or danger, the feature requires extensive and immediate attention.

Maintenance Deficiency Priority Ratings

Minor (Long-Term Priority)

- This rating indicates standard preventative maintenance priorities and preservation methods have not been followed; or
- There is reduced life expectancy of affected adjacent or related materials and/or systems within five to ten years and beyond; or
- There is condition with a long-term impact within five to ten years and beyond.

Serious (Short Term Priority)

- This rating defines a deteriorated condition that if not corrected within one to five years will result in the failure of the feature; or

- A threat to the health and/or safety of the user may occur within one to five years if the ongoing deterioration is not corrected; or
- There is ongoing deterioration of adjacent or related materials and/or features as a result of the feature's deficiency.

Critical (Immediate Priority)

- This rating defines an advanced state of deterioration which has resulted in the failure of a feature or will result in the failure of a feature if not corrected within one year; or
- There is accelerated deterioration of adjacent or related materials or systems as a result of the feature's deficiencies if not corrected within one year; or
- There is immediate threat to the health and/or safety of the user; or
- There is failure to meet a legislated requirement.

Not Rated (NR)

- The feature was not rated as it was not extant at the time of the report or is noncontributing, removed, and not planned to be replaced.

Table 1-1. Site Condition Summary (organized by Uniform II Outline Data)

Category	Topic	Subtopic	Condition Rating	Deficiency Rating
G	Building Sitework			
	G1030	Site Earthwork - Drainage	Poor	Critical
G20	Site Improvements			
	G2030	Pedestrian Access	Fair	Minor
	G2040	Site Development	Fair	Minor
	G2050	Landscaping	Fair	Minor

Table 1-2. Large Barnum Boat House (organized by Uniform II Outline Data)

Category	Topic	Subtopic	Condition Rating	Deficiency Rating
A	Substructure			
A10	Foundations			
	A1020	Special Foundations	Fair	Critical
B	Shell			
B10	Superstructure			
	B1010	Floor Construction	Fair	Serious
	B1020	Roof Construction	Poor	Critical
B20	Exterior Enclosure			
	B2010	Exterior Walls	Fair to Poor	Serious
	B2010	Exterior Walls - Trim and Millwork	Fair	Minor
	B2020	Exterior Windows	Fair	Minor
	B2030	Exterior Doors	Fair	Serious
B30	Roofing			
	B3010	Roof Coverings	Poor	Critical
C	Interior Finishes			
C10	Interior Finishes			
	C3020	Floor Finishes	Fair and Poor	Serious

Table 1-3. Small Barnum Boat House (organized by Uniform II Outline Data)

Category	Topic	Subtopic	Condition Rating	Deficiency Rating
A	Substructure			
A10	Foundations			
	A1020	Special Foundations	Fair	Critical
B	Shell			
B10	Superstructure			
	B1010	Floor Construction	Fair to Good	Minor
	B1020	Roof Construction	Poor	Critical
B20	Exterior Enclosure			
	B2010	Exterior Walls	Fair	Serious
	B2010	Exterior Walls - Trim and Millwork	Fair	Serious
	B2020	Exterior Windows	Good to Fair	Minor
	B2030	Exterior Doors	Good and Poor	Serious
B30	Roofing			
	B3010	Roof Coverings	Fair to Poor	Critical
C	Interior Finishes			
C10	Interior Finishes			
	C3010	Wall Finishes	Fair	Minor
	C3020	Floor Finishes	Fair	Minor
	C3030	Ceiling Finishes	Good	Minor

Table 1-4. Johns Log Cabin (organized by Uniform II Outline Data)

Category	Topic	Subtopic	Condition Rating	Deficiency Rating
A	Interiors			
	A10	Standard Foundation	Poor	Critical
B	Shell			
B10	Superstructure			
	B1010	Floor Construction	Fair to Poor	Serious
	B1020	Roof Construction	Fair	Serious
B20	Exterior Enclosure			
	B2010	Exterior Walls	Poor	Critical
	B2010	Exterior Walls - Trim and Millwork	Poor to Fair	Minor
	B2020	Exterior Windows	Fair	Serious
	B2030	Exterior Doors	Fair	Serious
B30	Roofing			
	B3010	Roof Coverings	Poor	Critical
C	Interior Finishes			
C10	Interior Finishes			
	C3020	Floor Finishes	Poor to Fair	Minor

Appendix G: Treatment Workshop Notes



Barnum Island HPPD and Climate Change Treatment Plan

Treatment Workshop Notes

Meeting Date: October 2, 2024

Distribution Date: October 15, 2024

Attendees: Liz Valencia, ISRO Seth DePasqual, ISRO John Rosemurgy, MWRO Marla McEnaney, MWRO Dena Sanford, MWRO Bill Johns, VIP Cindy Johns, VIP Patrick Johns, VIP Sean Johns, VIP Tom Johns, VIP Jeff Sivertson, VIP Aaron Strom, VIP	Kelly Ream, Mundus Bishop Allison Craven-Lyons, Mundus Bishop Liz Hallas, Anderson Hallas Laine McLaughlin, Anderson Hallas Noel Michel, Anderson Hallas Elizabeth Vergillo, Anderson Hallas Matthew Dinsmore, JVA Consulting Engineers Jason Jeffries, JVA Consulting Engineers Chase Dewhirst, AMI Consulting Engineers
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Attachments: Treatment Workshop Presentation

ITEMS AND ACTIONS

1. Project Purpose and Workshop Goals (Action items by responsible party noted in the left column)

	Project Purpose • Provide updated cultural resource documentation • Provide updated treatment plans with stabilization recommendations • Consider climate change impacts and identify resources vulnerable to potential impacts Treatment Workshop Goals • Share key findings presented in the 90% draft report • Identify a preferred treatment approach to improve physical condition for future use, to respond to climate change, and to protect character-defining/ contributing features. • Discuss character-defining/contributing features
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2. Existing Condition (Action items by responsible party noted in the left column)

	The consultant team summarized key findings to provide the group with a common baseline understanding of existing conditions to inform the treatment discussion. Detailed information on existing conditions is included in the 90% draft report. This summary of existing conditions is included in the attached presentation.
--	---

3. Future Use and Accessibility (Action items by responsible party noted in the left column)

	The consultant team, park, region, and VIPs discuss future use and accessibility to inform the treatment. • Small Barnum Boat House Future Use—Use will remain the same with the potential for higher visitor use. • Large Barnum Boat House—Use will remain the same with the potential for higher visitor use and display of historic boats and other historic features. The 2019 Cultural Resources Management Plan identifies the building's future as interpretation. • Johns Log Cabin—The 2019 Cultural Resources Management Plan identifies the building's future as interpretive exhibits. This does not include visitor access to the second floor. • Accessibility—Barrier-free access was determined to not be a treatment consideration due to the remote location, terrain, and potential impact on the historical significance of the structure and cultural landscape. Future visitation to the island may increase (light to intermediate visitation numbers). This plan should include a recommendation to consider the feasibility of providing accessible routes with future improvements to provide visitor access (i.e., public boat dock).
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4. Climate Trends, Vulnerabilities, and Impacts (Action items by responsible party noted in the left column)

	Treatment guidance provided in this report will support the future use for buildings and address impacts related to climate change. This includes the following. • Storm Events (wind and precipitation) • Variable Temperature and Humidity • Flooding and Erosion • Water Levels • Vegetation • Wildfires
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5. Draft Treatment Goals (Action items by responsible party noted in the left column)

	The park, region, and VIPs confirmed the following treatment goals. • Ensure all future work complies with SOI guidelines, including Flood Adaptation for Rehabilitating Historic Buildings, Climate Change, and Cultural Landscapes, and NPS Cultural Resources Climate Change Strategy • Incorporate climate vulnerability information into future planning, design, and
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	improvement • Allow change to occur. Prioritize actions that will preserve and increase climate resiliency of extant contributing features and character-defining features • Balance resiliency and reduction of vulnerability to climate-related hazards with economic and technical feasibility while minimizing the impacts on the historic character of the buildings and cultural landscape • Select adaptive treatments that minimize impacts to historic character and appearance
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Small Barnum Boat House Treatment Discussion (Action items by responsible party noted in the left column)

The NPS will engage SHPO in roof material review/discussion.	The park, region, and VIPs confirmed a “rehabilitation lite” treatment approach for Small Barnum Boat House. The following actions and guidance were identified. • Vegetation management will be minimal (e.g., prune/remove hazard trees to prevent damage to building) • Provide a boardwalk connection between the boathouses. • Provide rip rap for shoreline protection. Ensure rip rap provides shoreline protection while minimizing impacts to the historic setting (rounded rock may be less of a visual impact than angular rock). • Add additional stone to crib (instead of full replacement of crib structure). • Repair/replace deteriorated floor members and rework irregular framing at northeast corner. • Stabilize and strengthen walls for lateral stability. • Replace deteriorated exterior walls in-kind, prep, and repaint. • Rehabilitate windows. • Rehabilitate doors and ensure they are operable • Straighten the sagging ridge of the roof. Strengthen roof framing system for gravity and lateral loads. • Remove and replace roofing in-kind, provide flashing, and repair impacted fascia. • Consider metal (i.e., Bermuda panel roofing) or another roofing material with a longer life span that maintains the horizontal character of roll roofing material and is more durable.¹ Recommendations for Future Study • Coastal analysis to evaluate water levels and elevation of boat house to make the structure more resilient to fluctuating water levels.
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¹ NPS Preservation Brief 16 guides the use of substitute materials when historic materials require replacement (i.e., replacement of asphalt roll roofing with metal roofing).



Large Barnum Boat House Treatment Discussion (Action items by responsible party noted in the left column)

The NPS will engage SHPO in roof material review/discussion.	The park, region, and VIPs confirmed a rehabilitation treatment approach for Large Barnum Boat House. The following actions and guidance were identified. • Vegetation management will be minimal (e.g., prune/remove hazard trees to prevent damage to building) • Provide a boardwalk connection between the boathouses. • Provide rip rap for shoreline protection. Ensure rip rap provides shoreline protection while minimizing impacts to the historic setting (rounded rock may be less of a visual impact than angular rock). • Replace crib structures on the north side. • Replace deteriorated wood decking in kind. • Rework floor framing in conjunction with foundation work. • Stabilize and strengthen walls for lateral stability. • Consider an alternative detail at the base of exterior walls for protection. • Rehabilitate windows. • Rehabilitate doors and hardware. • Straighten the sagging ridge of the roof. Strengthen the roof framing system for gravity and lateral loads. • Consider metal (i.e., Bermuda panel roofing) or another roofing material with a longer life span that maintains the horizontal character of roll roofing material and is more durable. Recommendations for Future Study • Coastal analysis to evaluate water levels and elevation of boat house to make the structure more resilient to fluctuating water levels.
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6. Johns Log Cabin Treatment Discussion (Action items by responsible party noted in the left column)

The NPS will engage SHPO in roof material review/discussion.	The park, region, and VIPs confirmed an approach to reconstruct Johns Log Cabin at a location less susceptible to shoreline erosion. The following actions and guidance were identified. • Reconstruct Johns Log Cabin south of the eroding shoreline. Ensure the location is not susceptible to erosion and maintain historic relationships between Johns Log Cabin, Johns Hotel, and Washington Harbor. • Provide positive drainage away from the cabin. • Provide a 10' wildfire buffer and prune/remove hazard trees to prevent damage to the building. • Provide a pier foundation (consider stone or treated block). • Provide a full-length replacement of deteriorated logs and new daubing. • Rehabilitate windows. • Repair/replace deteriorated roof members and provide lateral strengthening. • Remove the existing roof, provide a new roof covering with flashing, and repair/replace the fascia. • Consider metal (i.e., Bermuda panel roofing) or another roofing material with a longer life span that maintains the horizontal character of roll roofing material and is more durable. • Maintain stair as an interpretive element. Restrict public access to the first floor. • Ensure the relocation and reconstruction of Johns Log Cabin preserves the historic integrity of the building and cultural landscape. Recommendations for Future Study • Coastal analysis to determine the distance required to move Johns Log Cabin to protect the building from shoreline erosion.
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7. New Steps (Action items by responsible party noted in the left column)

	<table> <tr> <td>Nov 15, 2024</td><td>Submit 95% Draft to NPS</td></tr> <tr> <td>Dec 15, 2024</td><td>NPS Submit Comments to Consultant Team</td></tr> <tr> <td>Jan 29, 2025</td><td>Submit 100% Draft to NPS</td></tr> <tr> <td>Feb 28, 2025</td><td>NPS Submit Comments to Consultant Team</td></tr> <tr> <td>Mar 21, 2025</td><td>Signature Copy to NPS</td></tr> <tr> <td>May 2, 2025</td><td>Final Report to NPS</td></tr> </table>	Nov 15, 2024	Submit 95% Draft to NPS	Dec 15, 2024	NPS Submit Comments to Consultant Team	Jan 29, 2025	Submit 100% Draft to NPS	Feb 28, 2025	NPS Submit Comments to Consultant Team	Mar 21, 2025	Signature Copy to NPS	May 2, 2025	Final Report to NPS
Nov 15, 2024	Submit 95% Draft to NPS												
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Jan 29, 2025	Submit 100% Draft to NPS												
Feb 28, 2025	NPS Submit Comments to Consultant Team												
Mar 21, 2025	Signature Copy to NPS												
May 2, 2025	Final Report to NPS												

Appendix H: Class C Cost Estimate

Basis of Estimate and Cost Summary - Project Information

Park Management Information System (PMIS) Number:	Park Acronym:	ISRO
	Park Name:	Isle Royale National Park
	Project Title:	Large Barnum Boat House Condition Assessment and Treatment
	Design Phase:	333132A
	State:	Conditions Assessment and Treatment
	County work location:	Michigan
	Database Name:	Keweenaw County
	Database Year:	ACC Proprietary Database
	Estimate Type:	2025
	Current Estimate Date:	Class C/A Estimate
	Construction Start Date:	3/4/2025
	Project Period of Performance (Months):	7/15/2026
	Architect/Engineer (A/E) Company:	8
	Estimating Company:	Mundus Bishop
	Estimator Name:	ACC Cost Estimating
Project Description (Scope of Work):	Estimate Reviewed By:	Todd Slater
	Estimate Reviewed Date:	Seth Pszczolkowski
	Estimator Phone:	3/4/2025
		503-718-0075
		This HPPD Treatment Plan presents a comprehensive planning tool to guide management and improvement of three historic structures—Small Barnum Boat House, Large Barnum Boat House, and Johns Log Cabin—and their cultural landscapes on Barnum Island. The document updates existing cultural resource documentation and supplements treatment guidance by providing stabilization recommendations for these structures and sites in response to climate change impacts.
	Estimate Assumptions:	- Production rates assumed slow for NPS and very remote work. - Barging of materials assumed to originate from Superior, WI. - Of the 8 Month period of performance this portion of the contract is assumed to account for 3 months for purposes of calculating GC's.
	Source of Cost Data:	ACC Proprietary Database - 2025 ACC maintains a cost database dedicated to NPS projects. Pricing is derived from current market conditions through continuous contact with materials suppliers, NPS contractors, and local non-NPS contractors. The database is able to adjust for local labor rates and productivity factors. ACC uses input from separate mechanical and electrical estimators as well.
	Schedule Clarification:	The construction season on Isle Royale is limited to mid May through Mid September (five months). The contract period of performance will include 1.5 months on front end for project planning and 1.5 months at the end for closeout. An eight-month contract period of performance expected.
	Other Clarifications or Exclusions:	- None
	Documentation:	- Communication with local sales reps was conducted for specific materials pricing as warranted, to either update existing or include materials not priced.
	Standard Clarifications:	• This estimate is the NET Construction costs of the project which includes direct cost of construction, location factor, remoteness factor, federal wage rate factor, historic preservation factor, design contingency, permitting, contracting method of procurement, testing, general conditions, bonds, permits and contractor overhead, profit, & escalation. • This estimate does NOT include Gross costs which Includes Construction Contingency and NPS Construction management. • This estimate does NOT include the Total costs of compliance, predesign, design, and supplemental services.

Project Specific Markups & Tax Allocations

Tax Allocations

- After verifying with the local tax jurisdictions and NPS tax requirements, enter **X** in fields which require project taxes. This will populate the appropriate taxes throughout the estimate.

Material	Labor	Equipment	Other
X			

Project Specific Markups

- **Refer to Cost Estimating Requirements Handbook > Chapter 4 Estimate Markups for guidance on this section.**
- This chart shows how markups are applied at different phases of design.
- Add required markups in column **C** and specific descriptions in column **D**. These entries will populate throughout the estimate.
- Re-evaluate markups at each phase of design as details develop and added to the estimate. Adjust percentage as appropriate in individual CLINs.
- **If no X is shown in a field, costs previously applied in the percentage need to be fully applied within the direct costs, either as actual activities or increases to individual unit costs and a 0% shown in the markups.**

Markups	Percent %	Description <i>Overwrite instructions to provide detailed description for each markup and how it was determined.</i>	Class C Conceptual	Class C Schematic	Class B Design Development	Class A Construction Documents
A	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.	X	X	X	
B	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/Transport Costs.	X	X	X	
C	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.	X	X	X	
D	5.50%	Sales Tax applied to 40% of Other Cost.	X	X	X	
E	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources	X	X	X	
F	20.00%	This ranges based on ASTM E2516 Expected Accuracy Range/Tolerance for design contingency and estimator's best professional judgement based on phase of design, complexity, and size of project.	X	X	X	X
TOTAL DIRECT CONSTRUCTION COSTS						
G	11.49%	(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project, based on previous park projects. This is elevated due to assumed duration and staffing requirements.	X	X		
H	5.00%	(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1. Specifications for guidance.)	X	X		
I	1.00%	(Approximate Range 1% to 3%) Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.	X	X	X	
J	1.00%	(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.	X	X	X	
SUBTOTAL NET CONSTRUCTION COST						
K	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.	X	X	X	X
L	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.	X	X	X	X
M	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.	X	X	X	X
ESTIMATED NET CONSTRUCTION COST						
N	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.	X	X	X	X
O	3.55%	Aggregate Rate - Use 4% for 2025-2026	X	X	X	X
CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months): 20						

Summary NET Cost Schedule

Park Acronym: ISRO

Park Name: Isle Royale National Park

Project Title: Large Barnum Boat House Condition Assessment and Treatment

Park Management Information System (PMIS) Number: 333132A

Current Estimate Date: 3/4/2025

- Estimator to start estimate by completing gray cells with initial project information and CLIN titles per line item designated by NPS for the project.
- Information added on this worksheet will populated the rest of the template.
- Click on the CLIN number to route to corresponding CLIN worksheet/tab.

Contract Line Item Number (CLIN) & Option Number	Contract Line Item Title	Quantity	Unit of Measure	Unit Price	Total Price
CLIN 1	Large Barnum Boat House	3,125	Square Feet (SF)	764	\$2,388,142.68
TOTAL BASE PRICE (CLIN 1):					\$2,388,142.68
Option 1	Cedar Shingle Roof - Preservative Treated	1	Lump Sum (LS)	16,213	\$16,212.97
Option 2	Cedar Shingle Roof - Fire Rated	1	Lump Sum (LS)	102,828	\$102,828.20
TOTAL PRICE FOR ALL OPTIONS (Options 1 to 2):					\$119,041.17
TOTAL PROPOSED PRICE - BASE PLUS ALL OPTIONS (CLIN 1 + Options 1 to 2):					\$2,507,183.85

CLIN NET Cost Summary

Project Title: Large Barnum Boat House Condition Assessment and Treatment
Park Name: Isle Royale National Park

Park Management Information System (PMIS) Number: 333132A
Park Acronym: JSRO

Bid Item Number	Bid Item Description	Overall Quantity	Unit of Measure	Total Material Cost	Total Labor Cost	Total Equipment Cost	Total Other Cost	Total Direct Construction Costs	Total Markups	NET Bid Item Total	NET Bid Item Unit Cost
CLIN 1	Large Barnum Boat House	3,125	Square Feet (SF)	\$ 189,165	\$ 362,872	\$ 21,053	\$ -	\$ 573,091	\$ 1,815,052	\$ 2,388,143	\$ 764
			Total CLIN Items:	\$ 189,165	\$ 362,872	\$ 21,053	\$ -	\$ 573,091	\$ 1,815,052	\$ 2,388,143	
Option 1	Cedar Shingle Roof - Preservative Treated	1	Lump Sum (LS)	\$ 1,554	\$ 2,331	\$ -	\$ -	\$ 3,885	\$ 12,328	\$ 16,213	\$ 16,213
Option 2	Cedar Shingle Roof - Fire Rated	1	Lump Sum (LS)	\$ 9,856	\$ 14,784	\$ -	\$ -	\$ 24,640	\$ 78,188	\$ 102,828	\$ 102,828
	Total Option Items:			\$ 11,410	\$ 17,115	\$ -	\$ -	\$ 28,525	\$ 90,516	\$ 119,041	
Total Base and Option Costs:										\$ 2,507,184	

Total Cost Summary

• Use this worksheet/tab for overall cost verification and historical cost collection only.

TOTAL PROJECT COSTS WITH ALL CLIN'S & OPTIONS				
All division costs include both CLIN and Option dollars.				
Total Project Overall Quantity:		3,125	SF	
MasterFormat Identification (ID)	Activity Name	Budgeted Total Cost	Unit Cost	Unit
Division 1	0100.0000 TOTAL GENERAL REQUIREMENTS	\$0	\$0.00	SF
Division 2	0200.0000 TOTAL EXISTING CONDITIONS	\$968,344	\$309.88	SF
Division 3	0300.0000 TOTAL CONCRETE	\$0	\$0.00	SF
Division 4	0400.0000 TOTAL MASONRY	\$0	\$0.00	SF
Division 5	0500.0000 TOTAL METALS	\$0	\$0.00	SF
Division 6	0600.0000 TOTAL WOOD, PLASTIC, & COMPOSITES	\$991,908	\$317.42	SF
Division 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	\$372,663	\$119.26	SF
Division 8	0800.0000 TOTAL OPENINGS	\$56,921	\$18.22	SF
Division 9	0900.0000 TOTAL FINISHES	\$0	\$0.00	SF
Division 10	1000.0000 TOTAL SPECIALTIES	\$0	\$0.00	SF
Division 11	1100.0000 TOTAL EQUIPMENT	\$0	\$0.00	SF
Division 12	1200.0000 TOTAL FURNISHINGS	\$0	\$0.00	SF
Division 13	1300.0000 TOTAL SPECIAL CONSTRUCTION	\$0	\$0.00	SF
Division 14	1400.0000 TOTAL CONVEYING EQUIPMENT	\$0	\$0.00	SF
Division 21	2100.0000 TOTAL FIRE SUPPRESSION	\$0	\$0.00	SF
Division 22	2200.0000 TOTAL PLUMBING	\$0	\$0.00	SF
Division 23	2300.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	\$0	\$0.00	SF
Division 26	2600.0000 TOTAL ELECTRICAL	\$0	\$0.00	SF
Division 27	2700.0000 TOTAL COMMUNICATIONS	\$0	\$0.00	SF
Division 28	2800.0000 TOTAL ELECTRONIC SAFETY & SECURITY	\$0	\$0.00	SF
Division 31	3100.0000 TOTAL EARTHWORK	\$64,634	\$20.68	SF
Division 32	3200.0000 TOTAL EXTERIOR IMPROVEMENTS	\$52,714	\$16.87	SF
Division 33	3300.0000 TOTAL UTILITIES	\$0	\$0.00	SF
Division 34	3400.0000 TOTAL TRANSPORTATION	\$0	\$0.00	SF
Division 35	3500.0000 TOTAL WATERWAY & MARINE	\$0	\$0.00	SF
Division 41	4100.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIP	\$0	\$0.00	SF
Division 42	4200.0000 PROCESS HEATING/COOLING EQUIPMENT	\$0	\$0.00	SF
Division 44	4400.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIP	\$0	\$0.00	SF
Division 46	4600.0000 TOTAL WATER & WASTEWATER EQUIPMENT	\$0	\$0.00	SF
Division 48	4800.0000 TOTAL ELECTRICAL POWER GENERATION	\$0	\$0.00	SF
Grand Total:		\$2,507,184	\$802.32	SF

Estimate Type: **Class C/A Estimate**

CLIN Number: CLIN 1
CLIN Title: Large Barium Boat House
Part Alpha: ISRO
PMS Number: 333132A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 3,125
Unit of Measure: **Square Feet (SF)**
Asset Code: **4100 Building**
Facility Type: **4110 Office**

Estimator Name: **Todd Slater**
Current Estimate Date: **3/4/2025**
Estimate Reviewed By: **Sam Paszczkowski**
Estimate Reviewed Date: **3/4/2025**

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- **No Allowances or Lump Sums can be used with Class B or Class A Estimates. Estimate will be rejected if used.**
- **Estimate will be rejected if the estimate is not a lump sum or allowance.**
- **To the left of the MasterFormat WBS Codes (Work Breakdown Structure), check outline symbol + (plus) to show expand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.**

MasterFormat WBS Code Level 1	Activity Descriptions	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	0100.0000 TOTAL GENERAL REQUIREMENTS	3,125	SF	\$	\$0	-	\$0	-	\$0	\$	\$0	\$	\$	-	\$0
Division 2	0241.0000 DEMOLITION														
MF-2020 Code	Remove Shipap Siding	100	SF	-	\$0	5.00	\$500	-	\$0	-	\$0	5.00	\$500	-	\$500
MF-2020 Code	Remove Log Slat Siding	360	SF	-	\$0	-	\$1,800	-	\$0	-	\$0	5.00	\$1,800	-	\$1,800
MF-2020 Code	Remove Jamb Siding	14	SF	-	\$0	9.50	\$133	-	\$0	-	\$0	5.00	\$133	-	\$133
MF-2020 Code	Remove Roofing to Sheathing	1400	SF	-	\$0	2.50	\$3,500	-	\$0	-	\$0	2.50	\$3,500	-	\$3,500
MF-2020 Code	Remove Floor Decking	120	SF	-	\$0	7.75	\$930	-	\$0	-	\$0	7.75	\$930	-	\$930
MF-2020 Code	Remove Timber Girding	120	LI	-	\$0	50.00	\$6,000	-	\$0	-	\$0	50.00	\$6,000	-	\$6,000
MF-2020 Code	Remove Log Floor Joist	60	LI	-	\$0	75.00	\$4,500	-	\$0	-	\$0	75.00	\$4,500	-	\$4,500
MF-2020 Code	Remove Log Beam	2	EA	-	\$0	630.00	\$1,260	-	\$0	-	\$0	630.00	\$1,260	-	\$1,260
MF-2020 Code	Remove Wall Framing	530	SF	-	\$0	20.00	\$10,600	-	\$0	-	\$0	20.00	\$10,600	-	\$10,600
MF-2020 Code	Haul & Dispose - Load & Haul to Nearest Commercial Center	5	Load	\$1,336.00	\$6,680	11,543.20	\$57,716	2,404.00	\$12,020	-	\$0	15,288.20	\$76,416	-	\$76,416
MF-2020 Code	Clean Siding - Remove Bio-Growth	1400	SF	\$0.28	\$396	2.48	\$345	-	\$0	-	\$0	2.75	\$385	-	\$385
MF-2020 Code	Remove Door - Single - Salvage	2	EA	\$75.00	\$55	247.50	\$465	-	\$0	-	\$0	275.00	\$550	-	\$550
MF-2020 Code	Remove Door - Boat - Salvage	1	EA	\$75.00	\$75	675.00	\$675	-	\$0	-	\$0	750.00	\$750	-	\$750
MF-2020 Code	Remove Window for Rehab - Salvage	14	SF	\$0.85	\$12	7.65	\$107	-	\$0	-	\$0	8.50	\$119	-	\$119
MF-2020 Code	Temp Shoring - Allowance	1	Sum	\$37,600.00	\$37,600	56,400.00	\$56,400	-	\$0	-	\$0	94,000.00	\$94,000	-	\$94,000
MF-2020 Code	Remove Rock Ballast - Salvage	6.6	CV	-	\$0	250.00	\$1,657	-	\$0	-	\$0	250.00	\$1,657	-	\$1,657
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0241.0000 DEMOLITION	3,125	SF	\$14.34	\$44,807	47.92	\$148,728	3.85	\$12,020	-	\$0	66.10	\$206,565	-	\$206,565
Division 2	0240.0000 DEMOLITION/STRUCTURE MOV														
MF-2020 Code	Remove Tree	10	EA	-	\$0	600.00	\$6,000	150.00	\$1,500	-	\$0	750.00	\$7,500	-	\$7,500
MF-2020 Code	Haul & Dispose - Load & Haul to Nearest Commercial Center	2	Load	\$840.00	\$1,680	6,804.00	\$13,608	1,512.00	\$3,024	-	\$0	9,156.00	\$18,312	-	\$18,312
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0240.0000 DEMOLITION/STRUCTURE MOV	3,125	SF	\$0.54	\$1,680	6.27	\$19,608	1.45	\$4,524	-	\$0	8.26	\$25,812	-	\$25,812
DIVISION 3	0300.0000 TOTAL EXISTING CONDITIONS	3,125	SF	\$14.88	\$46,487	54.19	\$169,346	5.23	\$16,544	-	\$0	74.35	\$222,377	-	\$222,377
DIVISION 4	0400.0000 TOTAL MASONRY	3,125	SF	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
DIVISION 5	0500.0000 TOTAL METALS	3,125	SF	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Division 6	0615.0000 WOOD DECKING														
MF-2020 Code	Replace Floor Decking - 15%	120	SF	\$8.93	\$1,072	13.40	\$1,608	-	\$0	-	\$0	22.33	\$2,680	-	\$2,680
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0615.0000 WOOD DECKING	3,125	SF	\$0.34	\$1,072	0.51	\$1,608	-	\$0	-	\$0	0.86	\$2,680	-	\$2,680
Division 6	0610.0000 ROUGH CARPENTRY														
MF-2020 Code	Crib Members - Oak Timbers Built up to 3" Ht. Avg. - Pinned & Shrimmed	120	LI	\$287.28	\$34,474	430.92	\$51,710	-	\$0	-	\$0	718.20	\$86,184	-	\$86,184
MF-2020 Code	Crib Members - Rock Ballast - Re-Use Existing - 20%	6.6	CV	-	\$0	131.25	\$870	43.75	\$290	-	\$0	175.00	\$1,160	-	\$1,160
MF-2020 Code	Crib Members - Rock Ballast - 112" dia.	26.5	CV	\$275.00	\$7,288	131.25	\$3,479	43.75	\$1,160	-	\$0	450.00	\$11,928	-	\$11,928
MF-2020 Code	Replace Log Floor Joist - 10%	60	LI	\$170.24	\$10,214	255.36	\$15,322	-	\$0	-	\$0	425.60	\$25,536	-	\$25,536
MF-2020 Code	Anchorage - Log Floor Joist to Girding - Maine	200	EA	\$30.00	\$7,800	26.00	\$5,200	-	\$0	-	\$0	65.00	\$13,000	-	\$13,000
MF-2020 Code	Replace Log Rafter	4	EA	\$298.25	\$1,197	448.88	\$1,796	-	\$0	-	\$0	746.13	\$2,995	-	\$2,995
MF-2020 Code	Anchorage - Rafter to Wall Framing - Fastener	500	EA	\$1.65	\$825	1.10	\$550	-	\$0	-	\$0	2.75	\$1,375	-	\$1,375
MF-2020 Code	Sister Log Rafter	22	EA	\$90.00	\$1,980	135.00	\$2,970	-	\$0	-	\$0	225.00	\$4,950	-	\$4,950
MF-2020 Code	Replace Log Beam - 8"	2	EA	\$1,787.52	\$3,575	2,681.28	\$5,363	-	\$0	-	\$0	4,468.80	\$6,938	-	\$6,938
MF-2020 Code	Rafter Tie	2	EA	\$262.63	\$565	423.94	\$848	-	\$0	-	\$0	706.56	\$1,413	-	\$1,413
MF-2020 Code	Collar Tie	9	EA	\$133.00	\$1,197	199.50	\$1,796	-	\$0	-	\$0	332.50	\$2,995	-	\$2,995
MF-2020 Code	Replace Board Sheathing - 1x	1000	SF	\$4.30	\$4,300	6.45	\$6,400	-	\$0	-	\$0	10.75	\$10,750	-	\$10,750
MF-2020 Code	Sheathing Overlay - 15/32" Plywood	1400	SF	\$1.18	\$1,652	1.77	\$2,478	-	\$0	-	\$0	2.95	\$4,130	-	\$4,130
MF-2020 Code	Anchorage - Rafter to Wall Framing - CFS Clip	1000	EA	\$7.50	\$3,750	5.00	\$3,750	-	\$0	-	\$0	12.50	\$6,250	-	\$6,250
MF-2020 Code	Replumb Exterior Wall	1230	SF	\$0.70	\$861	2.80	\$3,444	-	\$0	-	\$0	3.50	\$4,305	-	\$4,305
MF-2020 Code	Replace Wall Framing - 100% North Wall & 20% Remaining	530	SF	\$6.77	\$3,571	57.86	\$30,633	-	\$0	-	\$0	96.43	\$51,105	-	\$51,105
MF-2020 Code	Add Stud Wall Framing	15	EA	\$71.14	\$1,067	15.71	\$1,126	-	\$0	-	\$0	192.85	\$2,893	-	\$2,893
MF-2020 Code	Add Diagonal Braces	100	LI	\$4.30	\$430	6.45	\$645	-	\$0	-	\$0	10.75	\$1,075	-	\$1,075
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0610.0000 ROUGH CARPENTRY	3,125	SF	\$31.47	\$98,334	43.38	\$135,568	0.46	\$1,450	-	\$0	76.31	\$235,351	-	\$235,351
DIVISION 6	0600.0000 TOTAL WOOD PLASTIC, & COMPOSITES	3,125	SF	\$1.81	\$5,663	43.90	\$137,176	0.46	\$1,450	-	\$0	76.17	\$234,031	-	\$234,031
Division 7	0741.0000 ROOF PANELS														
MF-2020 Code	Cedar Shingle Roof w/ Breather	1400	SF	\$7.40	\$10,360	11.10	\$15,540	-	\$0	-	\$0	18.50	\$25,900	-	\$25,900
MF-2020 Code	Ice Water Shield - @ Eaves	570	SF	\$0.75	\$428	3.00	\$1,710	-	\$0	-	\$0	3.75	\$2,138	-	\$2,138
MF-2020 Code	Roof Flashing	1400	SF	\$1.50	\$2,100	1.00	\$1,400	-	\$0	-	\$0	2.50	\$3,500	-	\$3,500
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0741.0000 ROOF PANELS	3,125	SF	\$4.12	\$12,888	5.07	\$18,650	-	\$0	-	\$0	10.09	\$31,138	-	\$31,138
Division 7	0745.0000 WALL PANELS														
MF-2020 Code	Replace/Patch Shingle Siding - 20% North Facade	80	SF	\$10.00	\$800	15.00	\$1,200	-	\$0	-	\$0	25.00	\$2,000	-	\$2,000
MF-2020 Code	Replace/Patch Shingle Siding - 10% Gable	20	SF	\$10.00	\$200	15.00	\$300	-	\$0	-	\$0	25.00	\$500	-	\$500

Estimate Type: **Class C/A Estimate**

CLIN Number: CLIN 1
CLIN Title: Large Barnum Boat House
Part Alpha: LSRO
PMS Number: 333132A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 31.25
Unit of Measure: Square Feet (SF)
Asset Code: 4100 Building
Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seán Piszczolkowski
Estimate Reviewed Date: 3/4/2025

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- **No Allowances or Lump Sums** can be used with Class B or Class A estimates. **Estimate will be rejected if used.**
- **Revisions** to the estimate can be made at any time. **Estimate will be rejected if used.**
- **To the left of the MasterFormat WBS Codes (Work Breakdown Structure),** click outline symbol + (plus) to show/expand groups required for the G/E and begin entering details. **For full use of worksheet, unprotect the sheet in the Review ribbon.**

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
MF-2020 Code	Replace/Patch Log Slab Siding - 35%	310	SF	\$	\$4,950	\$	\$7,440	\$	\$	\$	\$	\$	\$12,400	\$	\$
MF-2020 Code	Replace/Patch Log Slab Siding	50	Ea	\$	\$3,120	\$9.60	\$4,800	\$	\$	\$	\$	\$	\$7,800	\$	\$
MF-2020 Code	Drip Edge	150	Lf	\$	\$1,110	7.40	\$1,110	\$	\$	\$	\$	\$	\$2,775	\$	\$

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1
CLIN Title: Large Barn Boat House
Part Alpha: ISRO
PMS Number: 33332A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 3,125
Unit of Measure: Square Feet (SF)
Asset Code: 4100 Building
Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seth Paszczkowski
Estimate Reviewed Date: 3/4/2025

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- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- Rows with a red background are required for the estimate. Rows with a green background are optional and may be used at the estimator's discretion.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
MF-2020 Code	Penetrating Finish - All Siding	1400	SF	\$ 0.55	\$ 770	2.20	\$3,080	-	\$0	-	\$0	2.75	\$3,850		
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0		
Subtotal	0745.0000 WALL PANELS	3,125	SF	\$ 3.68	\$11,515	5.70	\$17,810	-	\$0	-	\$0	9.38	\$29,325		
DIVISION 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	3,125	SF	\$ 7.81	\$24,403	11.67	\$38,460	-	\$0	-	\$0	19.48	\$60,683	\$1.16	\$253,622

Estimate Type: Class C/A Estimate

CLIN Number: CLM 1
CLIN Title: Large Barn Boat House
Part Alpha: ISRO
PMS Number: 333.32A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 3,125
Unit of Measure: Square Feet (SF)
Asset Code: 4100 Building
Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seth Paszczkowski
Estimate Reviewed Date: 3/4/2025

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Step 3 Cost Schedule

- No Allowances or Lump Sums can be used with Class B or Class A Estimates. Estimate will be rejected if used.
- Red text indicates items that are not to be included in the estimate.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION		
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost			
Division 8	0810.0000 DOORS AND FRAMES															
	MF-2020 Code	Replace Jambs Casing	14	Lf	\$	\$188.00		\$2,646	\$	\$238.50	\$	\$3,969	\$	\$0	\$	\$6,615
	MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0	\$	\$1,475
	MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125
	MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475
	MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0	\$	\$0
	Subtotal	0810.0000 DOORS AND FRAMES	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690
	Division 8	0852.0000 WOOD WINDOWS														
	MF-2020 Code	Rehab Window - Replace Glazing Putty/Repaint Sash/Rte-Install	14	Sf	\$	\$27.70		\$388		\$41.55		\$0	\$	\$9.25		\$97.0
	MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0
Subtotal	0852.0000 WOOD WINDOWS	3,125	SF	\$	\$388	0.19	\$592		\$0		\$0	\$	\$0.31		\$970	
Division 8	0880.0000 TOTAL OPENINGS															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL OPENINGS	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL FINISHES															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL FINISHES	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL EQUIPMENT															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL EQUIPMENT	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL CONVEYING EQUIPMENT															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL CONVEYING EQUIPMENT	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL PLUMBING															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL PLUMBING	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL ELECTRICAL															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL ELECTRICAL	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 8	0880.0000 TOTAL ELECTRONIC SAFETY & SECURITY															
MF-2020 Code	Rehab Jambs Casing	14	Lf	\$	\$188.00		\$2,646		\$238.50		\$3,969	\$	\$18.22		\$56,921	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Hardware/Oil Hinges/Finish - South Door	1	Ea	\$	\$50.00		\$50.00		\$85.00		\$50.00	\$	\$0		\$0	
MF-2020 Code	Rehab Single Door - Replace Deteriorated Wood/Expand to 32"/Hardware/Oil Hinges/Finish - North Door	1	Ea	\$	\$850.00		\$850		\$1,275.00		\$0	\$	\$2,125.00	\$	\$2,125	
MF-2020 Code	Rehab Boat Door - Replace Deteriorated Wood/Rehab/Oil Hardware/Finish	1	Ea	\$	\$900.00		\$900		\$1,485.00		\$0	\$	\$2,475.00	\$	\$2,475	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	0880.0000 TOTAL ELECTRONIC SAFETY & SECURITY	3,125	SF	\$	\$5,076	2.44	\$7,614		\$0		\$0	\$	\$4.06		\$12,690	
Division 31	3122.0000 GRADING															
MF-2020 Code	Rip Rap - Locally Sourced	120	Lf	\$	\$8.40		\$1,008		\$4.20		\$504	\$	\$4.00		\$1,680	
MF-2020 Code	Trail Repair - Dock to Boathouse	550	Lf	\$	\$2.14		\$1,176		\$0.35		\$192	\$	\$3.50		\$1,961	
MF-2020 Code	Trail Repair - Dock to Boathouse	500	Lf	\$	\$2.14		\$1,069		\$0.35		\$175	\$	\$3.50		\$1,762	
MF-2020 Code	Trail Removal - Repair Slope	60	Lf	\$	\$8.88		\$533		\$0.14		\$8	\$	\$1.46		\$88	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	3122.0000 GRADING	3,125	SF	\$	\$1.06	0.53	\$3,306	0.17	\$544		\$0	\$	\$1.76		\$5,511	
Division 31	3125.0000 EROSION AND SEDIMENTATION CONTROLS															
MF-2020 Code	E.S.C. - Allowance	1	Sum	\$	\$4,000.00		\$4,000		\$900.00		\$0	\$	\$10,000.00		\$10,000	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	3125.0000 EROSION AND SEDIMENTATION CONTROLS	3,125	SF	\$	\$4,000	1.63	\$5,100	0.29	\$900		\$0	\$	\$3.20		\$10,000	
Division 31	3130.0000 TOTAL EARTHWORK															
MF-2020 Code	Rip Rap - Locally Sourced	120	Lf	\$	\$8.40		\$1,008		\$4.20		\$504	\$	\$4.00		\$1,680	
MF-2020 Code	Trail Repair - Dock to Boathouse	550	Lf	\$	\$2.14		\$1,176		\$0.35		\$192	\$	\$3.50		\$1,961	
MF-2020 Code	Trail Repair - Dock to Boathouse	500	Lf	\$	\$2.14		\$1,069		\$0.35		\$175	\$	\$3.50		\$1,762	
MF-2020 Code	Trail Removal - Repair Slope	60	Lf	\$	\$8.88		\$533		\$0.14		\$8	\$	\$1.46		\$88	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal	3130.0000 TOTAL EARTHWORK	3,125	SF	\$	\$1.06	0.53	\$3,306	0.17	\$544		\$0	\$	\$1.76		\$5,511	
Division 32	3230.0000 SITE IMPROVEMENTS															
MF-2020 Code	Boardwalk - Entrance	20	Lf	\$	\$41.50		\$830		\$15.50		\$310	\$	\$3.75		\$2,075	
MF-2020 Code	Boardwalk - Large to Small	60	Lf	\$	\$41.50		\$2,490		\$46.75		\$2,625	\$	\$3.75		\$6,225	
MF-2020 Code	Interpretive Panel	1	Ea	\$	\$680.00		\$680		\$14.50		\$26	\$	\$8.00		\$850	
MF-2020 Code	Description	0	Unit	\$	\$0		\$0		\$0		\$0	\$	\$0		\$0	
Subtotal</																

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1
CLIN Title: Large Barnum Boat House
Park Alpha: ISRO
PMS Number: 333132A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 31.25
Unit of Measure: Square Feet (SF)
Asset Code: A100 Building
Facility Type: A110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seth Paszolkowski
Estimate Reviewed Date: 3/4/2025

Go to
Step 3 Cost Schedule

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- No Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to showexpand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost

DIRECT COSTS	\$189,165	\$362,872	\$21,053	\$0	\$573,091
TAXES	\$10,404	\$0	\$0	\$0	\$10,404

TOTAL NET CONSTRUCTION	\$573,091	\$573,091	\$0	\$0	\$573,091
Variance Check	\$ 2,388,143	\$ 2,388,143	\$ 2,388,143	\$ 2,388,143	\$ 2,388,143

MARKUP PRECENTAGES will initially be populated from the Markups worksheets but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

MARKUP ALLOWED		MARKUP TYPES		Markups and Factors DESCRIPTION		TOTALS	
A	Class C,B	Park Location Factor (PLF):	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.		\$50,028.33	
B	Class C,B	Project Specific Remoteness:	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/Transport Costs.		\$692,866.55	
C	Class C,B	Federal Wage Rate Factor:	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.		\$0.00	
D	Class C,B	State & Local Taxes:	5.50%	Material: X Labor: 0 Equipment: 0 Other: 0		\$10,404.09	
E	Class C,B	Historic Preservation Factor:	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources		\$57,309.06	
F	Class C,B,A	Design Contingency:	20.00%	This ranges based on ASTM E2516 Expected Accuracy. Ranges for design contingency and estimators best professional judgement based on phase of design, complexity, and size of project.		\$114,618.12	
G	Class C	Standard General Conditions:	11.49%	(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project based on previous park projects. This is elevated due to assumed duration and staffing requirements.		\$1,507,316.79	
H	Class C	Government General Conditions:	5.00%	(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)		\$75,365.94	
I	Class C,B	Testing & Inspections:	1.00%	(Approximate Range 1% to 3%) Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.		\$15,073.17	
J	Class C,B	Permits & Fees:	1.00%	(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.		\$15,073.17	
K	Class C,B,A	Home Office Overhead:	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.		\$214,322.36	
L	Class C,B,A	Profit:	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.		\$107,161.18	
M	Class C,B,A	Performance Bond:	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.		\$35,720.39	
				Subtotal NET Construction Cost:		\$1,786,019.65	
N	Class C,B,A	Contracting Method Adjustment:	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.		\$107,161.18	
O	Class C,B,A	Initiation Escalation Annual Rate:	3.55%	Aggregate Rate - Use 4% for 2025-2026		\$137,757.91	
				Subtotal NET Construction Cost:		\$2,143,223.38	
				CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months):		20	
				Total Estimated NET Cost of Construction:		\$2,388,143	
				Variance Check		\$ 2,388,143	
				Total percentage markup		41.7%	

(Check for formula errors if cell is RED)

Estimate Type: **Class C/A Estimate**

Option Number: Option 1
Option Title: Cedar Shingle Roof - Preservative Treated
PMIS Number: ISRO
PMIS Number: 333132A

Overall Period of Performance: **8**
Individual CLIN Period of Performance (as needed):

Overall Quantity: **1**
Lump Sum (LS)
Unit of Measure: **4100 Building**
Asset Code: **4110 Office**
Facility Type: **4110 Office**

Estimator Name: **Todd Slater**
Current Estimate Date: **3/4/2025**
Estimate Reviewed By: **Sam Pyszczkowski**
Estimate Reviewed Date: **3/4/2025**

• **No Allowances or Lump Sums can be used with Class B or Class A Estimates. Estimate will be rejected if used.**

• **Rollup items can be used with Class B or Class A Estimates. Estimate will be rejected if used.**

• **To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.**

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER	Total Other Cost	DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost			Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	0100.0000 TOTAL GENERAL REQUIREMENTS	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 2	0200.0000 TOTAL EXISTING CONDITIONS	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 3	0300.0000 TOTAL CONCRETE	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 4	0400.0000 TOTAL MASONRY	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 5	0500.0000 TOTAL METALS	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 6	0600.0000 TOTAL WOOD, PLASTIC, & COMPOSITES	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 7	0741.0000 ROOF PANELS														
	Bare Bid Deduct	1	Sum	\$	(10,360.00)		(15,540.00)								
	Treated Cedar Shingle Roofing	1400	SF	\$	8.51		12.77								
		0	Unit	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
Subtotal	0741.0000 ROOF PANELS	1	LS	\$	1,554.00	\$1,554	2,331.00	\$2,331	-	-	\$0	\$3,885.00	\$3,885	15,212.97	\$16,213
DIVISION 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	1	LS	\$	1,554.00	\$1,554	2,331.00	\$2,331	-	-	\$0	\$3,885.00	\$3,885	15,212.97	\$16,213
DIVISION 8	0800.0000 TOTAL OPENINGS	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 9	0900.0000 TOTAL FINISHES	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 10	1000.0000 TOTAL SPECIAL TIES	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 11	1100.0000 TOTAL EQUIPMENT	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 12	1200.0000 TOTAL ELECTRICAL	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 13	1300.0000 TOTAL SPECIAL CONSTRUCTION	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 14	1400.0000 TOTAL CONVEYING EQUIPMENT	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 21	2100.0000 TOTAL FIRE SUPPRESSION	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 22	2200.0000 TOTAL PLUMBING	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 23	2300.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 26	2600.0000 TOTAL ELECTRICAL	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 27	2700.0000 TOTAL COMMUNICATIONS	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 28	2800.0000 TOTAL ELECTRONIC SAFETY & SECURITY	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 31	3100.0000 TOTAL EARTHWORK	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 32	3200.0000 TOTAL EXTERIOR IMPROVEMENTS	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 33	3300.0000 TOTAL UTILITIES	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 34	3400.0000 TOTAL TRANSPORTATION	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 35	3500.0000 TOTAL WATERWAY & MARINE	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 36	3600.0000 TOTAL HEATING, VENTING, & HANDLING EQUIPMENT	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 42	4200.0000 PRESS. HEATING/COOLING EQUIPMENT	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 44	4400.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 46	4600.0000 TOTAL WATER & WASTEWATER EQUIPMENT	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0
DIVISION 48	4800.0000 TOTAL ELECTRICAL POWER GENERATION	1	LS	\$	-	\$0	-	\$0	-	-	\$0	-	\$0	-	\$0

Estimate Type: Class C/A Estimate

Option Number: Option 1

Option Title: Cedar Shingle Roof - Preservative Treated

Park Alpha: ISRO

PMS Number: 333132A

Overall Period of Performance: 8

Individual CLIN Period of Performance (as needed):

Overall Quantity: 1

Unit of Measure: Lump Sum (LS)

Asset Code: 4100 Building

Facility Type: 4110 Office

Estimator Name: Todd Slater

Current Estimate Date: 3/4/2025

Estimate Reviewed By: Seth Paszczkowski

Estimate Reviewed Date: 3/4/2025

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.

To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to showexpand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost

DIRECT COSTS	\$1,554	\$1,554	\$2,331	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,885	\$3,885	\$0
TAXES	\$85	\$85	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$85	\$85	\$0

TOTAL NET CONSTRUCTION	\$3,885	\$	\$3,885	\$	\$3,885	\$	\$3,885	\$	\$3,885	\$	\$3,885	\$	\$3,885	\$	\$3,885
Variance Check	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

MARKUP PERCENTAGES will initially be populated from the Markups worksheets but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

MARKUP ALLOWED		MARKUP TYPES		MARKUPS and Factors DESCRIPTION		TOTALS	
A	Class C,B	Park Location Factor (PLF):	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.		\$400.16	
B	Class C,B	Project Specific Remoteness:	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/Transport Costs.		\$4,696.97	
C	Class C,B	Federal Wage Rate Factor:	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.		\$0.00	
D	Class C,B	State & Local Taxes:	5.50%	Material: X Labor: 0 Equipment: 0 Other: 0		\$85.47	
E	Class C,B	Historic Preservation Factor:	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources		\$388.50	
F	Class C,B,A	Design Contingency:	20.00%	This ranges based on ASTM E2516 Expected Accuracy. Ranger tolerance for design contingency and estimators best professional judgement based on phase of design, complexity, and size of project.		\$777.00	
G	Class C	Standard General Conditions:	11.49%	(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project based on previous park projects. This is elevated due to assumed duration and staffing requirements.		\$10,233.09	
H	Class C	Government General Conditions:	5.00%	(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)		\$551.65	
I	Class C,B	Testing & Inspections:	1.00%	(Approximate Range 1% to 3%) Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.		\$102.33	
J	Class C,B	Permits & Fees:	1.00%	(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.		\$102.33	
K	Class C,B,A	Home Office Overhead:	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.		\$1,455.02	
L	Class C,B,A	Profit:	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.		\$727.51	
M	Class C,B,A	Performance Bond:	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.		\$242.50	
		Subtotal NET Construction Cost:		Subtotal NET Construction Cost:		\$14,050.29	
N	Class C,B,A	Contracting Method Adjustment:	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.		\$727.51	
O	Class C,B,A	Initiation Escalation Annual Rate:	3.55%	Aggregate Rate - Use 4% for 2025-2026		\$935.29	
		CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months):		Include construction start / finish dates with duration of work in months.			
				Total Estimated NET Cost of Construction:		\$16,213	
				Variance Check		\$	
				Total percentage markup		41.7%	

Estimate Type: **Class C/A Estimate**

Option Number: Option 2
Option Title: Cedar Shingle Roof - Fire Rated
Part Alpha: ISRO
PMS Number: 333.32A

Overall Period of Performance: **8**
Individual CLIN Period of Performance (as needed):

Overall Quantity: **1**
Lump Sum (LS)
Unit of Measure: **4100 Building**
Asset Code: **4100 Building**
Facility Type: **4110 Office**

Estimator Name: **Todd Slater**
Current Estimate Date: **3/4/2025**
Estimate Reviewed By: **Sam Pyszczkowski**
Estimate Reviewed Date: **3/4/2025**

[Go to](#)
[Item 3 Cost Schedule](#)

- **No Allowances or Lump Sums can be used with Class B or Class A Estimates. Estimate will be rejected if used.**
- **Costs must be entered in the appropriate units. Do not use "1" as a unit. Do not use "1" as a unit.**
- **To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.**

MasterFormat WBS Code	Activity Descriptions	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER	DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost		Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	0100.0000 TOTAL GENERAL REQUIREMENTS	1	LS	\$0	\$0	-	\$0	-	\$0	-	\$0	\$0	-	\$0
DIVISION 2	0200.0000 TOTAL EXISTING CONDITIONS	1	LS	\$0	\$0	-	\$0	-	\$0	-	\$0	\$0	-	\$0
DIVISION 3	0300.0000 TOTAL CONCRETE	1	LS	\$0	\$0	-	\$0	-	\$0	-	\$0	\$0	-	\$0
DIVISION 4	0400.0000 TOTAL MASONRY	1	LS	\$0	\$0	-	\$0	-	\$0	-	\$0	\$0	-	\$0
DIVISION 5	0500.0000 TOTAL METALS	1	LS	\$0	\$0	-	\$0	-	\$0	-	\$0	\$0	-	\$0
DIVISION 6	0600.0000 TOTAL WOOD/PLASTIC & COMPOSITES	1	LS	\$0	\$0	-	\$0	-	\$0	-	\$0	\$0	-	\$0
DIVISION 7	0741.0000 ROOF PANELS													
MF-2020 Code	Blaze Bid Deduct	1	Sum	(10,360.00)	\$-10,360	(15,540.00)	\$-15,540	-	\$0	-	(25,900.00)	\$-25,900	-	\$0
MF-2020 Code	Class B Cedar Shingle Roofing	1400	SF	11.84	\$16,576	17.76	\$24,864	-	\$0	-	29.60	\$41,440	-	\$0
MF-2020 Code	Mineral Cap Sheet	1400	SF	2.60	\$3,640	3.90	\$5,460	-	\$0	-	6.50	\$9,100	-	\$0
MF-2020 Code	Description	0	Unit	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
Subtotal	0741.0000 ROOF PANELS	1	LS	\$9,856.00	\$9,856	14,784.00	\$14,784	-	\$0	-	24,640.00	\$24,640	102,828.20	\$102,828
DIVISION 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	1	LS	\$9,856.00	\$9,856	14,784.00	\$14,784	-	\$0	-	24,640.00	\$24,640	-	\$0
DIVISION 8	0800.0000 TOTAL OPENINGS	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 9	0900.0000 TOTAL FINISHES	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 10	1000.0000 TOTAL SPECIAL TIES	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 11	1100.0000 TOTAL EQUIPMENT	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 12	1200.0000 TOTAL ELECTRICAL	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 13	1300.0000 TOTAL SPECIAL CONSTRUCTION	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 14	1400.0000 TOTAL CONVEYING EQUIPMENT	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 21	2100.0000 TOTAL FIRE SUPPRESSION	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 22	2200.0000 TOTAL PLUMBING	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 23	2300.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 26	2600.0000 TOTAL ELECTRICAL	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 27	2700.0000 TOTAL COMMUNICATIONS	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 28	2800.0000 TOTAL ELECTRONIC SAFETY & SECURITY	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 31	3100.0000 TOTAL EARTHWORK	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 32	3200.0000 TOTAL EXTERIOR IMPROVEMENTS	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 33	3300.0000 TOTAL UTILITIES	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 34	3400.0000 TOTAL TRANSPORTATION	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 35	3500.0000 TOTAL WATERWAY & MARINE	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 36	3600.0000 TOTAL FLOOD PROOFING EQUIPMENT	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 42	4200.0000 TOTAL WASTE MANAGEMENT	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 43	4300.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 46	4600.0000 TOTAL WATER & WASTEWATER EQUIPMENT	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0
DIVISION 48	4800.0000 TOTAL ELECTRICAL POWER GENERATION	1	LS	-	\$0	-	\$0	-	\$0	-	-	\$0	-	\$0

Estimate Type: Class C/A Estimate

Option Number: Option 2

Option Title: Cedar Shingle Roof - Fire Rated

Park Alpha: BFO

PMIS Number: 333132A

Overall Period of Performance: 8

Individual CLIN Period of Performance (as needed):

Overall Quantity: 1

Unit of Measure: Lump Sum (LS)

Asset Code: 4300 Building

Facility Type: 4310 Office

Estimator Name: Todd Slater

Current Estimate Date: 3/4/2025

Estimate Reviewed By: Seth Pszczolkowski

Estimate Reviewed Date: 3/4/2025

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- For any work items that are not in the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show expand groups required for the G/E and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show expand groups required for the G/E and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost

DIRECT COSTS	\$0.856						\$14,784		\$0		\$0		\$24,640
TAXES	\$542						\$0		\$0				\$542

TOTAL NET CONSTRUCTION	102828.21	\$	102,828
Variance Check	\$	102,828	
(Check for formula errors if cell is RED)			

- MARKUP PRECENTAGES will initially be populated from the Markups worksheet/tab but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

MARKUP ALLOWED		MARKUP TYPES		MARKUPS and FACTORS DESCRIPTION		TOTALS	
A	Class C/B			Park Location Factor (PLF):	10.30%		\$2,537.92
B	Class C/B			Project Specific Remedies:	120.90%		\$29,789.76
C	Class C/B			Federal Wage Rate Factor:	0.00%		\$0.00
D	Class C/B			State & Local Taxes:	5.50%		\$542.08
E	Class C/B			Historic Preservation Factor:	10.00%		\$2,464.00
F	Class C/B A			Design Contingency:	20.00%		\$4,928.00
G	Class C			Standard General Conditions:	11.49%		\$7,457.21
H	Class C			Government General Conditions:	5.00%		\$64,901.76
I	Class C/B			Testing & Inspections:	1.00%		\$2,455.08
J	Class C/B			Permits & Fees:	1.00%		\$649.02
K	Class C/B A			Home Office Overhead:	12.00%		\$76,902.10
L	Class C/B A			Profit:	6.00%		\$9,228.25
M	Class C/B A			Performance Bond:	2.00%		\$4,614.13
N	Class C/B A			Contracting Method Adjustment:	5.00%		\$1,538.04
O	Class C/B A			Inflation Escalation Annual Rate:	3.55%		\$92,282.51
				CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months): 20			
				Verify with project team which contracting method is to be used. Assume Full and Open 5%.			
				Aggregate Rate - Use 4% for 2025-2026			
				Include construction start / finish dates with duration of work in months.			
				Subtotal NET Construction Cost:			
				Subtotal NET Construction Cost:			
				Total Estimated NET Cost of Construction:			
				Variance Check			
				Total percentage markup			
				417%			
				(Check for formula errors if cell is RED)			

Wage Rate Factor Analysis

Park:	Isle Royale National Park	Date Updated:	1/3/2025
Project Title:	Large Barnum Boat House Condition Assessment and Treatment	Estimate Data Source:	ACC Proprietary Database
Published Market Center:	Superior, Wi.	Market Center Adjustment Factor:	99.5%
Project County:	Keweenaw County	Estimator:	Todd Slater
Davis Bacon Decision:	MI20250155		

Trade	2025		Market Adjusted Wage Rates for Superior, Wi.	Davis Bacon with Fringe Wage Rates for the county of: Keweenaw County	Wage Difference	Wage Adjustment Factor
	RSMeans National Average Direct Wage Rates					
Bricklayer	\$	63.59	\$ 63.27	\$ 55.09	\$ (8.18)	-12.9%
Cement Mason/Finisher	\$	60.55	\$ 60.25	\$ 30.30	\$ (29.95)	-49.7%
Carpenter	\$	64.55	\$ 64.22	\$ 52.17	\$ (12.05)	-18.8%
Roofer	\$	57.24	\$ 56.96	\$ 42.45	\$ (14.51)	-25.5%
Electrician	\$	76.43	\$ 76.05	\$ 55.67	\$ (20.38)	-26.8%
Equipment Operator (average)	\$	68.81	\$ 68.47	\$ 63.77	\$ (4.70)	-6.9%
Ironworker (Structural/reinforcement)	\$	71.48	\$ 71.12	\$ 60.78	\$ (10.34)	-14.5%
Common Laborer	\$	52.23	\$ 51.97	\$ 50.44	\$ (1.53)	-2.9%
Painters (average)	\$	55.81	\$ 55.53	\$ 40.87	\$ (14.66)	-26.4%
Plumbers	\$	79.58	\$ 79.18	\$ 62.12	\$ (17.06)	-21.5%
Sheet Metal Worker	\$	77.02	\$ 76.63	\$ 51.27	\$ (25.36)	-33.1%
Truck Drivers (average)	\$	59.91	\$ 59.61	\$ 22.26	\$ (37.35)	-62.7%
Average Wage & Adjustment Factor:			\$ 65.27	\$ 48.93	\$ (16.34)	-25.1%

Conclusion: Davis Bacon Wage Rates for Keweenaw County are on average -25.1% more/less than RSMeans Trades represent the workforce composition which will staff the majority of this project and also closely match the adjusted RSMeans rates. **When greater than 0%, add appropriate Wage Adjustment Factor percentage to Federal Wage Rate Factor in the Markups.** **If Wage Adjustment Factor is less than 0%, then the rate used for the estimate Federal Wage Rate Factor should be 0%.** **Note: Adjustment Factor should only be applied to the Labor of the estimate.**

[Davis Bacon Wage Rates \(Wage Determinations\)](#)

Continue wage rate comparison and conclusion narrative:

Basis of Estimate and Cost Summary - Project Information

Park Management Information System (PMIS) Number:	Park Acronym:	ISRO
	Park Name:	Isle Royale National Park
	Project Title:	Small Barnum Boat House Condition Assessment and Treatment
	Design Phase:	Conditions Assessment and Treatment
	State:	Michigan
	County work location:	Keweenaw County
	Database Name:	ACC Proprietary Database
	Database Year:	2025
	Estimate Type:	Class C/A Estimate
	Current Estimate Date:	3/4/2025
	Construction Start Date:	7/15/2026
	Project Period of Performance (Months):	8
	Architect/Engineer (A/E) Company:	Mundus Bishop
	Estimating Company:	ACC Cost Estimating
Estimator Name:	Estimator Name:	Todd Slater
	Estimate Reviewed By:	Seth Pszczolkowski
	Estimate Reviewed Date:	3/4/2025
	Estimator Phone:	503-718-0075
Project Description (Scope of Work):		This HPPD Treatment Plan presents a comprehensive planning tool to guide management and improvement of three historic structures—Small Barnum Boat House, Large Barnum Boat House, and Johns Log Cabin—and their cultural landscapes on Barnum Island. The document updates existing cultural resource documentation and supplements treatment guidance by providing stabilization recommendations for these structures and sites in response to climate change impacts.
Estimate Assumptions:		- Production rates assumed slow for NPS and very remote work. - Barging of materials assumed to originate from Superior, WI. - Of the 8 Month period of performance this portion of the contract is assumed to account for 2 months for purposes of calculating GC's.
Source of Cost Data:		ACC Proprietary Database - 2025 ACC maintains a cost database dedicated to NPS projects. Pricing is derived from current market conditions through continuous contact with materials suppliers, NPS contractors, and local non-NPS contractors. The database is able to adjust for local labor rates and productivity factors. ACC uses input from separate mechanical and electrical estimators as well.
Schedule Clarification:		The construction season on Isle Royale is limited to mid May through Mid September (five months). The contract period of performance will include 1.5 months on front end for project planning and 1.5 months at the end for closeout. An eight-month contract period of performance expected.
Other Clarifications or Exclusions:		- None
Documentation:		- Communication with local sales reps was conducted for specific materials pricing as warranted, to either update existing or include materials not priced.
Standard Clarifications:		• This estimate is the NET Construction costs of the project which includes direct cost of construction, location factor, remoteness factor, federal wage rate factor, historic preservation factor, design contingency, permitting, contracting method of procurement, testing, general conditions, bonds, permits and contractor overhead, profit, & escalation. • This estimate does NOT include Gross costs which Includes Construction Contingency and NPS Construction management. • This estimate does NOT include the Total costs of compliance, predesign, design, and supplemental services.

Project Specific Markups & Tax Allocations

Tax Allocations

- After verifying with the local tax jurisdictions and NPS tax requirements, enter **X** in fields which require project taxes.
- This will populate the appropriate taxes throughout the estimate.

Material	Labor	Equipment	Other
X			

Project Specific Markups

- **Refer to Cost Estimating Requirements Handbook > Chapter 4 Estimate Markups for guidance on this section.**
- This chart shows how markups are applied at different phases of design.
- Add required markups in column **C** and specific descriptions in column **D**. These entries will populate throughout the estimate.
- Re-evaluate markups at each phase of design as details develop and added to the estimate. Adjust percentage as appropriate in individual CLINs.
- **If no X is shown in a field, costs previously applied in the percentage need to be fully applied within the direct costs, either as actual activities or increases to individual unit costs and a 0% shown in the markups.**

Markups		Percent %	Description	Class C Conceptual	Class C Schematic	Class B Design Development	Class A Construction Documents
A	Park Location Factor (PLF):	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.	X	X	X	
B	Project Specific Remoteness:	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/Transport Costs.	X	X	X	
C	Federal Wage Rate Factor:	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.	X	X	X	
D	State & Local Taxes:	5.50%	Sales Tax applied to 40% of Other Cost.	X	X	X	
E	Historic Preservation Factor:	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources	X	X	X	
F	Design Contingency:	20.00%	This ranges based on ASTM E2516 Expected Accuracy Range/Tolerance for design contingency and estimators best professional judgement based on phase of design, complexity, and size of project.	X	X	X	X
TOTAL DIRECT CONSTRUCTION COSTS							
G	Standard General Conditions:	39.86%	(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project, based on previous park projects. This is elevated due to assumed duration and staffing requirements.	X	X		
H	Government General Conditions:	5.00%	(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)	X	X		
I	Testing & Inspections:	1.00%	(Approximate Range 1% to 3%) Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.	X	X	X	
J	Permits & Fees:	1.00%	(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.	X	X	X	
SUBTOTAL NET CONSTRUCTION COST							
K	Home Office Overhead:	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.	X	X	X	X
L	Profit:	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.	X	X	X	X
M	Performance Bond:	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.	X	X	X	X
ESTIMATED NET CONSTRUCTION COST							
N	Contracting Method Adjustment:	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.	X	X	X	X
O	Inflation Escalation Annual Rate:	3.55%	Aggregate Rate - Use 4% for 2025-2026	X	X	X	X
CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months):			20				
			Include construction start / finish dates with duration of work in months.				

Summary NET Cost Schedule

Park Acronym:	ISRO
Park Name:	Isle Royale National Park
Project Title:	Small Barnum Boat House Condition Assessment and Treatment
Park Management Information System (PMIS) Number:	333132A
Current Estimate Date:	3/4/2025

- Estimator to start estimate by completing gray cells with initial project information and CLIN titles per line item designated by NPS for the project.
- Information added on this worksheet will populated the rest of the template.
- Click on the CLIN number to route to corresponding CLIN worksheet/tab.

Contract Line Item Number (CLIN) & Option Number	Contract Line Item Title	Quantity	Unit of Measure	Unit Price	Total Price
CLIN 1	Small Barnum Boat House	397	Square Feet (SF)	1,583	\$628,009.63
TOTAL BASE PRICE (CLIN 1):					\$628,009.63
Option 1	Cedar Shingle Roof - Preservative Treated	1	Lump Sum (LS)	7,320	\$7,319.79
Option 2	Cedar Shingle Roof - Fire Rated	1	Lump Sum (LS)	46,424	\$46,424.21
TOTAL PRICE FOR ALL OPTIONS (Options 1 to 2):					\$53,743.94
TOTAL PROPOSED PRICE - BASE PLUS ALL OPTIONS (CLIN 1 + Options 1 to 2):					\$681,753.57

CLIN NET Cost Summary

Project Title: Small Barnum Boat House Condition Assessment and Treatment
Park Name: Isle Royale National Park

Park Management Information System (PMIS) Number: 333132A
Park Acronym: JSRO

Bid Item Number	Bid Item Description	Overall Quantity	Unit of Measure	Total Material Cost	Total Labor Cost	Total Equipment Cost	Total Other Cost	Total Direct Construction Costs	Total Markups	NET Bid Item Total	NET Bid Item Unit Cost
CLIN 1	Small Barnum Boat House	397	Square Feet (SF)	\$ 40,771 \$	72,078 \$	8,739 \$	-	\$ 121,588 \$	506,421 \$	628,010 \$	1,583
			Total CLIN Items:	\$ 40,771 \$	72,078 \$	8,739 \$	-	\$ 121,588 \$	506,421 \$	628,010 \$	
Option 1	Cedar Shingle Roof - Preservative Treated	1	Lump Sum (LS)	\$ 566 \$	849 \$	-	-	\$ 1,415 \$	5,904 \$	7,320 \$	7,320
Option 2	Cedar Shingle Roof - Fire Rated	1	Lump Sum (LS)	\$ 3,590 \$	5,386 \$	-	-	\$ 8,976 \$	37,448 \$	46,424 \$	46,424
			Total Option Items:	\$ 4,157 \$	6,235 \$	-	-	\$ 10,391 \$	43,353 \$	53,744 \$	
Total Base and Option Costs:										\$ 681,754	

Total Cost Summary

• Use this worksheet/tab for overall cost verification and historical cost collection only.

TOTAL PROJECT COSTS WITH ALL CLIN'S & OPTIONS				
All division costs include both CLIN and Option dollars.				
Total Project Overall Quantity:		397	SF	
MasterFormat Identification (ID)	Activity Name	Budgeted Total Cost	Unit Cost	Unit
Division 1	0100.0000 TOTAL GENERAL REQUIREMENTS	\$0	\$0.00	SF
Division 2	0200.0000 TOTAL EXISTING CONDITIONS	\$235,327	\$593.10	SF
Division 3	0300.0000 TOTAL CONCRETE	\$0	\$0.00	SF
Division 4	0400.0000 TOTAL MASONRY	\$0	\$0.00	SF
Division 5	0500.0000 TOTAL METALS	\$0	\$0.00	SF
Division 6	0600.0000 TOTAL WOOD, PLASTIC, & COMPOSITES	\$234,148	\$590.13	SF
Division 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	\$134,254	\$338.37	SF
Division 8	0800.0000 TOTAL OPENINGS	\$22,862	\$57.62	SF
Division 9	0900.0000 TOTAL FINISHES	\$6,870	\$17.31	SF
Division 10	1000.0000 TOTAL SPECIALTIES	\$0	\$0.00	SF
Division 11	1100.0000 TOTAL EQUIPMENT	\$0	\$0.00	SF
Division 12	1200.0000 TOTAL FURNISHINGS	\$0	\$0.00	SF
Division 13	1300.0000 TOTAL SPECIAL CONSTRUCTION	\$0	\$0.00	SF
Division 14	1400.0000 TOTAL CONVEYING EQUIPMENT	\$0	\$0.00	SF
Division 21	2100.0000 TOTAL FIRE SUPPRESSION	\$0	\$0.00	SF
Division 22	2200.0000 TOTAL PLUMBING	\$0	\$0.00	SF
Division 23	2300.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	\$0	\$0.00	SF
Division 26	2600.0000 TOTAL ELECTRICAL	\$0	\$0.00	SF
Division 27	2700.0000 TOTAL COMMUNICATIONS	\$0	\$0.00	SF
Division 28	2800.0000 TOTAL ELECTRONIC SAFETY & SECURITY	\$0	\$0.00	SF
Division 31	3100.0000 TOTAL EARTHWORK	\$29,441	\$74.20	SF
Division 32	3200.0000 TOTAL EXTERIOR IMPROVEMENTS	\$18,852	\$47.51	SF
Division 33	3300.0000 TOTAL UTILITIES	\$0	\$0.00	SF
Division 34	3400.0000 TOTAL TRANSPORTATION	\$0	\$0.00	SF
Division 35	3500.0000 TOTAL WATERWAY & MARINE	\$0	\$0.00	SF
Division 41	4100.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIP	\$0	\$0.00	SF
Division 42	4200.0000 PROCESS HEATING/COOLING EQUIPMENT	\$0	\$0.00	SF
Division 44	4400.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIP	\$0	\$0.00	SF
Division 46	4600.0000 TOTAL WATER & WASTEWATER EQUIPMENT	\$0	\$0.00	SF
Division 48	4800.0000 TOTAL ELECTRICAL POWER GENERATION	\$0	\$0.00	SF
Grand Total:		\$681,754	\$1,718.26	SF

CLIN Number: CLIN 1
CLIN Title: Small Barnum Boat House
Park Alpha: ISRO
PMIS Number: 333132A

Overall Period of Performance:	Individual CLIN Period of Performance (as needed):

Estimator Name:	Todd Slater
Current Estimate Date:	3/4/2025
Estimate Reviewed By:	Seth Pszczolowski
Estimate Reviewed Date:	3/4/2025

[Go to](#)
[Step 3 Cost Schedule](#)

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
Rounding or Plug numbers are not acceptable. Estimate will be rejected if used.
To the left of the **MasterFormat WBS Codes (Work Breakdown Structure)**, click outline symbol + (plus) to show

MasterFormat Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
0100.0000 TOTAL GENERAL REQUIREMENTS															
DIVISION 1		397	SF	\$	\$0 \$			\$0 \$	\$0 \$			\$0 \$	\$	-	\$0
0241.0000 DEMOLITION															
Division 2															
MF-2020 Code	Remove Channel Siding	60	SF	\$	\$0	\$	5.00	\$	\$300	\$	\$0	\$	\$0	\$	\$300
MF-2020 Code	Remove Trim	20	LF	\$	\$0	\$	9.50	\$	\$190	\$	\$0	\$	\$0	\$	\$190
MF-2020 Code	Remove Barge Board	30	LF	\$	\$0	\$	7.50	\$	\$225	\$	\$0	\$	\$0	\$	\$225
MF-2020 Code	Remove T & G Wall Boards	10	SF	\$	\$0	\$	5.00	\$	\$50	\$	\$0	\$	\$0	\$	\$50
MF-2020 Code	Remove Roofing to Sheathing	510	SF	\$	\$0	\$	2.50	\$	\$1,275	\$	\$0	\$	\$0	\$	\$1,275
MF-2020 Code	Remove Floor Decking	10	SF	\$	\$0	\$	7.75	\$	\$78	\$	\$0	\$	\$0	\$	\$78
MF-2020 Code	Remove Log Floor Joist	40	SF	\$	\$0	\$	\$540	\$	\$540	\$	\$0	\$	\$0	\$	\$540
MF-2020 Code	Haul & Dispose - Load & Haul to Nearest Commercial Center	2	Load	\$	\$1,600	\$	6,400.00	\$	\$12,800	\$	\$2,880	\$	\$0	\$	\$17,440
MF-2020 Code	Remove Floor Joist - Salvage	1	Ea	\$	\$75	\$	75	\$	\$75	\$	\$0	\$	\$0	\$	\$75
MF-2020 Code	Remove Door - Refurb. Salvage	1	Ea	\$	\$75	\$	75	\$	\$75	\$	\$0	\$	\$0	\$	\$75
MF-2020 Code	Remove Window for Rehab. Salvage	5	SF	\$	0.85	\$	7.65	\$	\$43	\$	\$0	\$	\$0	\$	\$43
MF-2020 Code	Remove Floor Decking - Access to Cribbs - Salvage/Re-install	1	Sum	\$	\$270	\$	1,080.00	\$	\$1,080	\$	\$0	\$	\$0	\$	\$1,350
MF-2020 Code	Remove Rock Bullets - Salvage	0	Oy	\$	\$0	\$	250.00	\$	\$1,563	\$	\$0	\$	\$0	\$	\$1,563
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal		397	SF	\$	\$2,004	\$	48.86	\$	\$19,269	\$	\$2,880	\$	\$0	\$	\$24,153
0240.0000 DEMOLITION/STRUCTURE MOV															
Division 2															
MF-2020 Code	Remove Tree	5	Ea	\$	\$0	\$	600.00	\$	\$3,000	\$	\$750	\$	\$0	\$	\$3,750
MF-2020 Code	Haul & Dispose - Load & Haul to Nearest Commercial Center	2	Load	\$	\$10.00	\$	6,561.00	\$	\$13,122	\$	\$2,616	\$	\$0	\$	\$19,698
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal		397	SF	\$	\$1,600	\$	40.83	\$	\$16,122	\$	\$3,666	\$	\$0	\$	\$22,408
0300.0000 TOTAL DEMOLITION/STRUCTURE MOV															
MF-2020 Code	0300.0000 TOTAL DEMOLITION/STRUCTURE MOV	397	SF	\$	\$1,600	\$	\$3,666	\$	\$16,122	\$	\$3,666	\$	\$0	\$	\$22,408
0400.0000 TOTAL ROUGH CARPENTRY															
DIVISION 4		397	SF	\$	\$3,850	\$	\$3,850	\$	\$3,850	\$	\$3,850	\$	\$0	\$	\$7,700
0400.0000 TOTAL MASONRY		397	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
0400.0000 TOTAL MASONRY		397	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
0500.0000 TOTAL METALS															
DIVISION 5		397	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
0615.0000 WOOD DECKING															
MF-2020 Code	Replace Floor Decking - 15%	10	SF	\$	8.93	\$	\$89	\$	\$134	\$	\$0	\$	\$0	\$	\$223
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal		397	SF	\$	\$89	\$	0.34	\$	\$134	\$	\$0	\$	\$0	\$	\$223
0615.0000 ROUGH CARPENTRY															
Division 6															
MF-2020 Code	Replace Barge Board - 60%	30	LF	\$	\$222	\$	11.10	\$	\$333	\$	\$0	\$	\$0	\$	\$333
MF-2020 Code	Crib Members - Rock Bullets - Re-Use Existing - 20%	6.3	Oy	\$	\$21	\$	\$21.25	\$	\$821	\$	\$274	\$	\$0	\$	\$1,094
MF-2020 Code	Crib Members - Rock Bullets	10	Oy	\$	\$215	\$	\$215	\$	\$850	\$	\$1,075	\$	\$0	\$	\$1,345
MF-2020 Code	Replace Floor Joist - 100%	40	SF	\$	\$1,350	\$	\$1,350	\$	\$800	\$	\$0	\$	\$0	\$	\$1,350
MF-2020 Code	Replace Floor Joist - 100%	40	SF	\$	\$1,485	\$	\$1,485	\$	\$881	\$	\$0	\$	\$0	\$	\$1,485
MF-2020 Code	Anchorages - Log Floor Joist to Cribbing - Marine	300	Ea	\$	\$800	\$	\$240,000	\$	\$7,800	\$	\$0	\$	\$0	\$	\$247,800
MF-2020 Code	Stair Rafter	20	Ea	\$	\$500	\$	\$10,000	\$	\$1,500	\$	\$0	\$	\$0	\$	\$11,500
MF-2020 Code	Rafter Tie	10	Ea	\$	\$750	\$	\$7,500	\$	\$1,250	\$	\$0	\$	\$0	\$	\$8,750
MF-2020 Code	Collar Tie	10	Ea	\$	\$300	\$	\$3,000	\$	\$450	\$	\$0	\$	\$0	\$	\$3,450
MF-2020 Code	Sheathing Overlay - 15/32" Plywood	510	SF	\$	\$1.18	\$	\$602	\$	\$903	\$	\$0	\$	\$0	\$	\$1,505
MF-2020 Code	Anchorages - Rafter to Wall Framing - CFS Clip	30	Ea	\$	\$750	\$	\$225	\$	\$150	\$	\$0	\$	\$0	\$	\$375
MF-2020 Code	Replumb Exterior Wall	540	SF	\$	0.70	\$	\$378	\$	\$1,512	\$	\$0	\$	\$0	\$	\$1,890
MF-2020 Code	Anchorages - Wall Framing to Floor - Anchorage	20	Ea	\$	2.25	\$	\$45	\$	\$45	\$	\$0	\$	\$0	\$	\$90
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal		397	SF	\$	\$6,016	\$	\$2,044	\$	\$13,697	\$	\$1,388	\$	\$0	\$	\$24,511
0610.0000 ROUGH CARPENTRY, PLASTIC & COMPOSITES															
DIVISION 6		397	SF	\$	\$6,016	\$	\$43.83	\$	\$13,631	\$	\$1,336	\$	\$0	\$	\$24,511
0700.0000 TOTAL ROUGH CARPENTRY, PLASTIC & COMPOSITES															
DIVISION 7		397	SF	\$	\$3,774	\$	11.10	\$	\$5,661	\$	\$0	\$	\$0	\$	\$9,456
MF-2020 Code	Cedar Shingle Roof w/ Brackets	510	SF	\$	\$740	\$	\$3,774	\$	\$5,661	\$	\$0	\$	\$0	\$	\$9,456
MF-2020 Code	Ice & Saw Shield - @ Eaves	350	SF	\$	0.75	\$	\$263	\$	\$1,050	\$	\$0	\$	\$0	\$	\$1,313
MF-2020 Code	Roof Flashing	510	SF	\$	\$1.50	\$	\$765	\$	\$510	\$	\$0	\$	\$0	\$	\$1,275
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal		397	SF	\$	\$12.10	\$	\$4,802	\$	\$7,221	\$	\$0	\$	\$0	\$	\$12,023
0741.0000 ROOF PANELS															
Division 7															
MF-2020 Code	Replace/Patch Chandel Siding - 5% Damaged	30	SF	\$	\$300	\$	\$15.00	\$	\$450	\$	\$0	\$	\$0	\$	\$750
MF-2020 Code	Replace/Patch Chandel Siding - 5% Structural	30	SF	\$	\$100	\$	\$300	\$	\$450	\$	\$0	\$	\$0	\$	\$750
MF-2020 Code	Repair Fording Nail	1	Ea	\$	\$100	\$	\$150	\$	\$150	\$	\$0	\$	\$0	\$	\$250
MF-2020 Code	Repair/Patch - All Siding/Tim	540	SF	\$	0.55	\$	\$297	\$	\$1,188	\$	\$0	\$	\$0	\$	\$1,485
MF-2020 Code	Replace/Repair Tim - 5% Damaged	10	LF	\$	6.00	\$	\$60	\$	\$90	\$	\$0	\$	\$0	\$	\$105
MF-2020 Code	Replace/Repair Tim - 5% Structural	10	LF	\$	6.00	\$	\$60	\$	\$90	\$	\$0	\$	\$0	\$	\$105
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal		397	SF	\$	\$1,129	\$	6.14	\$	\$2,436	\$	\$0	\$	\$0	\$	\$3,566
0742.0000 WALL PANELS															
DIVISION 7		397	SF	\$	\$4,931	\$	24.34	\$	\$3,957	\$	\$0	\$	\$0	\$	\$8,888
0810.0000 DOORS AND FRAMES															
Division 8															
MF-2020 Code	Renail Single Door - Hardware/Cl Hinges/Finish	1	Ea	\$	\$450	\$	\$675	\$	\$825	\$	\$0	\$	\$0	\$	\$1,325
MF-2020 Code	Renail Single Door - Repair Door Panel/Hardware/Cl Hinges/Finish	1	Ea	\$	\$500	\$	\$500	\$	\$825	\$	\$0	\$	\$0	\$	\$1,375

Estimate Type: **Class C/A Estimate**

CLIN Number: **CLIN 1**

Unit of Measure: **Barium Box House**

Estimate Number: **150**

PMIS Number: **33332A**

Overall Period of Performance: **8**

Overall Quantity: **397**

Unit of Measure: **East (SF)**

Estimate Reviewed By: **Sam Proczkowski**

Individual CLIN period of Performance (as needed):

Facility Type: **4110 Office**

Estimate Name: **Todd Slater**

Estimate Reviewed By: **Sam Proczkowski**

Estimate Reviewed Date: **3/4/2025**

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- Rounding or Plug numbers are not acceptable. Estimate will be rejected if used.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show expand groups required for the ICE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat		Activity Descriptions		MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
WBS Code	Level 1	WBS Code	Level 2	Unit	Quantity	Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Equipment Cost/Unit	Total Equipment Cost
MF-2020 Code		0610.0000 DOORS AND FRAMES		Ea	1	\$632.00	\$632.00	948.00	\$948.00	-	\$0.00	-	\$0.00	-	\$1,580.00
Subtotal		0610.0000 DOORS AND FRAMES		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0620.0000 WINDOWS		SF	397	\$4.11	\$1,632.00	6.17	\$2,448.00	-	\$0.00	-	\$0.00	-	\$4,080.00
Subtotal		0620.0000 WINDOWS		SF	397	\$4.11	\$1,632.00	6.17	\$2,448.00	-	\$0.00	-	\$0.00	-	\$4,080.00
MF-2020 Code		0630.0000 WALL FINISHES		SF	397	\$2.70	\$1,070.00	41.55	\$16,891.50	-	\$0.00	-	\$0.00	-	\$17,961.50
Subtotal		0630.0000 WALL FINISHES		SF	397	\$2.70	\$1,070.00	41.55	\$16,891.50	-	\$0.00	-	\$0.00	-	\$17,961.50
MF-2020 Code		0640.0000 FLOORING		SF	397	\$4.63	\$1,838.00	6.69	\$2,635.00	-	\$0.00	-	\$0.00	-	\$4,473.00
Subtotal		0640.0000 FLOORING		SF	397	\$4.63	\$1,838.00	6.69	\$2,635.00	-	\$0.00	-	\$0.00	-	\$4,473.00
MF-2020 Code		0650.0000 TOTAL FINISHES		SF	397	\$10.00	\$3,970.00	15.00	\$15,900.00	-	\$0.00	-	\$0.00	-	\$19,870.00
Subtotal		0650.0000 TOTAL FINISHES		SF	397	\$10.00	\$3,970.00	15.00	\$15,900.00	-	\$0.00	-	\$0.00	-	\$19,870.00
MF-2020 Code		0660.0000 FLOORING		SF	397	\$0.25	\$100.00	0.38	\$150.00	-	\$0.00	-	\$0.00	-	\$250.00
Subtotal		0660.0000 FLOORING		SF	397	\$0.25	\$100.00	0.38	\$150.00	-	\$0.00	-	\$0.00	-	\$250.00
MF-2020 Code		0670.0000 FLOORING		SF	60	\$7.20	\$432.00	10.80	\$648.00	-	\$0.00	-	\$0.00	-	\$1,080.00
Subtotal		0670.0000 FLOORING		SF	60	\$7.20	\$432.00	10.80	\$648.00	-	\$0.00	-	\$0.00	-	\$1,080.00
MF-2020 Code		0680.0000 FLOORING		SF	397	\$1.40	\$557.00	1.63	\$648.00	-	\$0.00	-	\$0.00	-	\$1,205.00
Subtotal		0680.0000 FLOORING		SF	397	\$1.40	\$557.00	1.63	\$648.00	-	\$0.00	-	\$0.00	-	\$1,205.00
MF-2020 Code		0690.0000 TOTAL FURNISHINGS		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0690.0000 TOTAL FURNISHINGS		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0700.0000 TOTAL SPECIAL CONSTRUCTION		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0700.0000 TOTAL SPECIAL CONSTRUCTION		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0710.0000 TOTAL FIRE SUPPRESSION		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0710.0000 TOTAL FIRE SUPPRESSION		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0720.0000 TOTAL PLUMBING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0720.0000 TOTAL PLUMBING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0730.0000 TOTAL MECHANICAL, HEATING, & AIR CONDITIONING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0730.0000 TOTAL MECHANICAL, HEATING, & AIR CONDITIONING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0740.0000 TOTAL ELECTRICAL		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0740.0000 TOTAL ELECTRICAL		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0750.0000 TOTAL COMMUNICATIONS		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0750.0000 TOTAL COMMUNICATIONS		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0760.0000 TOTAL ELECTRONIC SAFETY & SECURITY		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0760.0000 TOTAL ELECTRONIC SAFETY & SECURITY		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0770.0000 TOTAL GRADING		LI	50	\$4.00	\$200.00	4.20	\$210.00	1.40	\$56.00	-	\$0.00	-	\$256.00
Subtotal		0770.0000 TOTAL GRADING		LI	50	\$4.00	\$200.00	4.20	\$210.00	1.40	\$56.00	-	\$0.00	-	\$256.00
MF-2020 Code		0780.0000 EROSION AND SEDIMENTATION CONTROLS		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0780.0000 EROSION AND SEDIMENTATION CONTROLS		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0790.0000 EROSION AND SEDIMENTATION CONTROLS		Sum	1	\$2,000.00	\$2,000.00	2,550.00	\$2,550.00	450.00	\$450.00	-	\$0.00	-	\$5,000.00
Subtotal		0790.0000 EROSION AND SEDIMENTATION CONTROLS		Sum	1	\$2,000.00	\$2,000.00	2,550.00	\$2,550.00	450.00	\$450.00	-	\$0.00	-	\$5,000.00
MF-2020 Code		0800.0000 TOTAL SITE FURNISHINGS		SF	397	\$5.04	\$2,000.00	6.43	\$2,550.00	1.13	\$450.00	-	\$0.00	-	\$5,000.00
Subtotal		0800.0000 TOTAL SITE FURNISHINGS		SF	397	\$5.04	\$2,000.00	6.43	\$2,550.00	1.13	\$450.00	-	\$0.00	-	\$5,000.00
MF-2020 Code		0810.0000 TOTAL PLANTING		Ea	1	\$650.00	\$650.00	144.50	\$1,445.00	25.50	\$255.00	-	\$0.00	-	\$2,350.00
Subtotal		0810.0000 TOTAL PLANTING		Ea	1	\$650.00	\$650.00	144.50	\$1,445.00	25.50	\$255.00	-	\$0.00	-	\$2,350.00
MF-2020 Code		0820.0000 TOTAL PLANTING		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0820.0000 TOTAL PLANTING		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0830.0000 TOTAL PLANTING		SF	397	\$1.71	\$680.00	0.36	\$136.00	0.06	\$24.00	-	\$0.00	-	\$840.00
Subtotal		0830.0000 TOTAL PLANTING		SF	397	\$1.71	\$680.00	0.36	\$136.00	0.06	\$24.00	-	\$0.00	-	\$840.00
MF-2020 Code		0840.0000 TOTAL PLANTING		SF	800	\$2.10	\$1,680.00	1.05	\$840.00	0.35	\$280.00	-	\$0.00	-	\$2,800.00
Subtotal		0840.0000 TOTAL PLANTING		SF	800	\$2.10	\$1,680.00	1.05	\$840.00	0.35	\$280.00	-	\$0.00	-	\$2,800.00
MF-2020 Code		0850.0000 TOTAL PLANTING		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0850.0000 TOTAL PLANTING		Unit	0	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0860.0000 TOTAL PLANTING		SF	397	\$4.23	\$1,680.00	2.12	\$840.00	0.71	\$280.00	-	\$0.00	-	\$2,800.00
Subtotal		0860.0000 TOTAL PLANTING		SF	397	\$4.23	\$1,680.00	2.12	\$840.00	0.71	\$280.00	-	\$0.00	-	\$2,800.00
MF-2020 Code		0870.0000 TOTAL PLANTING		SF	397	\$5.95	\$2,380.00	2.48	\$996.00	0.77	\$300.00	-	\$0.00	-	\$3,676.00
Subtotal		0870.0000 TOTAL PLANTING		SF	397	\$5.95	\$2,380.00	2.48	\$996.00	0.77	\$300.00	-	\$0.00	-	\$3,676.00
MF-2020 Code		0880.0000 TOTAL PLANTING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0880.0000 TOTAL PLANTING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0890.0000 TOTAL PLANTING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0890.0000 TOTAL PLANTING		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0900.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0900.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0910.0000 TOTAL PROCESS HEATING/COOLING EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0910.0000 TOTAL PROCESS HEATING/COOLING EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0920.0000 TOTAL TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0920.0000 TOTAL TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0930.0000 TOTAL WATER & WASTEWATER EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0930.0000 TOTAL WATER & WASTEWATER EQUIPMENT		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
MF-2020 Code		0940.0000 TOTAL ELECTRICAL POWER GENERATION		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00
Subtotal		0940.0000 TOTAL ELECTRICAL POWER GENERATION		SF	397	\$0.00	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00	-	\$0.00

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1
Unit Name: Barnum Boat House
Drawn By: JSC
Drawn Date: 3/14/2025
PMS Number: 3331.32A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 397
Unit Name: Barnum Boat House
Unit Code: 4100 Building
Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate By: Todd Slater
Estimate Reviewed By: Sam Poczokowski
Estimate Reviewed Date: 3/4/2025

• No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.

• Rounding or Plug numbers are not acceptable. Estimate will be rejected if used.

• To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the iGE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

• MARKUP PRECENTAGES will initially be populated from the Markups worksheet but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIRECT COSTS				\$40,771		\$72,078		\$0	\$8,739	\$0			\$12,158		
TAXES				\$2,242		\$0			\$0	\$0			\$2,242		

TOTAL NET CONSTRUCTION \$1,582,801 \$ 628,010
Variance Check \$ 954,791
(Check for formula errors if cell is RED)

Total Direct Construction: \$121,588

MARKUP TYPES		MARKUPS AND FACTORS DESCRIPTION		TOTALS	
A	Class C/B	Park Location Factor (PLF):	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.	\$12,823.59
B	Class C/B	Project Specific Remoteness:	120.30%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/transport Costs.	\$147,000.19
C	Class C/B	Federal Wage Rate Factor:	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.	\$0.00
D	Class C/B	State & Local Taxes:	5.50%	Material X Labor: 0 Equipment: 0 Other: 0	\$2,242.41
E	Class C/B	Historic Preservation Factor:	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources	\$12,158.83
F	Class C/B/A	Design Contingency:	20.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources	\$24,317.65
G	Class C	Standard General Conditions:	39.85%	This ranges based on ASTM E2516 Expected Accuracy Range/Tolerance for design contingency and estimates best professional judgement based on phase of design, complexity, and size of project.	\$19,830.92
H	Class C	Government General Conditions:	5.00%	(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project, based on previous park projects. This is elevated due to assumed duration and staffing requirements.	\$27,484.60
I	Class C/B	Testing & Inspections:	1.00%	(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)	\$15,991.55
J	Class C/B	Permits & Fees:	1.00%	(Approximate Range 3% to 3%) Soil, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.	\$3,198.31
Subtotal NET Construction Cost:					\$3,198.31
Subtotal NET Construction Cost:					\$469,703.68
K	Class C/B/A	Home Office Overhead:	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.	\$56,364.44
L	Class C/B/A	Profit:	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.	\$28,182.22
M	Class C/B/A	Performance Bond:	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.	\$9,394.07
Subtotal NET Construction Cost:					\$563,644.42
N	Class C/B/A	Contracting Method Adjustment:	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.	\$28,182.22
O	Class C/B/A	Inflation Escalation Annual Rate:	3.55%	Aggregate Rate - Use 4% for 2025-2026	\$36,182.99
CURRENT DATE TO IMPONCT OF CONSTRUCTION (Months): 20					
Total Estimated NET Cost of Construction: Variance Check					\$528,010 \$29,010
Total percentage markup					51.7%
(Check for formula errors if cell is RED)					

Estimate Type: Class C/A Estimate

Option Number: Option 2
Option Title: Shingle Roof - Fire Rated
Plan Number: 1500
PMS Number: 3331.32A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity:
Unit of Measure: LS
Asset Code: 4100 Building
Facility Type:

Estimator Name: Todd Slater
Current Estimate By: Todd Slater
Estimate Reviewed By: Sarah Poczobski
Estimate Reviewed Date: 3/4/2025

[Go To Sheet 3 Cost Schedule](#)

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimates will be rejected if used.
- Rounding or Plug numbers are not acceptable. Estimates will be rejected if used.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the G/E and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	0100-0000 TOTAL GENERAL REQUIREMENTS	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 2	0200-0000 TOTAL EXISTING CONDITIONS	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 3	0300-0000 TOTAL CONCRETE	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 4	0400-0000 TOTAL MASONRY	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 5	0500-0000 TOTAL METALS	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 6	0600-0000 TOTAL WOOD, PLASTIC, & COMPOSITES	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 7	0740-0000 ROOF PANELS														
MF-2020 Code	Base Bid Deduct	1	Sum	\$ (3,774.00)	\$-3,774 \$	(5,661.00)	\$-5,661 \$	-	\$0 \$	-	\$0 \$	(9,435.00)	\$-9,435 \$	-	
MF-2020 Code	Class B Cedar Shingle Roofing	510	SF	\$ 11.84	\$6,038 \$	17.76	\$9,008 \$	-	\$0 \$	-	\$0 \$	29.60	\$15,006 \$	-	
MF-2020 Code	Mineral Cap Sheet	510	SF	\$ 2.60	\$1,265 \$	3.90	\$1,089 \$	-	\$0 \$	-	\$0 \$	6.50	\$3,315 \$	-	
MF-2020 Code	Description	0	Unit	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
Subtotal	0740-0000 ROOF PANELS	1	LS	\$ 3,900.40	\$3,900 \$	5,395.60	\$5,396 \$	-	\$0 \$	-	\$0 \$	8,976.00	\$8,976 \$	46,724.21	\$46,424
DIVISION 7	0760-0000 TOTAL THERMAL & MOISTURE PROTECTION	1	LS	\$ 3,900.40	\$3,900 \$	5,395.60	\$5,396 \$	-	\$0 \$	-	\$0 \$	8,976.00	\$8,976 \$	-	\$0
DIVISION 8	0800-0000 TOTAL INSULATION	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 9	0900-0000 TOTAL FINISHES	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 10	1000-0000 TOTAL SPECIALTIES	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 11	1100-0000 TOTAL EQUIPMENT	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 12	1200-0000 TOTAL FURNISHINGS	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 13	1300-0000 TOTAL SPECIAL CONSTRUCTION	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 14	1400-0000 TOTAL CONVEYING EQUIPMENT	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 15	1500-0000 TOTAL MATERIALS HANDLING	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 16	1600-0000 TOTAL PROCESSING & PRESERVATION	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 22	2200-0000 TOTAL PLUMBING	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 23	2300-0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 26	2600-0000 TOTAL ELECTRICAL	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 27	2700-0000 TOTAL COMMUNICATIONS	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 28	2800-0000 TOTAL ELECTRONIC SAFETY & SECURITY	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 31	3100-0000 TOTAL EARTHWORK	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 32	3200-0000 TOTAL TRANSPORTATION IMPROVEMENTS	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 33	3300-0000 TOTAL UTILITIES	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 34	3400-0000 TOTAL TRANSPORTATION	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 35	3500-0000 TOTAL WATERWAY & MARINE	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 41	4100-0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 42	4200-0000 PROCESS HEATING/COOLING EQUIPMENT	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 44	4400-0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 45	4500-0000 TOTAL POLLUTION & WASTEWATER EQUIPMENT	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0
DIVISION 46	4600-0000 TOTAL ELECTRICAL POWER GENERATION	1	LS	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0

Estimate Type: Class C/A Estimate

Option Number: Option 2
Option Title: Cedar Shingle Roof - Fire Rated
Unit of Measure: SQR
PMS Number: 33332A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 3
Unit of Measure: SQR
Facility Code: 4000 Building
Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed Date: 3/4/2025

[Go to Step 3 Cost Schedule](#)

No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.

Rounding or Plug numbers are not acceptable. Estimate will be rejected if used.

To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the ICE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost

DIRECT COSTS	\$3,590	\$3,590	\$5,386	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TAXES		\$197					\$0								\$197

TOTAL NET CONSTRUCTION															
Total Direct Construction:	\$8,976	\$	\$8,976												
Variance Check	\$	\$	\$												

MARKUP PERCENTAGES will initially be populated from the Markups worksheet/tab but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

Markup ALLOWED		MARKUP TYPES		Markups and Factors DESCRIPTION					TOTALS						
A	Class C,B	Park Location Factor (PLF):	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.					\$924.53						
B	Class C,B	Project Specific Remedeness:	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Bangor Transport Costs.					\$10,951.98						
C	Class C,B	Federal Wage Rate Factor:	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.					\$0.00						
D	Class C,B	State & Local Taxes:	5.50%	Material:	X	Labor:	0	Equipment:	0	Other:	0	\$197.47			
E	Class C,B	Historic Preservation Factor:	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources					\$897.60						
F	Class C,B,A	Design Contingency:	20.00%	This ranges based on ASTM E2516 Expected Accuracy Range/Tolerance for design contingency and estimators best professional judgement based on phase of design, complexity, and size of project.					\$1,795.20						
G	Class C	Standard General Conditions:	39.86%	Total Direct Construction Costs:					\$23,642.78						
H	Class C	Government General Conditions:	5.00%						(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project, based on previous park projects. This is elevated due to assumed duration and staffing requirements.					\$9,424.01	
I	Class C,B	Testing & Inspections:	1.00%						(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)					\$1,182.14	
J	Class C,B	Permits & Fees:	1.00%						(Approximate Range 1% to 3%) Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.					\$236.43	
				(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.					\$238.49						
K	Class C,B,A	Home Office Overhead:	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.					\$34,721.79						
L	Class C,B,A	Profit:	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.					\$4,166.62						
M	Class C,B,A	Performance Bond:	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.					\$2,083.31						
N	Class C,B,A	Contracting Method Adjustment:	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.					\$894.44						
O	Class C,B,A	Inflation Escalation Annual Rate:	3.55%	Aggregate Rate - Use 4% for 2025-2026					\$2,083.31						

Total Estimated NET Cost of Construction:	\$46,424	\$	\$46,424												
Variance Check	\$	\$	\$												

Wage Rate Factor Analysis

Park: Isle Royale National Park

Project Title: Small Barnum Boat House Condition Assessment and Treatment
Published Market Center: Superior, Wi.
Project County: Keweenaw County
Davis Bacon Decision: MI20250155

Date Updated: 1/3/2025
Estimate Data Source: ACC Proprietary Database
Market Center Adjustment Factor: 99.5%
Estimator: Todd Slater

Trade	2025	Market Adjusted Wage Rates for Superior, Wi.	Davis Bacon with Fringe Wage Rates for the county of: Keweenaw County	Wage Difference	Wage Adjustment Factor
	RSMMeans National Average Direct Wage Rates				
Bricklayer	\$ 63.59	\$ 63.27	\$ 55.09	\$ (8.18)	-12.9%
Cement Mason/Finisher	\$ 60.55	\$ 60.25	\$ 30.30	\$ (29.95)	-49.7%
Carpenter	\$ 64.55	\$ 64.22	\$ 52.17	\$ (12.05)	-18.8%
Roofer	\$ 57.24	\$ 56.96	\$ 42.45	\$ (14.51)	-25.5%
Electrician	\$ 76.43	\$ 76.05	\$ 55.67	\$ (20.38)	-26.8%
Equipment Operator (average)	\$ 68.81	\$ 68.47	\$ 63.77	\$ (4.70)	-6.9%
Ironworker (Structural/reinforcement)	\$ 71.48	\$ 71.12	\$ 60.78	\$ (10.34)	-14.5%
Common Laborer	\$ 52.23	\$ 51.97	\$ 50.44	\$ (1.53)	-2.9%
Painters (average)	\$ 55.81	\$ 55.53	\$ 40.87	\$ (14.66)	-26.4%
Plumbers	\$ 79.58	\$ 79.18	\$ 62.12	\$ (17.06)	-21.5%
Sheet Metal Worker	\$ 77.02	\$ 76.63	\$ 51.27	\$ (25.36)	-33.1%
Truck Drivers (average)	\$ 59.91	\$ 59.61	\$ 22.26	\$ (37.35)	-62.7%
Average Wage & Adjustment Factor:		\$ 65.27	\$ 48.93	\$ (16.34)	-25.1%

Conclusion:

Davis Bacon Wage Rates for

Keweenaw County

 are on average

-25.1%

 than RSMMeans Trades represent the workforce composition which will staff the majority of this project and also closely match the adjusted RSMMeans rates. When greater than 0%, add appropriate Wage Adjustment Factor percentage to Federal Wage Rate Factor in the Markups. If Wage Adjustment Factor is less than 0%, then the rate used for the estimate Federal Wage Rate Factor should be 0%.

Note: Adjustment Factor should only be applied to the Labor of the estimate.

Davis Bacon Wage Rates (Wage Determinations)

Continue wage rate comparison and conclusion narrative:

Basis of Estimate and Cost Summary - Project Information

Park Acronym:	ISRO
Park Name:	Isle Royale National Park
Project Title:	Johns Log Cabin Condition Assessment and Treatment
Park Management Information System (PMIS) Number:	333132A
Design Phase:	Conditions Assessment and Treatment
State:	Michigan
County work location:	Keweenaw County
Database Name:	ACC Proprietary Database
Database Year:	2025
Estimate Type:	Class C/A Estimate
Current Estimate Date:	3/4/2025
Construction Start Date:	7/15/2026
Project Period of Performance (Months):	8
Architect/Engineer (A/E) Company:	Mundus Bishop
Estimating Company:	ACC Cost Estimating
Estimator Name:	Todd Slater
Estimate Reviewed By:	Seth Pszczolkowski
Estimate Reviewed Date:	3/4/2025
Estimator Phone:	503-718-0075
Project Description (Scope of Work):	This HPPD Treatment Plan presents a comprehensive planning tool to guide management and improvement of three historic structures—Small Barnum Boat House, Large Barnum Boat House, and Johns Log Cabin—and their cultural landscapes on Barnum Island. The document updates existing cultural resource documentation and supplements treatment guidance by providing stabilization recommendations for these structures and sites in response to climate change impacts.
Estimate Assumptions:	- Production rates assumed slow for NPS and very remote work. - Barging of materials assumed to originate from Superior, WI. - Of the 8 Month period of performance this portion of the contract is assumed to account for 3 months for purposes of calculating GC's.
Source of Cost Data:	ACC Proprietary Database - 2025 ACC maintains a cost database dedicated to NPS projects. Pricing is derived from current market conditions through continuous contact with materials suppliers, NPS contractors, and local non-NPS contractors. The database is able to adjust for local labor rates and productivity factors. ACC uses input from separate mechanical and electrical estimators as well.
Schedule Clarification:	The construction season on Isle Royale is limited to mid May through Mid September (five months). The contract period of performance will include 1.5 months on front end for project planning and 1.5 months at the end for closeout. An eight-month contract period of performance expected.
Other Clarifications or Exclusions:	- None
Documentation:	- Communication with local sales reps was conducted for specific materials pricing as warranted, to either update existing or include materials not priced.
Standard Clarifications:	• This estimate is the NET Construction costs of the project which includes direct cost of construction, location factor, remoteness factor, federal wage rate factor, historic preservation factor, design contingency, permitting, contracting method of procurement, testing, general conditions, bonds, permits and contractor overhead, profit, & escalation. • This estimate does NOT include Gross costs which Includes Construction Contingency and NPS Construction management. • This estimate does NOT include the Total costs of compliance, predesign, design, and supplemental services.

Project Specific Markups & Tax Allocations

Tax Allocations

- After verifying with the local tax jurisdictions and NPS tax requirements, enter **X** in fields which require project taxes. This will populate the appropriate taxes throughout the estimate.

Material	Labor	Equipment	Other
X			

Project Specific Markups

- **Refer to Cost Estimating Requirements Handbook > Chapter 4 Estimate Markups for guidance on this section.**
- This chart shows how markups are applied at different phases of design.
- Add required markups in column **C** and specific descriptions in column **D**. These entries will populate throughout the estimate.
- Re-evaluate markups at each phase of design as details develop and added to the estimate. Adjust percentage as appropriate in individual CLINs.
- **If no X is shown in a field, costs previously applied in the percentage need to be fully applied within the direct costs, either as actual activities or increases to individual unit costs and a 0% shown in the markups.**

Markups	Percent %	Description <i>Overwrite instructions to provide detailed description for each markup and how it was determined.</i>	Class C Conceptual	Class C Schematic	Class B Design Development	Class A Construction Documents
A	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.	X	X	X	
B	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/Transport Costs.	X	X	X	
C	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.	X	X	X	
D	5.50%	Sales Tax applied to 40% of Other Cost.	X	X	X	
E	10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources	X	X	X	
F	20.00%	This ranges based on ASTM E2516 Expected Accuracy Range/Tolerance for design contingency and estimators best professional judgement based on phase of design, complexity, and size of project.	X	X	X	X
TOTAL DIRECT CONSTRUCTION COSTS						
G	20.07%	(Approximate Range 4% to 20%) Standard field general requirements and conditions for duration of project, based on previous park projects. This is elevated due to assumed duration and staffing requirements.	X	X		
H	5.00%	(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1. Specifications for guidance.)	X	X		
I	1.00%	(Approximate Range 1% to 3%) Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.	X	X	X	
J	1.00%	(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.	X	X	X	
SUBTOTAL NET CONSTRUCTION COST						
K	12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.	X	X	X	X
L	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.	X	X	X	X
M	2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.	X	X	X	X
ESTIMATED NET CONSTRUCTION COST						
N	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.	X	X	X	X
O	3.55%	Aggregate Rate - Use 4% for 2025-2026	X	X	X	X
CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months): 20						

Summary NET Cost Schedule

Park Acronym:	ISRO
Park Name:	Isle Royale National Park
Project Title:	Johns Log Cabin Condition Assessment and Treatment
Park Management Information System (PMIS) Number:	333132A
Current Estimate Date:	3/4/2025

- Estimator to start estimate by completing gray cells with initial project information and CLIN titles per line item designated by NPS for the project.
- Information added on this worksheet will populated the rest of the template.
- Click on the CLIN number to route to corresponding CLIN worksheet/tab.

Contract Line Item Number (CLIN) & Option Number	Contract Line Item Title	Quantity	Unit of Measure	Unit Price	Total Price
CLIN 1	Johns Log Cabin	148	Square Feet (SF)	10,047	\$1,486,949.80
TOTAL BASE PRICE (CLINs 1):					\$1,486,949.80
Option 1	Cedar Shingle Roof - Preservative Treated	148	Square Feet (SF)	23	\$3,353.12
Option 2	Cedar Shingle Roof - Fire Rated	148	Square Feet (SF)	144	\$21,266.61
Option 3	Gravel Foundation	148	Square Feet (SF)	-803	-\$118,772.70
TOTAL PRICE FOR ALL OPTIONS (Options 1 to 3):					-\$94,152.97
TOTAL PROPOSED PRICE - BASE PLUS ALL OPTIONS (CLINs 1 + Options 1 to 3):					\$1,392,796.83

CLIN NET Cost Summary

Project Title: Johns Log Cabin Condition Assessment and Treatment
Park Name: Isle Royale National Park

Park Management Information System (PMIS) Number: 333132A
Park Acronym: JSRO

Bid Item Number	Bid Item Description	Overall Quantity	Unit of Measure	Total Material Cost	Total Labor Cost	Total Equipment Cost	Total Other Cost	Total Direct Construction Costs	Total Markups	NET Bid Item Total	NET Bid Item Unit Cost
CLIN 1	Johns Log Cabin	148	Square Feet (SF)	\$ 94,797	\$ 221,921	\$ 16,342	\$ -	\$ 333,060	\$ 1,153,890	\$ 1,486,950	\$ 10,047
			Total CLIN Items:	\$ 94,797	\$ 221,921	\$ 16,342	\$ -	\$ 333,060	\$ 1,153,890	\$ 1,486,950	
Option 1	Cedar Shingle Roof - Preservative Treated	148	Square Feet (SF)	\$ 300	\$ 450	\$ -	\$ -	\$ 749	\$ 2,604	\$ 3,353	\$ 23
Option 2	Cedar Shingle Roof - Fire Rated	148	Square Feet (SF)	\$ 1,901	\$ 2,851	\$ -	\$ -	\$ 4,752	\$ 16,515	\$ 21,267	\$ 144
Option 3	Gravel Foundation	148	Square Feet (SF)	\$ (10,462)	\$ (12,060)	\$ (4,020)	\$ -	\$ (26,543)	\$ (92,230)	\$ (118,773)	\$ (803)
			Total Option Items:	\$ (8,262)	\$ (8,760)	\$ (4,020)	\$ -	\$ (21,042)	\$ (73,111)	\$ (94,153)	
Total Base and Option Costs:										\$ 1,392,797	

Total Cost Summary

• Use this worksheet/tab for overall cost verification and historical cost collection only.

TOTAL PROJECT COSTS WITH ALL CLIN'S & OPTIONS				
All division costs include both CLIN and Option dollars.				
Total Project Overall Quantity:		148	SF	
MasterFormat Identification (ID)	Activity Name	Budgeted Total Cost	Unit Cost	Unit
Division 1	0100.0000 TOTAL GENERAL REQUIREMENTS	\$0	\$0.00	SF
Division 2	0200.0000 TOTAL EXISTING CONDITIONS	\$631,653	\$4,267.92	SF
Division 3	0300.0000 TOTAL CONCRETE	\$3,182	\$21.50	SF
Division 4	0400.0000 TOTAL MASONRY	\$0	\$0.00	SF
Division 5	0500.0000 TOTAL METALS	\$0	\$0.00	SF
Division 6	0600.0000 TOTAL WOOD, PLASTIC, & COMPOSITES	\$152,021	\$1,027.17	SF
Division 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	\$497,639	\$3,362.43	SF
Division 8	0800.0000 TOTAL OPENINGS	\$27,680	\$187.03	SF
Division 9	0900.0000 TOTAL FINISHES	\$0	\$0.00	SF
Division 10	1000.0000 TOTAL SPECIALTIES	\$0	\$0.00	SF
Division 11	1100.0000 TOTAL EQUIPMENT	\$0	\$0.00	SF
Division 12	1200.0000 TOTAL FURNISHINGS	\$0	\$0.00	SF
Division 13	1300.0000 TOTAL SPECIAL CONSTRUCTION	\$0	\$0.00	SF
Division 14	1400.0000 TOTAL CONVEYING EQUIPMENT	\$0	\$0.00	SF
Division 21	2100.0000 TOTAL FIRE SUPPRESSION	\$0	\$0.00	SF
Division 22	2200.0000 TOTAL PLUMBING	\$0	\$0.00	SF
Division 23	2300.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	\$0	\$0.00	SF
Division 26	2600.0000 TOTAL ELECTRICAL	\$0	\$0.00	SF
Division 27	2700.0000 TOTAL COMMUNICATIONS	\$0	\$0.00	SF
Division 28	2800.0000 TOTAL ELECTRONIC SAFETY & SECURITY	\$0	\$0.00	SF
Division 31	3100.0000 TOTAL EARTHWORK	\$55,620	\$375.81	SF
Division 32	3200.0000 TOTAL EXTERIOR IMPROVEMENTS	\$25,001	\$168.93	SF
Division 33	3300.0000 TOTAL UTILITIES	\$0	\$0.00	SF
Division 34	3400.0000 TOTAL TRANSPORTATION	\$0	\$0.00	SF
Division 35	3500.0000 TOTAL WATERWAY & MARINE	\$0	\$0.00	SF
Division 41	4100.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIP	\$0	\$0.00	SF
Division 42	4200.0000 PROCESS HEATING/COOLING EQUIPMENT	\$0	\$0.00	SF
Division 44	4400.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIP	\$0	\$0.00	SF
Division 46	4600.0000 TOTAL WATER & WASTEWATER EQUIPMENT	\$0	\$0.00	SF
Division 48	4800.0000 TOTAL ELECTRICAL POWER GENERATION	\$0	\$0.00	SF
Grand Total:		\$1,392,797	\$9,410.79	SF

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1	Overall Period of Performance: 8
CLIN Title: Joins Log Cabin	Unit of Measure: Square Feet (SF)
PMIS Number: 333132A	Asset Code: 4100 Building
	Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seth Pyszczkowski
Estimate Reviewed Date: 3/4/2025

Go to
Site 3 Cost Schedule

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- Red text indicates a change from the previous estimate. Red text indicates a change from the previous estimate.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the G/E and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code	Activity Descriptions	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	0100.0000 TOTAL GENERAL REQUIREMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 2	0241.0000 DEMOLITION														
MF-2020 Code	Remove Shingle Siding	80	SF	\$	\$0	5.00	\$400	-	\$0	-	\$0	5.00	\$400	-	\$400
MF-2020 Code	Remove Trim	30	LF	\$	\$0	9.50	\$285	-	\$0	-	\$0	9.50	\$285	-	\$285
MF-2020 Code	Remove Roofing to Sheathing	270	SF	\$	\$0	2.50	\$675	-	\$0	-	\$0	2.50	\$675	-	\$675
MF-2020 Code	Remove Bangs Board	40	LF	\$	\$0	7.50	\$300	-	\$0	-	\$0	7.50	\$300	-	\$300
MF-2020 Code	Remove Siding	1	EA	\$	\$0	350.00	\$350	-	\$0	-	\$0	350.00	\$350	-	\$350
MF-2020 Code	Remove Carpet	230	SF	\$	\$0	1.40	\$322	-	\$0	-	\$0	1.40	\$322	-	\$322
MF-2020 Code	Remove Floor Framing	108	LF	\$	\$0	10.00	\$1,080	-	\$0	-	\$0	10.00	\$1,080	-	\$1,080
MF-2020 Code	Dispose of Log Exterior Wall	400	SF	\$	\$0	15.00	\$6,000	-	\$0	-	\$0	15.00	\$6,000	-	\$6,000
MF-2020 Code	Haul & Dispose - Load & Haul to Nearest Commercial Center	3	Load	\$	\$3,275	9,156.00	\$27,468	1,962.00	\$5,886	-	\$0	12,288.00	\$36,624	-	\$36,624
MF-2020 Code	Remove Wood Strip/Oakum Log Fill - Exterior/Interior - Salvage	870	SF	\$	\$235	248	\$2,153	-	\$0	-	\$0	2.75	\$2,393	-	\$2,393
MF-2020 Code	Remove Trim - Salvage	30	LF	\$	\$108	332	\$290	-	\$0	-	\$0	10.75	\$323	-	\$323
MF-2020 Code	Remove Window for Rehab - Salvage	20	SF	\$	\$17	7.65	\$153	-	\$0	-	\$0	8.50	\$170	-	\$170
MF-2020 Code	Remove Door - Single - Salvage	1	EA	\$	\$26	247.50	\$2,468	-	\$0	-	\$0	275.00	\$2,750	-	\$2,750
MF-2020 Code	Remove Floor Decking - Salvage/Re-Install	210	SF	\$	\$567	10.80	\$2,268	-	\$0	-	\$0	13.50	\$2,835	-	\$2,835
MF-2020 Code	Deconstruct/Relocate/Re-Construct Log Cabin on New Foundation - Catalog Members	148	SF	\$	\$12,778	344.00	\$5,912	-	\$0	-	\$0	430.00	\$63,640	-	\$63,640
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0241.0000 DEMOLITION	148	SF	\$	\$16,881	627.73	\$62,804	39.77	\$5,886	-	\$0	781.56	\$115,671	-	\$115,671
Division 2	0240.0000 DEMOLITION/STRUCTURE MOV														
MF-2020 Code	Remove Tree	10	EA	\$	\$0	600.00	\$6,000	150.00	\$1,500	-	\$0	750.00	\$7,500	-	\$7,500
MF-2020 Code	Haul & Dispose - Load & Haul to Nearest Commercial Center	2	Load	\$	\$1,680	6,804.00	\$13,608	1,512.00	\$3,024	-	\$0	9,156.00	\$18,132	-	\$18,132
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0240.0000 DEMOLITION/STRUCTURE MOV	148	SF	\$	\$12,415	132.49	\$19,698	30.57	\$4,524	-	\$0	174.41	\$25,812	-	\$25,812
DIVISION 2	0300.0000 TOTAL EXISTING CONDITIONS	148	SF	\$	\$18,563	760.22	\$112,512	70.34	\$10,410	-	\$0	955.97	\$144,483	-	\$144,483
Division 3	0330.0000 CAST-IN-PLACE CONCRETE														
MF-2020 Code	Spread Footing Foundation w/ Sbrn Clad CIP Piers - Assume 150 CF Concrete	148	SF	\$	\$10,927	83.06	\$12,293	27.68	\$4,097	-	\$0	184.57	\$27,316	-	\$27,316
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0330.0000 CAST-IN-PLACE CONCRETE	148	SF	\$	\$10,927	83.06	\$12,293	27.68	\$4,097	-	\$0	184.57	\$27,316	-	\$27,316
DIVISION 3	0300.0000 TOTAL CONCRETE	148	SF	\$	\$10,927	83.06	\$12,293	27.68	\$4,097	-	\$0	184.57	\$27,316	-	\$27,316
DIVISION 4	0400.0000 TOTAL MASONRY	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 5	0500.0000 TOTAL METALS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 6	0613.0000 HEAVY TIMBER CONSTRUCTION														
MF-2020 Code	Install Wood Strip/Oakum Log Fill - Exterior/Interior - Salvaged	870	SF	\$	\$1,305	6.00	\$5,220	-	\$0	-	\$0	7.50	\$6,525	-	\$6,525
MF-2020 Code	Wood Strip/Oakum Log Fill - Interior	290	SF	\$	\$1,450	7.50	\$2,175	-	\$0	-	\$0	12.50	\$3,625	-	\$3,625
MF-2020 Code	Daubing - Matching Historic - Exterior	580	SF	\$	\$3,825	9.90	\$5,742	-	\$0	-	\$0	16.50	\$9,570	-	\$9,570
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0613.0000 HEAVY TIMBER CONSTRUCTION	148	SF	\$	\$6,583	88.76	\$13,137	-	\$0	-	\$0	133.24	\$19,720	-	\$19,720
Division 6	0610.0000 ROUGH CARPENTRY														
MF-2020 Code	Replace Bangs Board - 60%	40	LF	\$	\$296	11.10	\$444	-	\$0	-	\$0	18.50	\$740	-	\$740
MF-2020 Code	Replace Lower Siding	1	EA	\$	\$660	990.00	\$990	-	\$0	-	\$0	1,650.00	\$1,650	-	\$1,650
MF-2020 Code	Replace Floor Decking - 30%	90	SF	\$	\$804	13.40	\$1,206	-	\$0	-	\$0	22.33	\$2,010	-	\$2,010
MF-2020 Code	Floor Framing - 4x6 PT	60	LF	\$	\$900	22.50	\$1,350	-	\$0	-	\$0	37.50	\$2,250	-	\$2,250
MF-2020 Code	Floor Framing - 4x6 PT - Perimeter Beam	48	LF	\$	\$150	15.00	\$225	-	\$0	-	\$0	37.50	\$1,800	-	\$1,800
MF-2020 Code	Floor Framing - 4x6 PT - Mid-Span Beam	12	LF	\$	\$180	22.50	\$270	-	\$0	-	\$0	37.50	\$1,800	-	\$1,800
MF-2020 Code	Repair Joint Ends - 2nd Floor	1	Sum	\$	\$600	900.00	\$900	-	\$0	-	\$0	1,500.00	\$1,500	-	\$1,500
MF-2020 Code	Sister Log Rafter	18	EA	\$	\$1,260	105.00	\$1,890	-	\$0	-	\$0	175.00	\$3,150	-	\$3,150
MF-2020 Code	Sheathing Overlay - 15/32" Plywood	180	SF	\$	\$118	1.77	\$319	-	\$0	-	\$0	2.95	\$531	-	\$531
MF-2020 Code	Anchorage - Rafter to Wall Framing - CFS Clip	20	EA	\$	\$150	5.00	\$100	-	\$0	-	\$0	12.50	\$250	-	\$250
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0610.0000 ROUGH CARPENTRY	148	SF	\$	\$5,783	57.76	\$8,549	-	\$0	-	\$0	96.83	\$14,331	-	\$14,331
DIVISION 6	0300.0000 TOTAL WOOD, PLASTIC, & COMPOSITES	148	SF	\$	\$12,855	146.52	\$21,885	-	\$0	-	\$0	230.07	\$34,051	-	\$34,051
Division 7	0741.0000 ROOF PANELS														
MF-2020 Code	Cedar Shingle Roof w/ Breather	270	SF	\$	\$1,980	11.10	\$2,997	-	\$0	-	\$0	18.50	\$4,995	-	\$4,995
MF-2020 Code	Ice/Water Shield - @ Eaves	240	SF	\$	\$75	3.00	\$220	-	\$0	-	\$0	3.75	\$900	-	\$900
MF-2020 Code	Roof Flashing	270	SF	\$	\$405	1.00	\$270	-	\$0	-	\$0	2.50	\$675	-	\$675
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0741.0000 ROOF PANELS	148	SF	\$	\$2,485	26.94	\$3,887	-	\$0	-	\$0	44.39	\$6,570	-	\$6,570
Division 7	0742.0000 WALL PANELS														
MF-2020 Code	Shingle Siding	80	SF	\$	\$960	18.00	\$1,440	-	\$0	-	\$0	30.00	\$2,400	-	\$2,400
MF-2020 Code	Install Trim - 50%	30	LF	\$	\$198	9.90	\$297	-	\$0	-	\$0	16.50	\$495	-	\$495
MF-2020 Code	Replace Trim - 5%	30	LF	\$	\$198	9.90	\$297	-	\$0	-	\$0	16.50	\$495	-	\$495
MF-2020 Code	Preservative Finish - Trim	60	LF	\$	\$45	3.08	\$185	-	\$0	-	\$0	3.85	\$231	-	\$231
MF-2020 Code	Replace Log Exterior Wall	400	SF	\$	\$38,304	143.64	\$57,456	-	\$0	-	\$0	239.40	\$95,706	-	\$95,706

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1
CLIN Title: Johns Log Cabin
Work Alpha: 353132A
PMS Number: 353132A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 148
Unit of Measure: Square Feet (SF)
Asset Code: 4110 Building
Facility Type: 4110 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Scott Szczepkowski
Estimate Reviewed Date: 3/4/2025

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MasterFormat WBS Code Level 1	MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
MF-2020 Code	Description	0	Unit	\$	\$0	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
Subtotal	0742.0000 WALL PANELS	148	SF	\$ 266.29	\$39,706 \$	403.21	\$59,675 \$	-	\$0	-	\$0	671.49	\$99,381	3.196.08	\$473,020
DIVISION 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	148	SF	\$ 266.74	\$42,289 \$	430.15	\$63,652 \$	-	\$0	-	\$0	715.89	\$105,951	3.196.08	\$473,020

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1
CLIN Title: Main Log Cabin
ISF Number: 333132A
PMS Number: 333132A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 148
Unit of Measure: Square Feet (SF)
Estimate Building: 333132A
Facility Type: 41.10 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/26/25
Estimate Prepared By: Todd Slater
Estimate Reviewed Date: 3/26/25

Go to
Step 3 Cost Schedule

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MasterFormat WBS Code	Activity Descriptions	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
Division 8 0810.0000 DOORS AND FRAMES	MF-2020 Code Reinforced Single Door - Replace Deteriorated Wood/Hardware/Sweep/Threshold/Oil Hinge/Finish	1	Ea	\$	\$760	\$	\$1,140	\$	\$0	\$	\$0	\$	\$1,900	\$	\$1,900
	MF-2020 Code Hinge/Finish	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$5,114	\$	\$7,770	\$	\$0	\$	\$0	\$	\$12,884	\$	\$1,900
	Division 8 0890.0000 WINDOWS	20	SF	\$	\$86,000	\$	\$1,720	\$	\$0	\$	\$0	\$	\$215,000	\$	\$4,300
Division 8 0890.0000 WINDOWS	MF-2020 Code Reinforced Window - Replace Glazing/Putty/Repair/Replace Broken Glazing/Re-Install Window Screen w/ New Clips	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$45,000	\$	\$0
	MF-2020 Code Window Screen w/ New Clips	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$11,622	\$	\$2,580	\$	\$0	\$	\$0	\$	\$29,050	\$	\$4,300
	Division 8 0900.0000 TOTAL OPENINGS	148	SF	\$	\$11,676	\$	\$3,720	\$	\$0	\$	\$0	\$	\$41,890	\$	\$6,200
Division 9 0900.0000 TOTAL FINISHES	MF-2020 Code 1000.0000 TOTAL FINISHES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1000.0000 TOTAL FINISHES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1000.0000 TOTAL FINISHES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 10 1000.0000 TOTAL EQUIPMENT	MF-2020 Code 1100.0000 TOTAL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1100.0000 TOTAL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1100.0000 TOTAL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 11 1100.0000 TOTAL FURNISHINGS	MF-2020 Code 1200.0000 TOTAL FURNISHINGS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1200.0000 TOTAL FURNISHINGS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1200.0000 TOTAL FURNISHINGS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 12 1200.0000 TOTAL CONVEYING EQUIPMENT	MF-2020 Code 1300.0000 TOTAL CONVEYING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1300.0000 TOTAL CONVEYING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1300.0000 TOTAL CONVEYING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 13 1300.0000 TOTAL PLUMBING, HEATING, VENTING, & AIR CONDITIONING	MF-2020 Code 1400.0000 TOTAL PLUMBING, HEATING, VENTING, & AIR CONDITIONING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1400.0000 TOTAL PLUMBING, HEATING, VENTING, & AIR CONDITIONING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1400.0000 TOTAL PLUMBING, HEATING, VENTING, & AIR CONDITIONING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 14 1400.0000 TOTAL ELECTRICAL	MF-2020 Code 1500.0000 TOTAL ELECTRICAL	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1500.0000 TOTAL ELECTRICAL	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1500.0000 TOTAL ELECTRICAL	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 15 1500.0000 TOTAL ELECTRONIC SAFETY & SECURITY	MF-2020 Code 1600.0000 TOTAL ELECTRONIC SAFETY & SECURITY	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1600.0000 TOTAL ELECTRONIC SAFETY & SECURITY	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1600.0000 TOTAL ELECTRONIC SAFETY & SECURITY	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 16 1600.0000 TOTAL GRADING	MF-2020 Code 1700.0000 TOTAL GRADING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1700.0000 TOTAL GRADING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1700.0000 TOTAL GRADING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 17 1700.0000 TOTAL EROSION AND SEDIMENTATION CONTROLS	MF-2020 Code 1800.0000 TOTAL EROSION AND SEDIMENTATION CONTROLS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1800.0000 TOTAL EROSION AND SEDIMENTATION CONTROLS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1800.0000 TOTAL EROSION AND SEDIMENTATION CONTROLS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 18 1800.0000 TOTAL EARTHWORK	MF-2020 Code 1900.0000 TOTAL EARTHWORK	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1900.0000 TOTAL EARTHWORK	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 1900.0000 TOTAL EARTHWORK	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 19 1900.0000 TOTAL SITE IMPROVEMENTS	MF-2020 Code 2000.0000 TOTAL SITE IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2000.0000 TOTAL SITE IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2000.0000 TOTAL SITE IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 20 2000.0000 TOTAL PLANTING	MF-2020 Code 2100.0000 TOTAL PLANTING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2100.0000 TOTAL PLANTING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2100.0000 TOTAL PLANTING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 21 2100.0000 TOTAL EXTERIOR IMPROVEMENTS	MF-2020 Code 2200.0000 TOTAL EXTERIOR IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2200.0000 TOTAL EXTERIOR IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2200.0000 TOTAL EXTERIOR IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 22 2200.0000 TOTAL UTILITIES	MF-2020 Code 2300.0000 TOTAL UTILITIES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2300.0000 TOTAL UTILITIES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2300.0000 TOTAL UTILITIES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 23 2300.0000 TOTAL WATERWAY & MARINE	MF-2020 Code 2400.0000 TOTAL WATERWAY & MARINE	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2400.0000 TOTAL WATERWAY & MARINE	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2400.0000 TOTAL WATERWAY & MARINE	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 24 2400.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	MF-2020 Code 2500.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2500.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2500.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 25 2500.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	MF-2020 Code 2600.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2600.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2600.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 26 2600.0000 TOTAL ELECTRICAL POWER GENERATION	MF-2020 Code 2700.0000 TOTAL ELECTRICAL POWER GENERATION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2700.0000 TOTAL ELECTRICAL POWER GENERATION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	MF-2020 Code 2700.0000 TOTAL ELECTRICAL POWER GENERATION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
	Subtotal	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0

Estimate Type: Class C/A Estimate

CLIN Number: CLIN 1
CLIN Title: Unit Log Cabin
ISN: 333132A
PMS Number: 333132A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 348
Unit of Measure: Square Feet (SF)
Estimate Description: Log Cabin
Facility Type: 43.00 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/26/2025
Estimate Number: 333132A
Estimate Reviewed Date: 3/26/2025

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Step 3 Cost Schedule

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MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost

DIRECT COSTS	\$94,797	\$221,921	\$16,342	\$0	\$333,060
TAXES	\$5,214	\$0	\$0	\$0	\$5,214

TOTAL NET CONSTRUCTION
Total Direct Construction: \$333,060 \$10,046.96 \$1,486,950
Variance Check \$1,486,950
(Check for formula errors if cell is RED)

- MARKUP PRECENTAGES will initially be populated from the Markups worksheet but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

MARKUP TYPES		MARKUPS AND FACTORS DESCRIPTION		TOTALS	
A	Class C,B	Park Location Factor (PLF):	10.30%		\$4,305.15
B	Class C,B	Project Specific Remedies:	120.90%		\$402,669.17
C	Class C,B	Federal Wage Rate Factor:	0.00%		\$0.00
D	Class C,B	State & Local Taxes:	5.50%		\$5,213.84
E	Class C,B	Historic Preservation Factor:	10.00%		\$3,305.97
F	Class C,B,A	Design Contingency:	20.00%		\$86,611.94
G	Class C	Standard General Conditions:	20.07%		\$175,645.77
H	Class C	Government General Conditions:	5.00%		\$3,759.29
I	Class C,B	Testing & Inspections:	1.00%		\$8,751.66
J	Class C,B	Permits & Fees:	1.00%		\$8,751.66
Subtotal NET Construction Cost:					\$1,112,073.13
K	Class C,B,A	Home Office Overhead:	12.00%		\$133,446.76
L	Class C,B,A	Profit:	6.00%		\$66,724.39
M	Class C,B,A	Performance Bond:	2.00%		\$22,241.46
Subtotal NET Construction Cost:					\$1,334,487.76
N	Class C,B,A	Contracting Method Adjustment:	5.00%		\$66,724.39
O	Class C,B,A	Inflation Escalation Annual Rate:	3.55%		\$95,731.65
CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months): 20					
Total Estimated NET Cost of Construction:					\$1,486,950
Variance Check:					\$0
Total percentage markup:					44.8%
(Check for formula errors if cell is RED)					

Estimate Type: Class C/A Estimate

Option Number:	Option 1
Option Title:	Clear Shingle Roof - Preservative Treated
Unit of Measure:	SF
Estimate Number:	333132A
PMS Number:	

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 148
Unit of Measure: Square Feet (SF)
Facility: 4310 Building
Facility Type: 4310 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/27/25
Estimate Number: 333132A
Estimate Reviewed Date: 3/26/2025

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MasterFormat WBS Code	Activity Descriptions	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	0100.0000 TOTAL GENERAL REQUIREMENTS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 2	0200.0000 TOTAL EXISTING CONDITIONS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 3	0300.0000 TOTAL CONCRETE	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 4	0400.0000 TOTAL MASONRY	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 5	0500.0000 TOTAL METALS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 6	0600.0000 TOTAL WOOD, PLASTIC, & COMPOSITES	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 7	0710.0000 ROOF PANELS	1	Sum	\$ (1,995.00)	\$ (1,995.00)	2,997.00	\$ (2,997.00)	-	\$0 \$	-	\$0 \$	(4,995.00)	\$ (4,995.00)	-	\$ (4,995.00)
MF-2020 Code	Base Bid Deduct	270	SF	8.51	\$2,296 \$	12.77	\$3,447 \$	-	\$0 \$	-	\$0 \$	21.28	\$5,744 \$	-	\$5,744 \$
MF-2020 Code	Treated Clear Shingle Roofing	0	Unit	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
Subtotal	0710.0000 ROOF PANELS	148	SF	2.03	\$300 \$	3.04	\$450 \$	-	\$0 \$	-	\$0 \$	5.06	\$748 \$	22.66	\$3,353 \$
DIVISION 7	0700.0000 TOTAL THERMAL & MOISTURE PROTECTION	148	SF	2.03	\$300 \$	3.04	\$450 \$	-	\$0 \$	-	\$0 \$	5.06	\$748 \$	22.66	\$3,353 \$
DIVISION 8	0800.0000 TOTAL OPENINGS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 9	0900.0000 TOTAL FINISHES	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 10	1000.0000 TOTAL EQUIPMENT	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 11	1100.0000 TOTAL EXTERIORS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 12	1200.0000 TOTAL FURNISHINGS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 13	1300.0000 TOTAL SPECIAL CONSTRUCTION	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 14	1400.0000 TOTAL CONVEYING EQUIPMENT	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 21	2100.0000 TOTAL FIRE SUPPRESSION	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 22	2200.0000 TOTAL PLUMBING	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 23	2300.0000 TOTAL HEATING, VENTING, & AIR CONDITIONING	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 26	2600.0000 TOTAL ELECTRICAL	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 27	2700.0000 TOTAL COMMUNICATIONS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 28	2800.0000 TOTAL ELECTRONIC SAFETY & SECURITY	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 31	3100.0000 TOTAL EARTHWORK	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 32	3200.0000 TOTAL EXTERIOR IMPROVEMENTS	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 33	3300.0000 TOTAL UTILITIES	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 34	3400.0000 TOTAL TRANSPORTATION	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 35	3500.0000 TOTAL WATERWAY & MARINE	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 41	4100.0000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 42	4200.0000 TOTAL PROCESSING EQUIPMENT	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 43	4300.0000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 46	4600.0000 TOTAL WATER & WASTEWATER EQUIPMENT	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 48	4800.0000 TOTAL ELECTRICAL POWER GENERATION	148	SF	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$

Estimate Type: Class C/A Estimate

Option Number:	Option 1
Option Title:	Cedar Shingle Roof - Preservative Treated
Park Alpha:	ISRO
PMIS Number:	335332A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity:	148
Unit of Measure:	Square Feet (SF)
Asset Code:	4100 Building
Facility Type:	4130 Office

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Sam Piszczkowski
Estimate Reviewed Date: 3/4/2025

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MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost

DIRECT COSTS	\$300	\$450	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$749	\$0	\$749
TAXES	\$16												\$16		\$16

TOTAL NET CONSTRUCTION	\$749	\$	22.66	\$	3.353
Variance Check	\$	3.353			
(Check for formula errors if cell is RED)					

- MARKUP PRECENTAGES will initially be populated from the Markups worksheettab but can be overwritten as the design is developed or for changing requirements of the individual CLIN.

Markup ALLOWED	MARKUP TYPES	DESCRIPTION	TOTALS													
A	Class C,B	Park Location Factor (PLF):	10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.												\$77.17
B	Class C,B	Project Specific Remoteness:	120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every .10 miles for water only access. Includes Barge/Transport Costs.												\$905.84
C	Class C,B	Federal Wage Rate Factor:	0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.												\$0.00
D	Class C,B	State & Local Taxes:	5.50%	Material: X Labor: 0 Equipment: 0 Other: 0												\$16.48
E	Class C,B	Historic Preservation Factor:	10.00%	Approximate Range 5% to 10% Based on level of work on historical resources												\$74.93
F	Class C,B,A	Design Contingency:	20.00%	This ranges based on ASTM E2516 Expected Accuracy Ranges/deduction for design contingency and estimator's best professional judgement based on phase of design, complexity, and size of project.												\$149.85
G	Class C	Standard General Conditions:	20.07%	Approximate Range 4% to 20% Standard field general requirements and conditions for duration of project, based on previous park projects. This is elevated due to assumed duration and staffing requirements.												\$1,973.52
H	Class C	Government General Conditions:	5.00%	Approximate Range 5% to 10% Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)												\$396.09
I	Class C,B	Testing & Inspections:	1.00%	Approximate Range 1% to 3% Soils, structural, material, and MEP (mechanical, electrical & plumbing) testing with inspection requirements.												\$19.74
J	Class C,B	Permits & Fees:	1.00%	Approximate Range 0% to 2% Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.												\$19.74
Subtotal NET Construction Cost:				\$2,507.76												
K	Class C,B,A	Home Office Overhead:	12.00%	Approximate Range 4% to 18% Applicable for type and size of construction per previous park projects.												\$300.93
L	Class C,B,A	Profit:	6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.												\$150.47
M	Class C,B,A	Performance Bond:	2.00%	Approximate Range 1% to 2.5% Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.												\$50.16
Subtotal NET Construction Cost:				\$3,009.31												
N	Class C,B,A	Contracting Method Adjustment:	5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.												\$150.47
O	Class C,B,A	Inflation Escalation Annual Rate:	3.55%	Aggregate Rate - Use 4% for 2025-2026												\$193.34
CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months):			20													
Total Estimated NET Cost of Construction:				\$5,353												
Variance Check				\$ -3.353												
				(Check for formula errors if cell is RED)												
Total percentage markup				448%												

Estimate Type: Class C/A Estimate

Option Number: Option 2
Option Title: Cedar Shingle Roof - Fire Rated
Part Alpha: 330C
PHS Number: 333332A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 148
Unit of Measure: Square Feet (SF)
Asset Code: 4100 Building
Facility Type: 4110 Other

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seth Paszolkowski
Estimate Reviewed Date: 3/4/2025

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MasterFormat WBS Code	Activity Descriptions	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	01000000 TOTAL GENERAL REQUIREMENTS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 2	02000000 TOTAL EXISTING CONDITIONS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 3	03000000 TOTAL CONCRETE	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 4	04000000 TOTAL MASONRY	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 5	05000000 TOTAL METALS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 6	06000000 TOTAL WOOD/PLASTIC, & COMPOSITES	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 7	07100000 DAMPROOFING/WATERPROOFING														
MF-2020 Code	Basal Bid Deduct	1	Sum	\$ (1,998.00)	\$ -1,998 \$	(2,997.00)	\$ -2,997 \$	-	\$0 \$	-	\$0 \$	(4,995.00)	\$ -4,995 \$	-	\$0 \$
MF-2020 Code	Class B Cedar Shingle Roofing	270	SF	\$ 11.84	\$3,127 \$	17.76	\$4,795 \$	-	\$0 \$	-	\$0 \$	29.60	\$7,992 \$	-	\$0 \$
MF-2020 Code	Mineral Cap Sheet	270	SF	\$ 2.60	\$702 \$	3.90	\$1,053 \$	-	\$0 \$	-	\$0 \$	6.50	\$1,755 \$	-	\$0 \$
MF-2020 Code	Description	0	Unit	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
Subtotal	07100000 DAMPROOFING/WATERPROOFING	148	SF	\$ 12.84	\$1,901 \$	10.26	\$2,851 \$	-	\$0 \$	-	\$0 \$	32.11	\$4,752 \$	143.69	\$21,267 \$
DIVISION 7	07000000 TOTAL THERMAL & MOISTURE PROTECTION	148	SF	\$ 12.84	\$1,901 \$	10.26	\$2,851 \$	-	\$0 \$	-	\$0 \$	32.11	\$4,752 \$	-	\$0 \$
DIVISION 8	08000000 TOTAL OPENINGS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 9	09000000 TOTAL FINISHES	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 10	10000000 TOTAL SPECIAL TIES	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 11	11000000 TOTAL EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 12	12000000 TOTAL FINISHINGS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 13	13000000 TOTAL STRUCTURES	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 14	14000000 TOTAL SPECIAL CONSTRUCTION	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 15	15000000 TOTAL SPECIAL EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 21	21000000 TOTAL CONVEYANCE EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 22	22000000 TOTAL FIRE SUPPRESSION	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 23	23000000 TOTAL PLUMBING	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 26	26000000 TOTAL HEATING, VENTING, & AIR CONDITIONING	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 27	27000000 TOTAL ELECTRICAL	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 28	28000000 TOTAL COMMUNICATIONS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 31	31000000 TOTAL ELECTRONIC SAFETY & SECURITY	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 32	32000000 TOTAL EARTHWORK	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 33	33000000 TOTAL EXTERIOR IMPROVEMENTS	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 34	34000000 TOTAL UTILITIES	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 35	35000000 TOTAL TRANSPORTATION	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 36	36000000 TOTAL WATERWAY & MARINE	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 41	41000000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 42	42000000 PROCESS HEATING/COOLING EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 44	44000000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 46	46000000 TOTAL WATER & WASTEWATER EQUIPMENT	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$
DIVISION 48	48000000 TOTAL ELECTRICAL POWER GENERATION	148	SF	\$ -	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$	-	\$0 \$

Option Number: Option 2
Option Title: Cedar Shingle Roof - Fire Rated
Park Alpha: ISRO
PMIS Number: 333132A

Overall Quantity:	148
Unit of Measure:	Square Feet (SF)
Asset Code:	4100 Building
Facility Type:	4110 Office

[Go to](#)
[Step 3 Cost Schedule](#)

• To the left of the **MasterFormat WBS Codes** (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the IGE and begin entering details. For full use of worksheet, unprotect the sheet in the **Review** ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
				DIRECT COSTS	\$1,901				\$2,851	\$0	\$0			\$4,752	
				TAXES		\$105		\$0		\$0	\$0			\$105	

- **MARKUP PERCENTAGES** will initially be populated from the **Markups** worksheet/tab but can be overwritten as the design is developed or for changing requirements of the individual **CLIN**.

Markup ALLOWED		MARKUP TYPES		Markups and Factors DESCRIPTION							TOTALS								
A	Class C,B	Park Location Factor (PLF):		10.30%	A combination of the city cost index and remoteness to the Park Visitor Center. The Park Location Factor (PLF) is automatically inputted when the park acronym is inserted on the Price Schedule.							\$489.46							
B	Class C,B	Project Specific Remoteness:		120.90%	Added cost of remoteness from the Park Visitor Center to the project specific location in the Park. Use minimum 7.75% for every 10 miles for water only access. Includes Barge/Transport Costs.							\$5,745.17							
C	Class C,B	Federal Wage Rate Factor:		0.00%	Using the attached Wage Rate Calculator wage rate needs to be adjusted. Applied to 60% of Other Cost.							\$0.00							
D	Class C,B	State & Local Taxes:		5.50%	Material:	X	Labor:	0	Equipment:	0	Other:	0	\$104.54						
E	Class C,B	Historic Preservation Factor:		10.00%	(Approximate Range 5% to 10%) Based on level of work on historical resources							\$475.20							
F	Class C,B,A	Design Contingency:		20.00%	This ranges based on ASTM E2516 Expected Accuracy Range/Tolerance for design contingency and estimator's best professional judgement based on phase of design, complexity, and size of project.							\$950.40							
G	Class C	Standard General Conditions:		20.07%	Total Direct Construction Costs:							\$12,516.77							
H	Class C	Government General Conditions:		5.00%								(Approximate Range 5% to 10%) Government requirements including, quality assurance and safety requirements. (See Division 1 Specifications for guidance.)							\$2,512.12
I	Class C,B	Testing & Inspections:		1.00%								(Approximate Range 1% to 3%) Soils, structural, material, and MEET (mechanical, electrical & plumbing) testing with inspection requirements.							\$625.84
J	Class C,B	Permits & Fees:		1.00%								(Approximate Range 0% to 2%) Wetlands, local fire requirements, sanitary, water, electrical local utility agency fees.							\$125.17
K	Class C,B,A	Home Office Overhead:		12.00%	(Approximate Range 4% to 18%) Applicable for type and size of construction per previous park projects.							\$1,908.61							
L	Class C,B,A	Profit:		6.00%	Can not exceed 10% per FAR (Federal Acquisition Regulation) requirements.							\$954.30							
M	Class C,B,A	Performance Bond:		2.00%	(Approximate Range 1% to 2.5%) Construction bonding for contractor and subcontractors. The smaller the company the higher the rate.							\$318.10							
					Subtotal NET Construction Cost:							\$15,905.06							
N	Class C,B,A	Contracting Method Adjustment:		5.00%	Verify with project team which contracting method is to be used. Assume Full and Open 5%.							\$954.30							
O	Class C,B,A	Initiation Escalation Annual Rate:		3.55%	Aggregate Rate - Use 4% for 2025-2026							\$1,226.23							
CURRENT DATE TO MIDPOINT OF CONSTRUCTION (Months):				20	Include construction start / finish dates with duration of work in months.														

Total Estimated NET Cost of Construction:	\$21,267	Total percentage markup	448%
Variance Check	\$ 21,267	(Check for formula errors if cell is RED)	

Estimate Type: Class C/A Estimate

Option Number: Option 3
Option Title: Gravel Foundation
Part Alpha: 353C
PHIS Number: 353532A

Overall Period of Performance: 8
Individual CLIN Period of Performance (as needed):

Overall Quantity: 148
Unit of Measure: Square Feet (SF)
Asset Code: 4100 Building
Facility Type: 4110 Other

Estimator Name: Todd Slater
Current Estimate Date: 3/4/2025
Estimate Reviewed By: Seth Paszolkowski
Estimate Reviewed Date: 3/4/2025

Go to
Step 3 Cost Schedule

- No Allowances or Lump Sums can be used with Class B or Class A estimates. Estimate will be rejected if used.
- Rounding or Plug numbers are not acceptable. Estimate will be rejected if used.
- To the left of the MasterFormat WBS Codes (Work Breakdown Structure), click outline symbol + (plus) to show/expand groups required for the ICE and begin entering details. For full use of worksheet, unprotect the sheet in the Review ribbon.

MasterFormat WBS Code Level 1	Activity Descriptions MasterFormat WBS Code Level 2	Quantity	Unit	MATERIAL		LABOR		EQUIPMENT		OTHER		DIRECT CONSTRUCTION		NET CONSTRUCTION	
				Material Cost/Unit	Total Material Cost	Labor Cost/Unit	Total Labor Cost	Equipment Cost/Unit	Total Equipment Cost	Other Cost/Unit	Total Other Cost	Total Cost/Unit	Total Cost	Total Cost/Unit	Total Cost
DIVISION 1	010000000 TOTAL GENERAL REQUIREMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 2	020000000 TOTAL EXISTING CONDITIONS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Division 3 031000000 CONCRETE FORMS&ACCESSORSS															
MF-2020 Code	Base Bid Deduct	1	Sqm	\$	-\$10,927.7	\$	-\$12,292.82	\$	-\$4,097.00	\$	-\$4,097.00	\$	-\$27,316.36	\$	-\$27,316.36
MF-2020 Code	Gravel Base Foundation - Assume 25 CF	148	Sf	\$	\$4654	\$	1.57	\$	0.52	\$	\$77	\$	\$774	\$	\$774
MF-2020 Code	Description	0	Unit	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
Subtotal	031000000 CONCRETE FORMS&ACCESSORSS	148	SF	\$	-\$10,462.7	\$	-\$12,060.3	\$	-\$4,020.52	\$	-\$4,020.52	\$	-\$26,543.54	\$	-\$26,543.54
DIVISION 3	030000000 TOTAL CONCRETE	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 4	040000000 TOTAL MASONRY	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 5	050000000 TOTAL METALS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 6	060000000 TOTAL WOOD, PLASTIC, & COMPOSITES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 7	070000000 TOTAL THERMAL & MOISTURE PROTECTION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 8	080000000 TOTAL OPENINGS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 9	090000000 TOTAL FINISHES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 10	100000000 TOTAL SPECIALTIES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 11	110000000 TOTAL MECHANICAL	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 12	120000000 TOTAL ELECTRICAL	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 13	130000000 TOTAL SPECIAL CONSTRUCTION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 14	140000000 TOTAL CONVEYING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 21	210000000 TOTAL FIRE SUPPRESSION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 22	220000000 TOTAL PLUMBING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 23	230000000 TOTAL HEATING, VENTING, & AIR CONDITIONING	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 26	260000000 TOTAL ELECTRICAL	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 27	270000000 TOTAL COMMUNICATIONS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 28	280000000 TOTAL ELECTRONIC SAFETY & SECURITY	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 31	310000000 TOTAL EARTHWORK	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 32	320000000 TOTAL EXTERIOR IMPROVEMENTS	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 33	330000000 TOTAL UTILITIES	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 34	340000000 TOTAL TRANSPORTATION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 35	350000000 TOTAL WATERWAY & MARINE	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 41	410000000 TOTAL MATERIAL PROCESSING & HANDLING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 42	420000000 PROCESS HEATING/COOLING EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 44	440000000 TOTAL POLLUTION & WASTEWATER CONTROL EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 46	460000000 TOTAL WATER & WASTEWATER EQUIPMENT	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0
DIVISION 48	480000000 TOTAL ELECTRICAL POWER GENERATION	148	SF	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0	\$	\$0

Wage Rate Factor Analysis

Park:	Isle Royale National Park	Date Updated:	1/3/2025
Project Title:	Johns Log Cabin Condition Assessment and Treatment	Estimate Data Source:	ACC Proprietary Database
Published Market Center:	Superior, WI.	Market Center Adjustment Factor:	99.5%
Project County:	Keweenaw County	Estimator:	Todd Slater
Davis Bacon Decision:	MI20250155		

Trade	2025		Market Adjusted Wage Rates for Superior, Wi.	Davis Bacon with Fringe Wage Rates for the county of: Keweenaw County	Wage Difference	Wage Adjustment Factor
	RSM	Means National Average Direct Wage Rates				
Bricklayer	\$	63.59	\$ 63.27	\$ 55.09	\$ (8.18)	-12.9%
Cement Mason/Finisher	\$	60.55	\$ 60.25	\$ 30.30	\$ (29.95)	-49.7%
Carpenter	\$	64.55	\$ 64.22	\$ 52.17	\$ (12.05)	-18.8%
Roofer	\$	57.24	\$ 56.96	\$ 42.45	\$ (14.51)	-25.5%
Electrician	\$	76.43	\$ 76.05	\$ 55.67	\$ (20.38)	-26.8%
Equipment Operator (average)	\$	68.81	\$ 68.47	\$ 63.77	\$ (4.70)	-6.9%
Ironworker (Structural/reinforcement)	\$	71.48	\$ 71.12	\$ 60.78	\$ (10.34)	-14.5%
Common Laborer	\$	52.23	\$ 51.97	\$ 50.44	\$ (1.53)	-2.9%
Painters (average)	\$	55.81	\$ 55.53	\$ 40.87	\$ (14.66)	-26.4%
Plumbers	\$	79.58	\$ 79.18	\$ 62.12	\$ (17.06)	-21.5%
Sheet Metal Worker	\$	77.02	\$ 76.63	\$ 51.27	\$ (25.36)	-33.1%
Truck Drivers (average)	\$	59.91	\$ 59.61	\$ 22.26	\$ (37.35)	-62.7%
Average Wage & Adjustment Factor:			\$ 65.27	\$ 48.93	\$ (16.34)	-25.1%

Conclusion: Keweenaw County are on average -25.1% more/less than RSMean

Trades represent the workforce composition which will staff the majority of this project and also closely match the adjusted RSMean rates.

When greater than 0%, add appropriate Wage Adjustment Factor percentage to Federal Wage Rate Factor in the Markups.

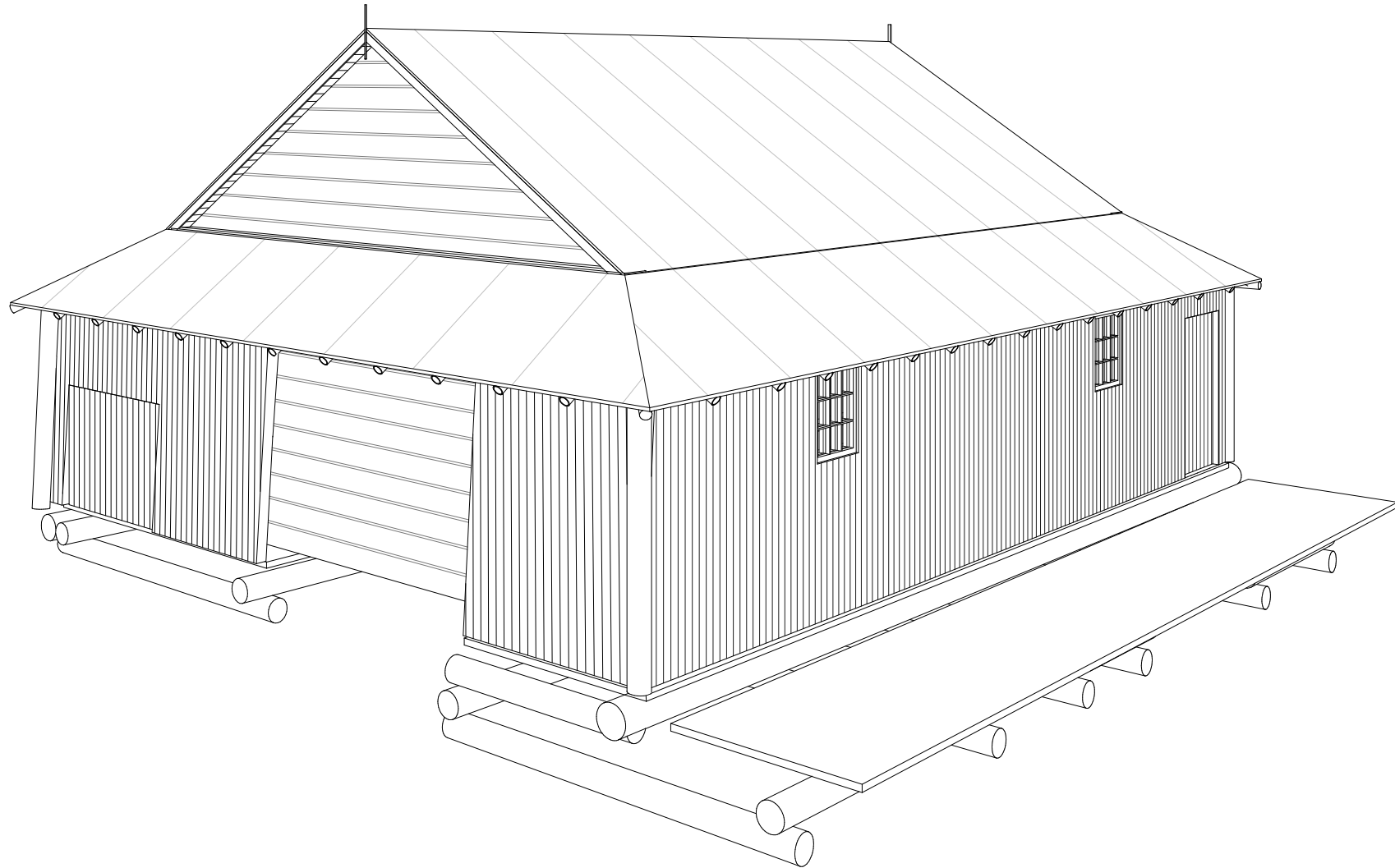
If Wage Adjustment Factor is less than 0%, then the rate used for the estimate Federal Wage Rate Factor should be 0%.

Note: Adjustment Factor should only be applied to the Labor of the estimate.

[Davis Bacon Wage Rates \(Wage Determinations\)](#)

Continue wage rate comparison and conclusion narrative:

Appendix I: Existing Condition Drawings—Buildings



ISLE ROYALE NATIONAL PARK
LARGE BARNUM BOAT HOUSE EXISTING CONDITIONS



NORTHERN MICHIGAN



PHOTO: 1952, HAKALA, ISRO ARCHIVES



PHOTO: 1935, WOLBRINK, ISRO ARCHIVES

EXISTING CONDITIONS DRAWINGS WERE PRODUCED WITH HAND-MEASUREMENTS. SIGNIFICANT PLANAR DISTORTION DUE TO STRUCTURAL MOVEMENT WAS OBSERVED, WHICH IS CAPTURED IN THESE DRAWINGS AS POSSIBLE.

ARCHITECT		LANDSCAPE	
ANDERSON HALLAS ARCHITECTS, PC		MUNDUS BISHOP	
140P2019D0016		DENVER, CO	
ARCH:		LANDSCAPE:	
ANDERSON HALLAS, PC		MUNDUS BISHOP	
GOLDEN, CO 80401		DENVER, CO 80204	
STRUCTURAL:		CIVIL/MARINE:	
JVA, INC.		AMI CONSULTING ENGINEERS	
BOULDER, CO 80302		SUPERIOR, WI 54880	

Mark	Sheet	REVISION	Date	Initial

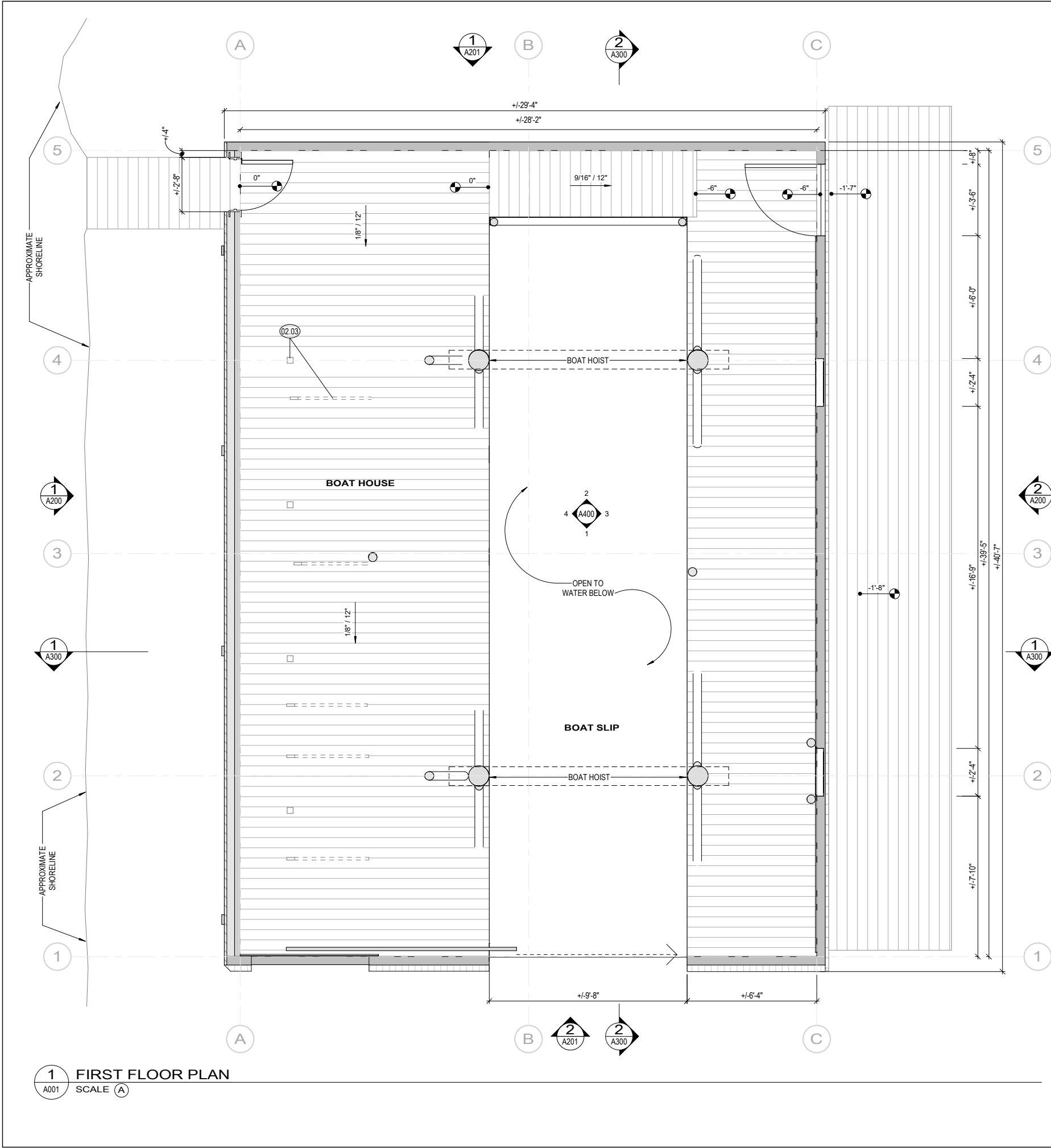
QUALITY DESIGN CERTIFICATION	
☐ Prepared in Accordance with design Development (Title I)	Drawing No.
☐ OR	
☐ Variance from Design Development (Title I)	Date
☐ OR	
☐ Construction Drawing Not Preceded by Design Development (Title I)	
Project Manager	Date



PMIS 333132	
100% HPPD	
UNITED STATES DEPARTMENT OF THE INTERIOR	
NATIONAL PARK SERVICE DENVER SERVICE CENTER	

TITLE OF DRAWING		
ISRO LARGE BARNUM BOAT HOUSE		
LOCATION WITHIN PARK		
BARNUM ISLAND		
NAME OF PARK		
ISLE ROYALE NATIONAL PARK		
REGION	COUNTY	STATE
MIDWEST	KEWEENAW	MICHIGAN

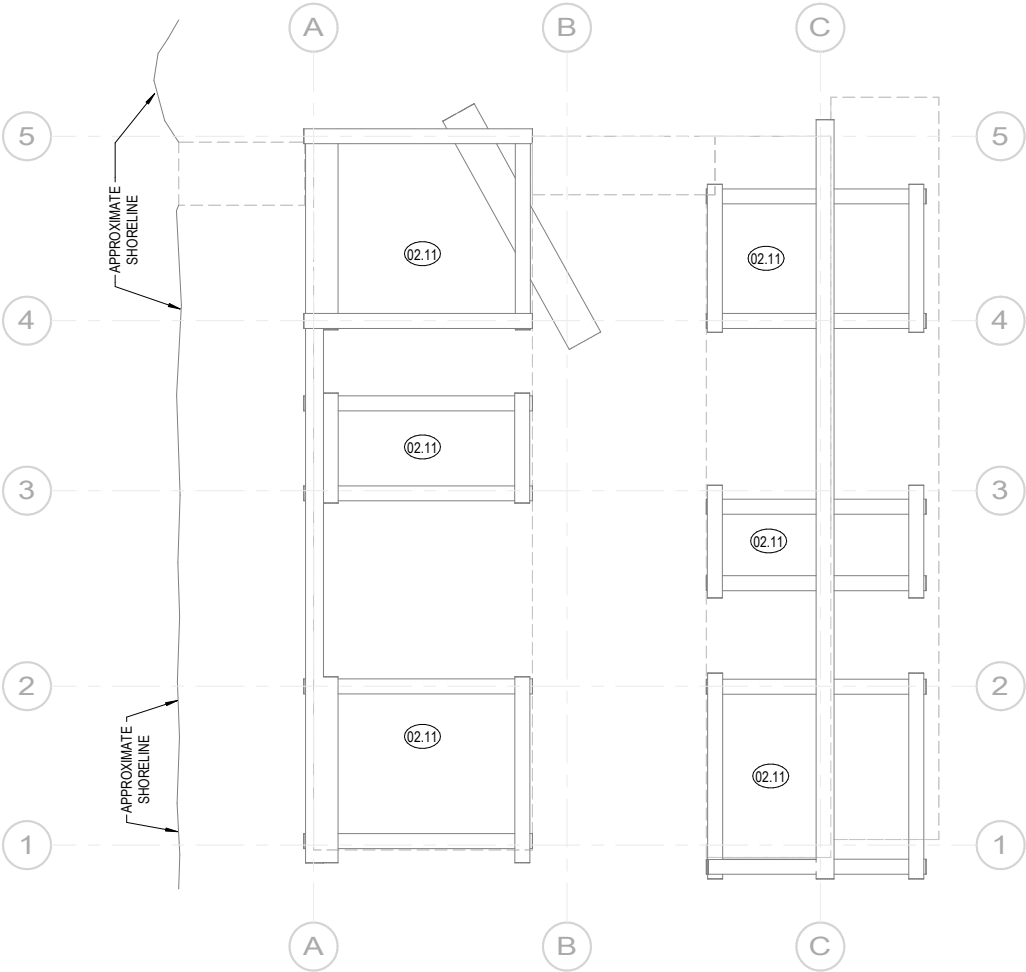
DRAWING NO.
XXX XXXXX
PMIS/PKG NO.
333132
SHEET
1 OF 6



KEYNOTES	
02.03	<N> TEMPORARY WD SHORING ALONG NORTH SIDE OF STRUCTURE
02.11	<E> ROCK BALLAST FILLED TIMBER CRIB FOUNDATION

LEGEND

- <E> 2X6 WD FLOOR PLANKS (RE: PLAN FOR ORIENTATION)
- OVERHEAD



2 LOG FOUNDATION CRIBBING
SCALE (B)

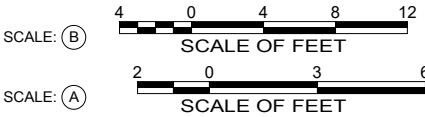
PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

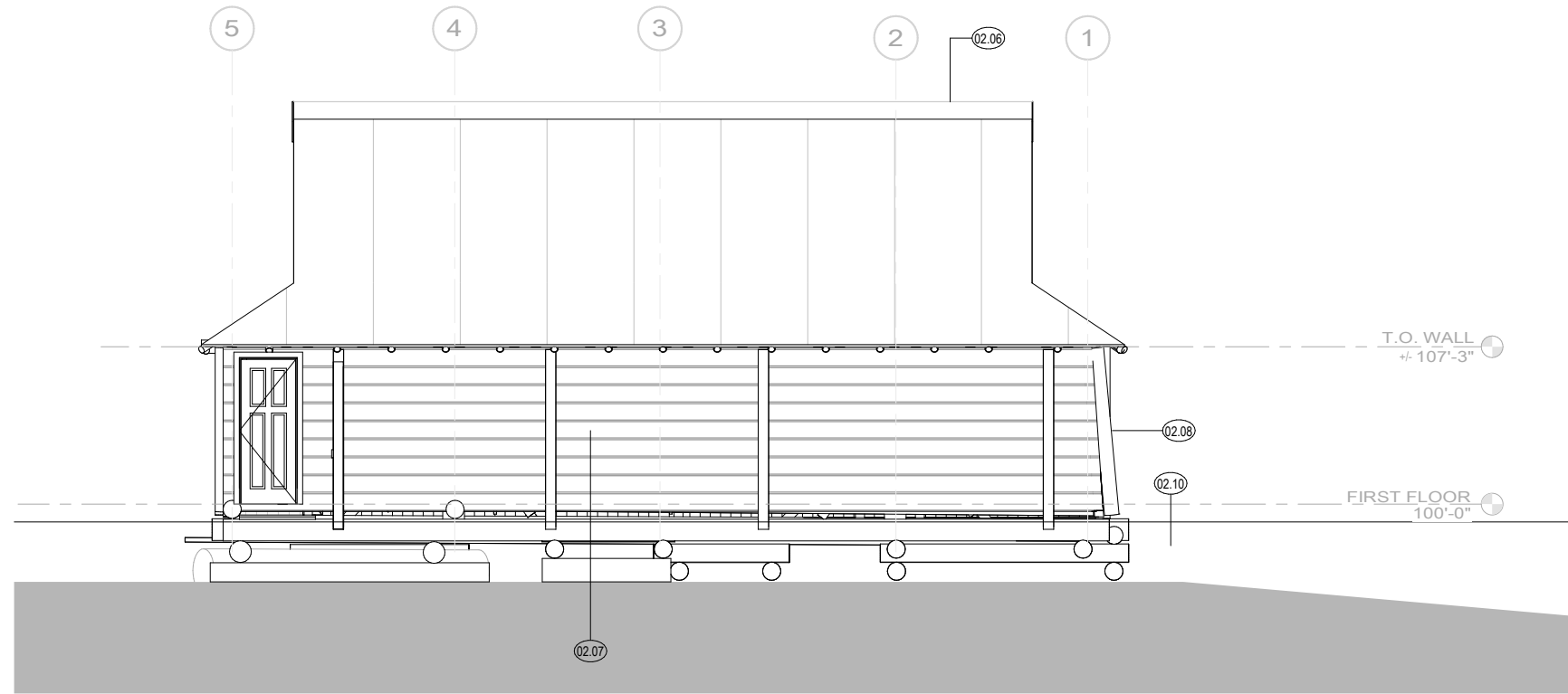
DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.
A001

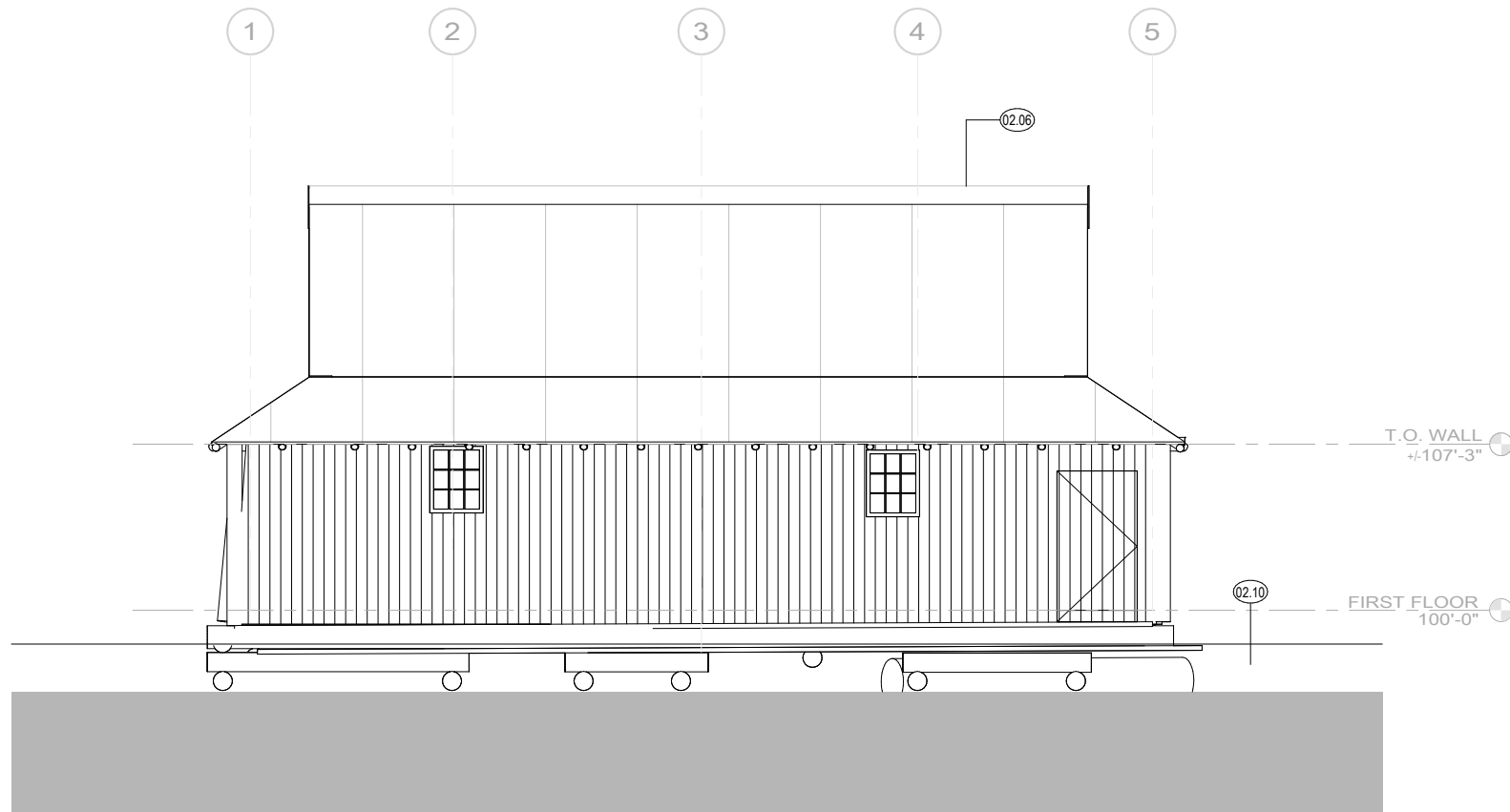
TITLE OF SHEET
FLOOR PLANS - EXISTING
CONDITIONS
ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - LARGE BARNUM BOAT HOUSE

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
2 OF 6





1 NORTH ELEVATION
A200 SCALE (A)



2 SOUTH ELEVATION
A200 SCALE (A)

KEYNOTES

02.06	<E> BIRD WIRE
02.07	NORTH WALL IS SIGNIFICANTLY DISTORTED BY STRUCTURAL DISPLACEMENT. MEASURED RELATIVE TO BASE OF WALL THE TOP OF WALL IS SLANTED OUT +/- 8".
02.08	WEST WALL IS SIGNIFICANTLY DISTORTED BY STRUCTURAL DISPLACEMENT. MEASURED RELATIVE TO BASE OF WALL THE TOP OF WALL IS SLANTED OUT +/- 8".
02.10	APPROXIMATE LAKE LEVEL. LAKE LEVEL FLUCTUATE SEASONALLY AND FROM YEAR-TO-YEAR



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

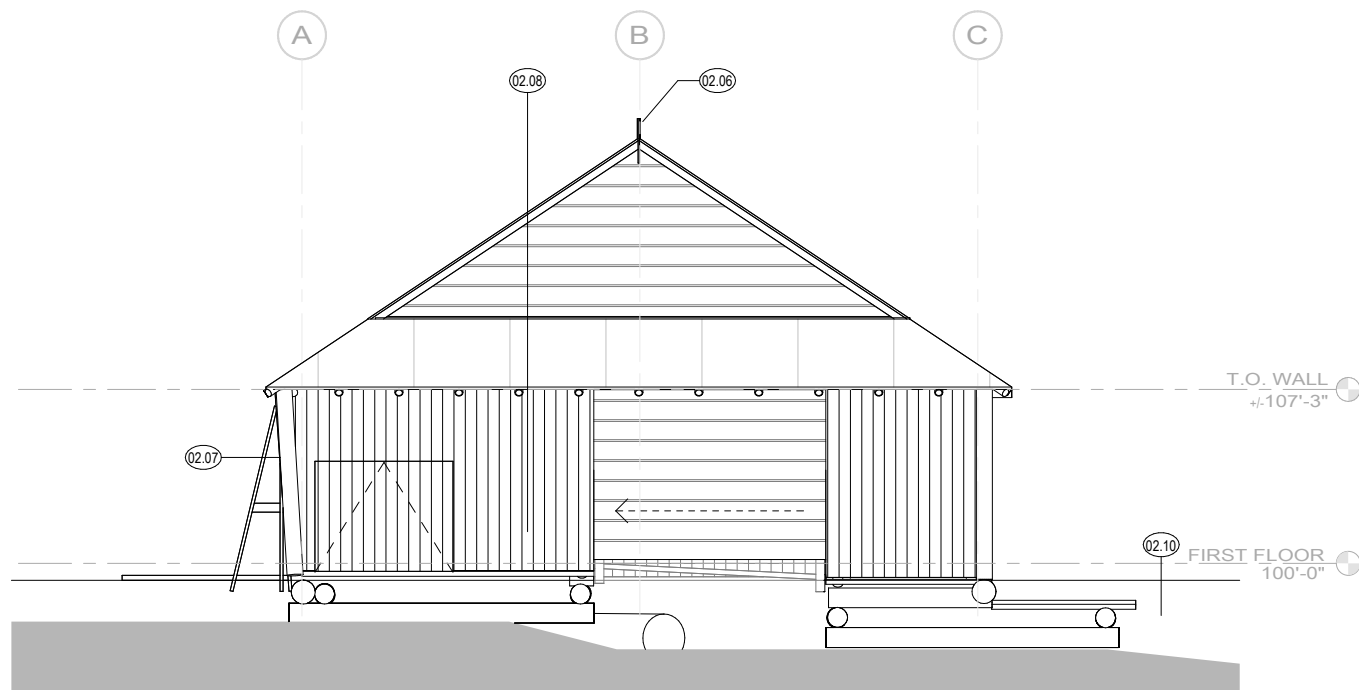
DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.
A200

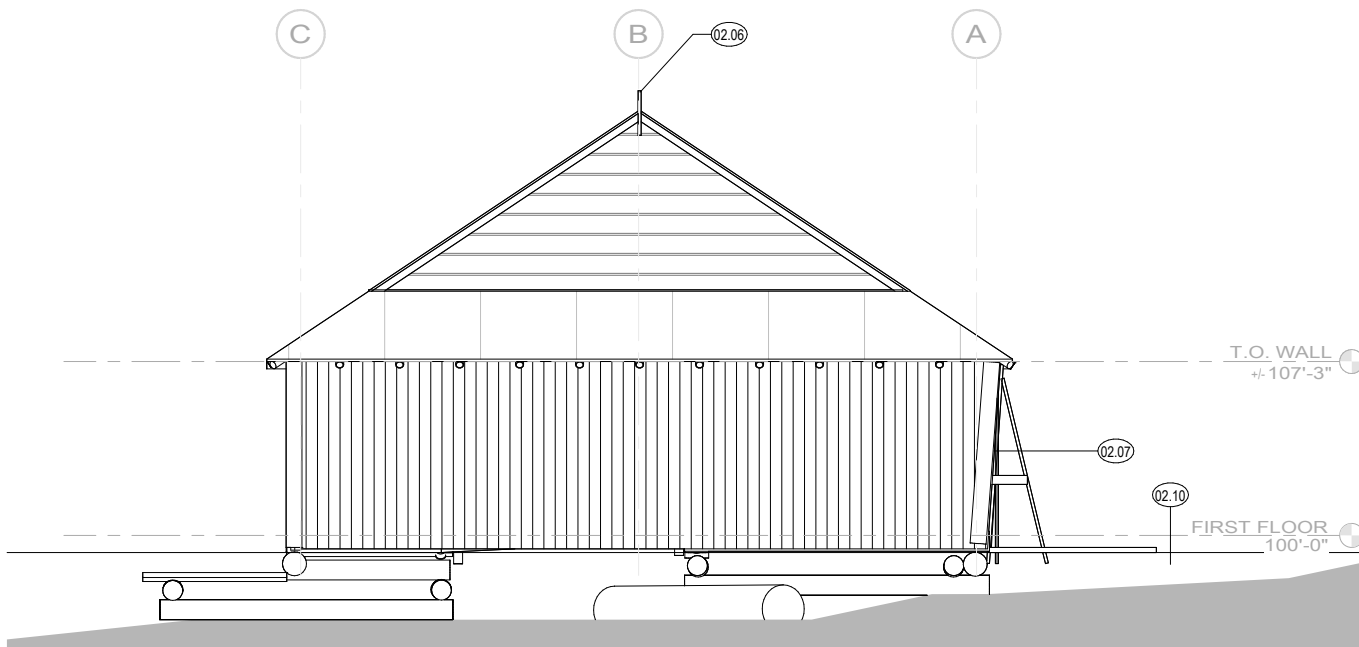
TITLE OF SHEET
BUILDING ELEVATIONS

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - LARGE BARNUM BOAT HOUSE

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
3 OF 6



2 WEST ELEVATION
A201 SCALE (A)



1 EAST ELEVATION
A201 SCALE (A)

KEYNOTES

02.06	<E> BIRD WIRE
02.07	NORTH WALL IS SIGNIFICANTLY DISTORTED BY STRUCTURAL DISPLACEMENT. MEASURED RELATIVE TO BASE OF WALL THE TOP OF WALL IS SLANTED OUT +/- 8".
02.08	WEST WALL IS SIGNIFICANTLY DISTORTED BY STRUCTURAL DISPLACEMENT. MEASURED RELATIVE TO BASE OF WALL THE TOP OF WALL IS SLANTED OUT +/- 8".
02.10	APPROXIMATE LAKE LEVEL. LAKE LEVEL FLUCTUATE SEASONALLY AND FROM YEAR-TO-YEAR

SCALE: (A) SCALE OF FEET

PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

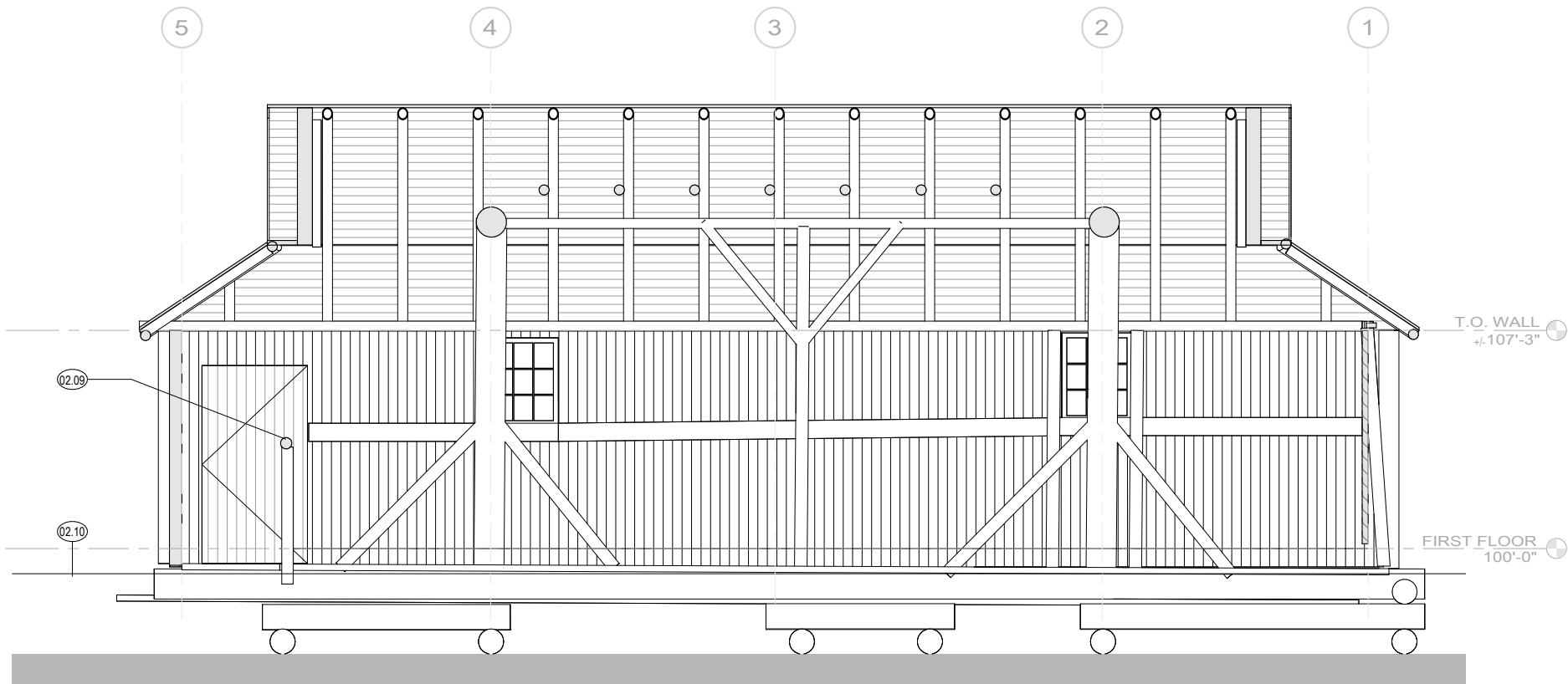
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CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.
A201

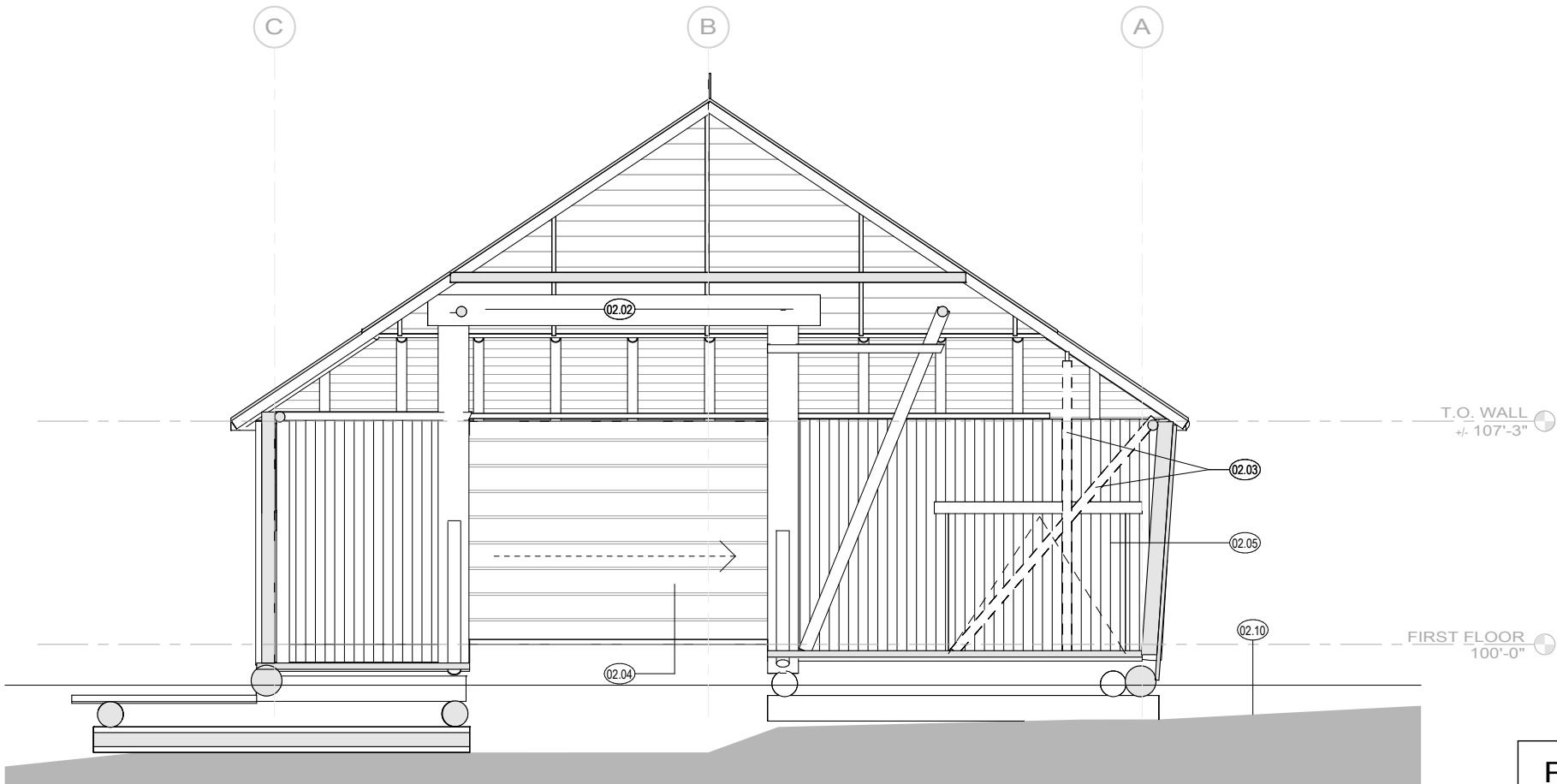
TITLE OF SHEET
BUILDING ELEVATIONS

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - LARGE BARNUM BOAT HOUSE

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
4 OF 6



2 NORTH-SOUTH SECTION
A300 SCALE (A)



1 EAST-WEST SECTION
A300 SCALE (A)

KEYNOTES

02.02	<E> BOAT HOIST
02.03	<N> TEMPORARY WD SHORING ALONG NORTH SIDE OF STRUCTURE
02.04	<E> BOAT DOOR WITH SLIDING RACK OPERATION
02.05	<E> HINGED DOOR
02.09	<E> LOG RAILING
02.10	APPROXIMATE LAKE LEVEL. LAKE LEVEL FLUCTUATE SEASONALLY AND FROM YEAR-TO-YEAR

SCALE: (A)



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.

A300

TITLE OF SHEET
BUILDING SECTIONS

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - LARGE BARNUM BOAT HOUSE

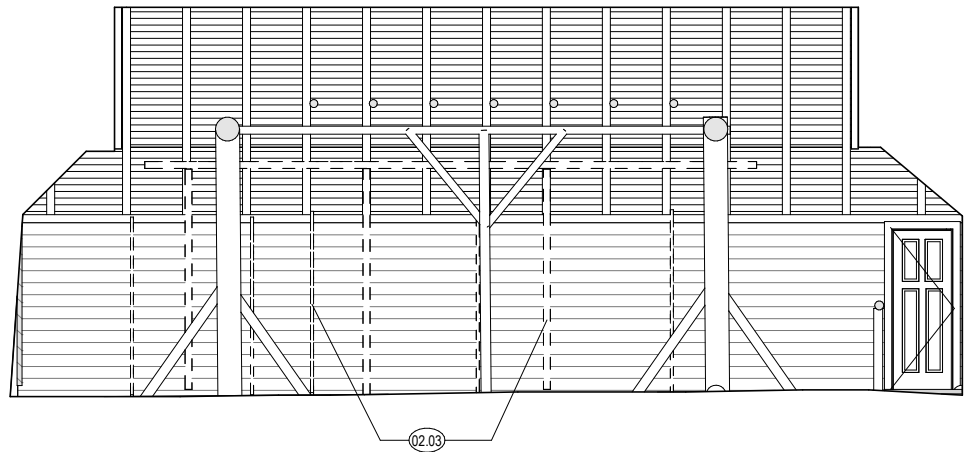
DRAWING NO.
XXX
XXXXX

PMIS/PKG NO.
333132

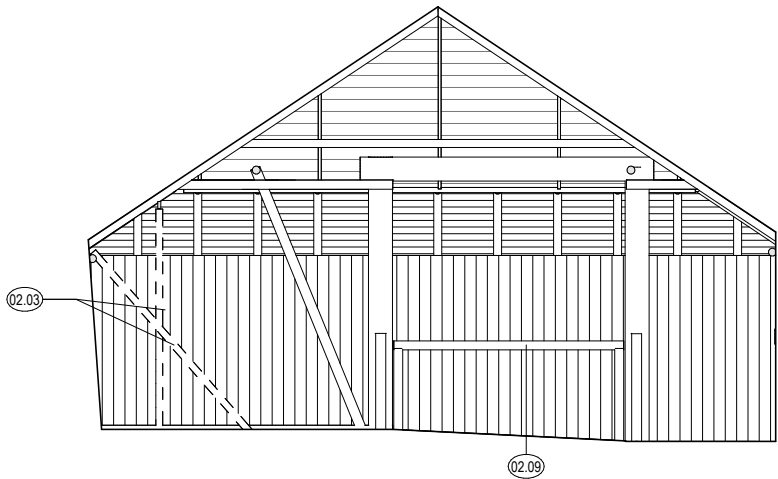
SHEET
5 OF 6

KEYNOTES

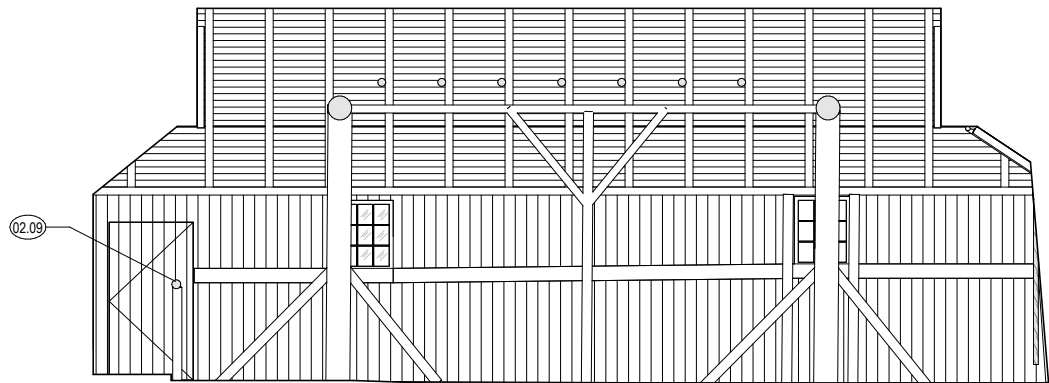
02.03	<N> TEMPORARY WD SHORING ALONG NORTH SIDE OF STRUCTURE
02.09	<E> LOG RAILING



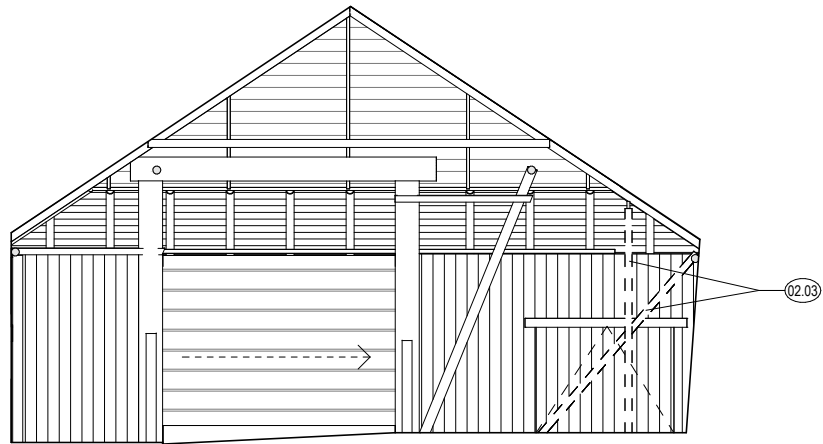
4 INTERIOR ELEVATION - NORTH
A400 SCALE (A)



2 INTERIOR ELEVATION - EAST
A400 SCALE (A)



3 INTERIOR ELEVATION - SOUTH
A400 SCALE (A)



1 INTERIOR ELEVATION - WEST
A400 SCALE (A)



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

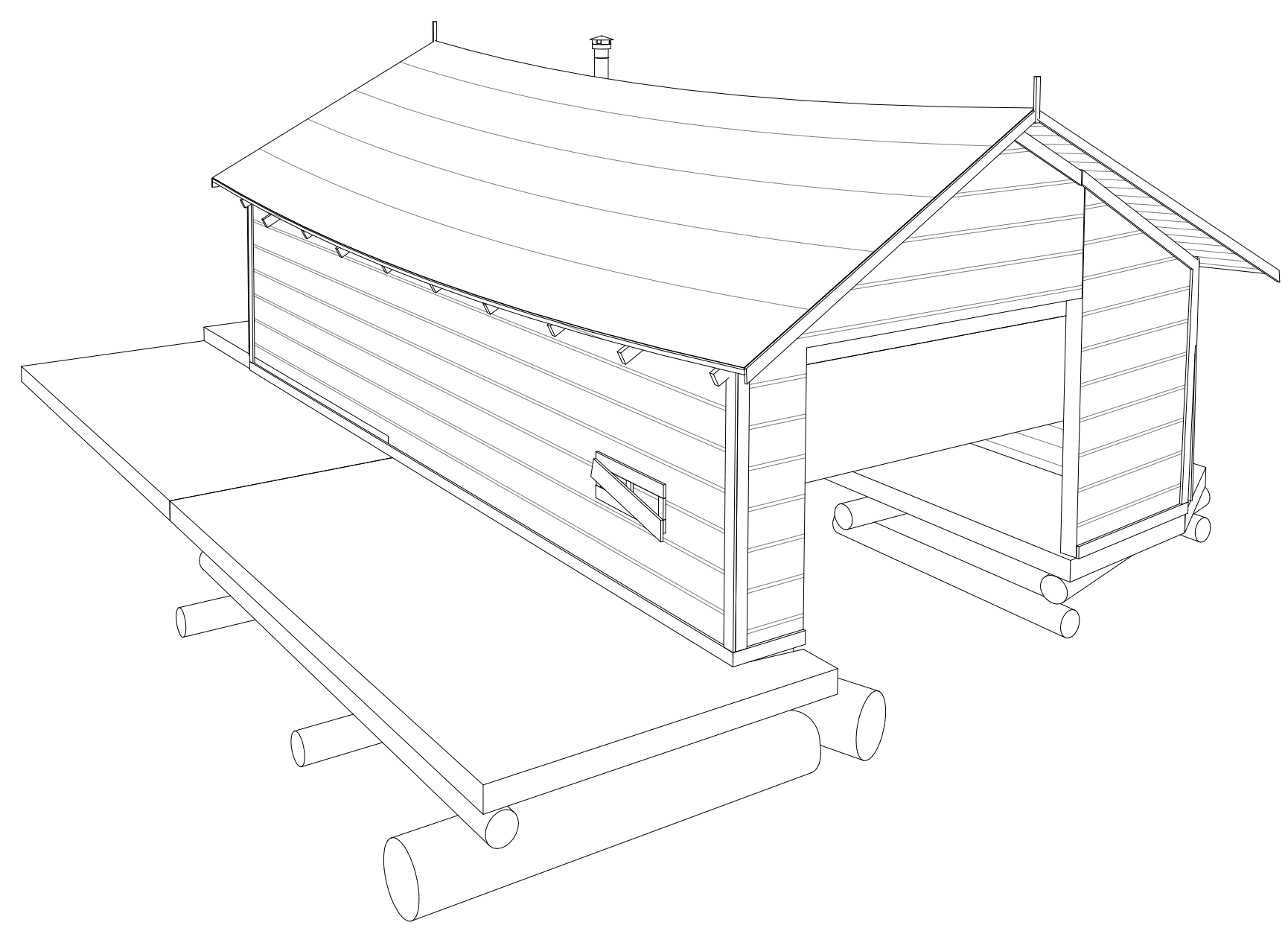
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CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.
A400

TITLE OF SHEET
**INTERIOR ELEVATIONS -
EXISTING CONDITIONS**

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - LARGE BARNUM BOAT HOUSE

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
6 OF **6**



ISLE ROYALE NATIONAL PARK
SMALL BARNUM BOAT HOUSE EXISTING CONDITIONS



NORTHERN MICHIGAN



PHOTO: HAKALA 1952, ISRO ARCHIVES



PHOTO: HAKALA 1952, ISRO ARCHIVES

EXISTING CONDITIONS DRAWINGS WERE PRODUCED WITH HAND-MEASUREMENTS. SIGNIFICANT PLANAR DISTORTION DUE TO STRUCTURAL MOVEMENT WAS OBSERVED, WHICH IS CAPTURED IN THESE DRAWINGS AS POSSIBLE.

ANDERSON HALLAS ARCHITECTS, PC 140P2019D0016	
ARCH: ANDERSON HALLAS, PC GOLDEN, CO 80401	LANDSCAPE: MUNDUS BISHOP DENVER, CO 80204
STRUCTURAL: JVA, INC. BOULDER, CO 80302	CIVIL/MARINE: AMI CONSULTING ENGINEERS SUPERIOR, WI 54880

Mark	Sheet	REVISION	Date	Initial

QUALITY DESIGN CERTIFICATION	
☐ Prepared in Accordance with design Development (Title I)	Drawing No. _____
☐ Variance from Design Development (Title I)	Approved by Superintendent on _____ Date _____
☐ Construction Drawing Not Preceded by Design Development (Title I)	
Project Manager _____	Date _____



PMIS 333132

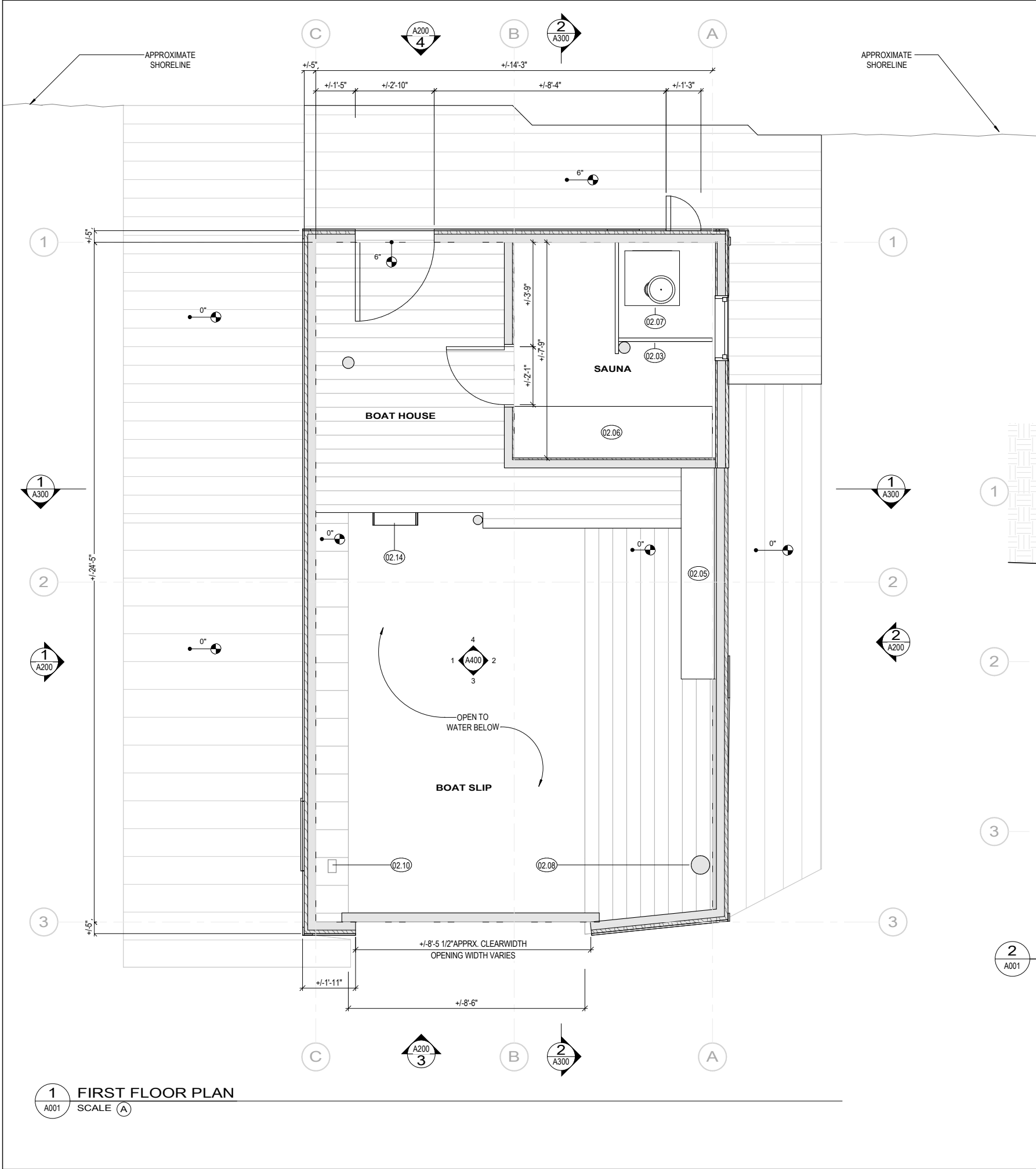
100% HPPD

UNITED STATES
DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE
DENVER SERVICE CENTER

TITLE OF DRAWING
ISRO SMALL BARNUM BOAT HOUSE
LOCATION WITHIN PARK
BARNUM ISLAND
NAME OF PARK
ISLE ROYALE NATIONAL PARK
REGION COUNTY STATE
MIDWEST KEWEENAW MICHIGAN

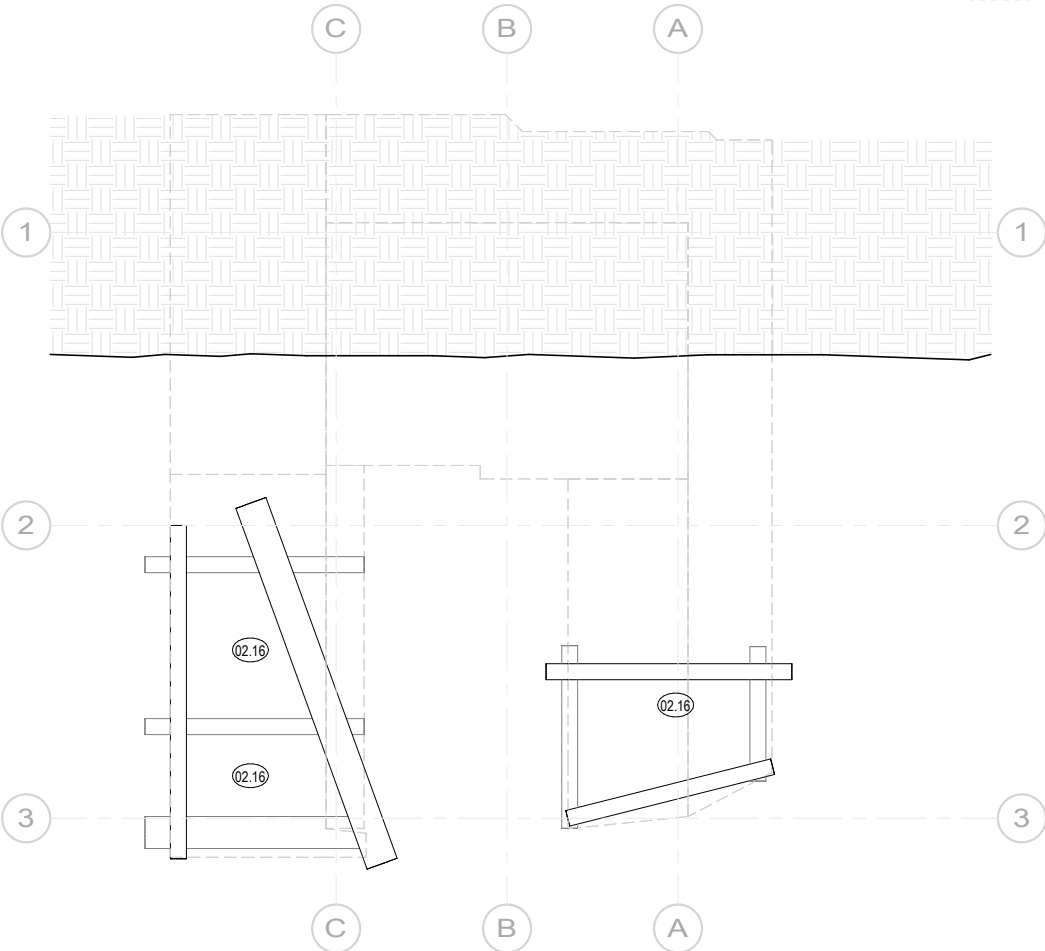
DRAWING NO.
**XXX
XXXXX**
PMIS/PKG NO.
333132
SHEET
1 OF 5



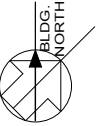
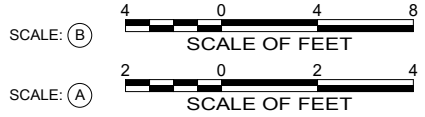
KEYNOTES	
02.03	<E> 2X4 RAILING
02.05	<E> WOOD COUNTER
02.06	<E> WOOD BENCH
02.07	<E> WOOD STOVE
02.08	<E> BOAT HOIST
02.10	<N> TEMPORARY WD SHORING ALONG NORTH SIDE OF STRUCTURE
02.14	<E> WD LADDER
02.16	<E> ROCK BALLAST FILLED TIMBER CRIB FOUNDATION

LEGEND

- <E> 2X6 WD FLOOR PLANKS (RE: PLAN FOR ORIENTATION)
- <E> 2X8 WD FLOOR PLANKS (RE: PLAN FOR ORIENTATION)
- <E> 2X12 WD FLOOR PLANKS (RE: PLAN FOR ORIENTATION)
- OVERHEAD



2 LOG CRIBBING FOUNDATION
SCALE (B)



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

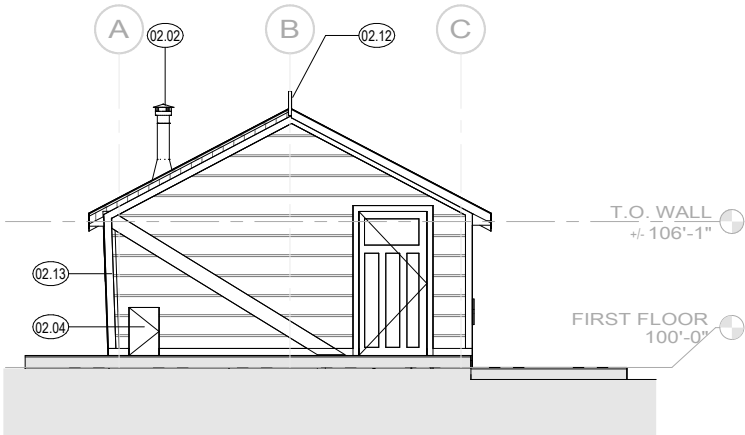
SUB SHEET NO.
A001

TITLE OF SHEET
FLOOR PLANS - EXISTING
CONDITIONS
ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - SMALL BARNUM BOAT HOUSE

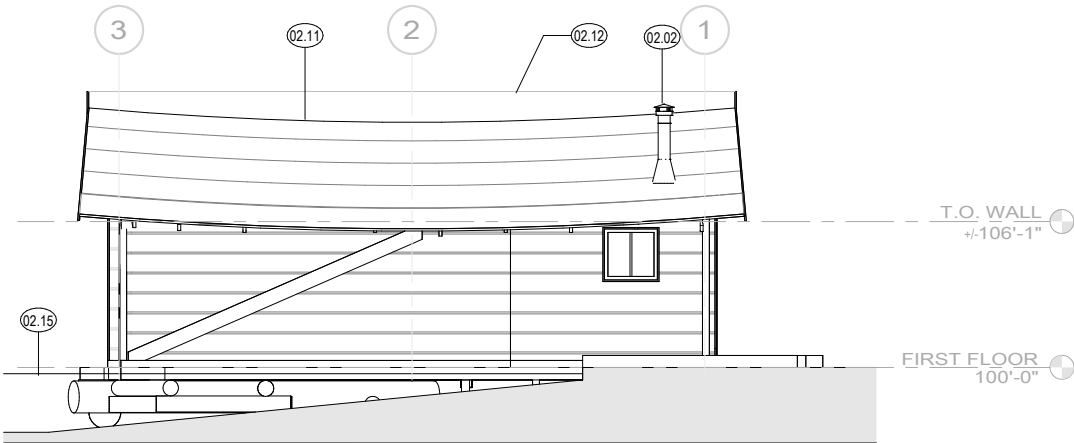
DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
2 OF 5

KEYNOTES

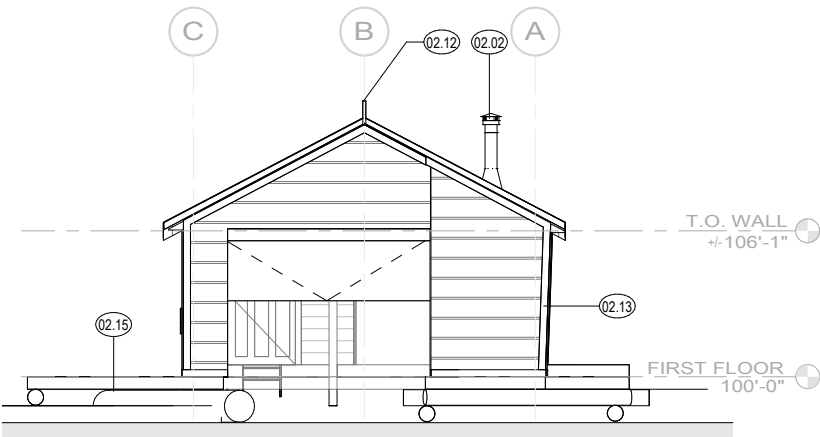
02.02	<E> VENT THROUGH ROOF
02.04	<E> SAUNA DOOR TO WOOD STOVE
02.09	<E> FOLDING TABLE
02.11	<E> ROOF STRUCTURE IS BOWED DUE TO STRUCTURAL DISPLACEMENT. +/- 2 TO 4 INCHES IN DISTORTION.
02.12	<E> BIRD WIRE
02.13	EAST WALL IS SIGNIFICANTLY DISTORTED BY STRUCTURAL DISPLACEMENT. MEASURED RELATIVE TO BASE OF WALL THE TOP OF WALL IS SLANTED OUT +/- 8"
02.15	APPROXIMATE LAKE LEVEL. LAKE LEVEL FLUCTUATE SEASONALLY AND FROM YEAR-TO-YEAR



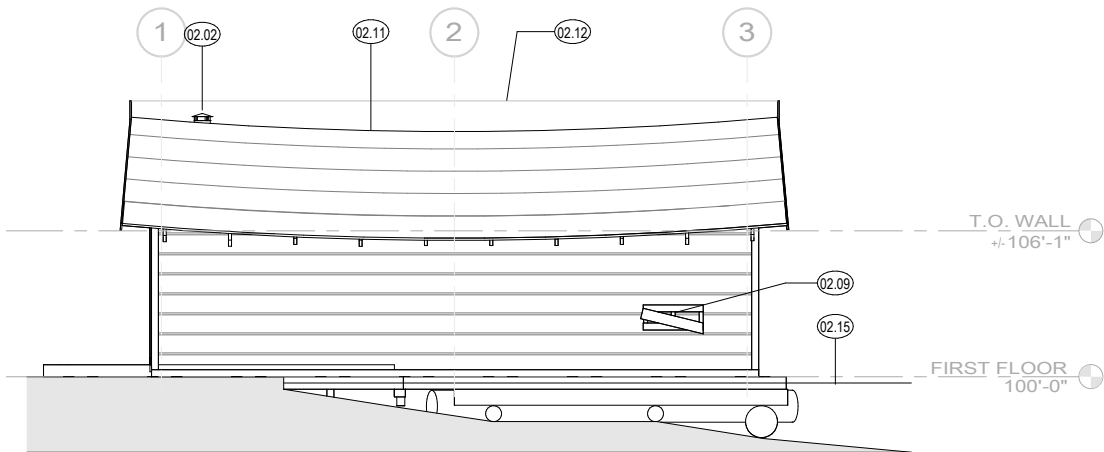
4 NORTH ELEVATION
A200 SCALE (A)



2 EAST ELEVATION
A200 SCALE (A)



3 SOUTH ELEVATION
A200 1/4" = 1'-0"



1 WEST ELEVATION
A200 SCALE (A)



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

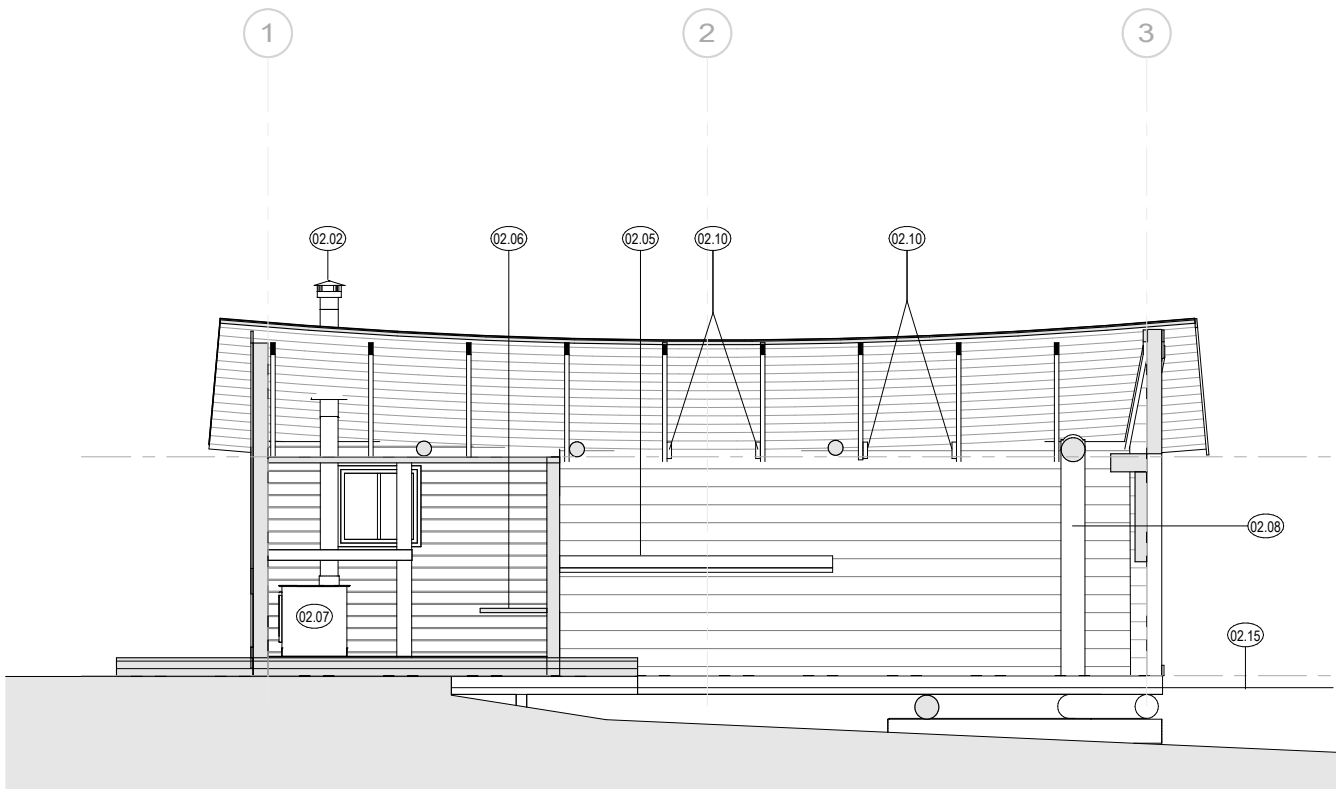
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TITLE OF SHEET
BUILDING ELEVATIONS

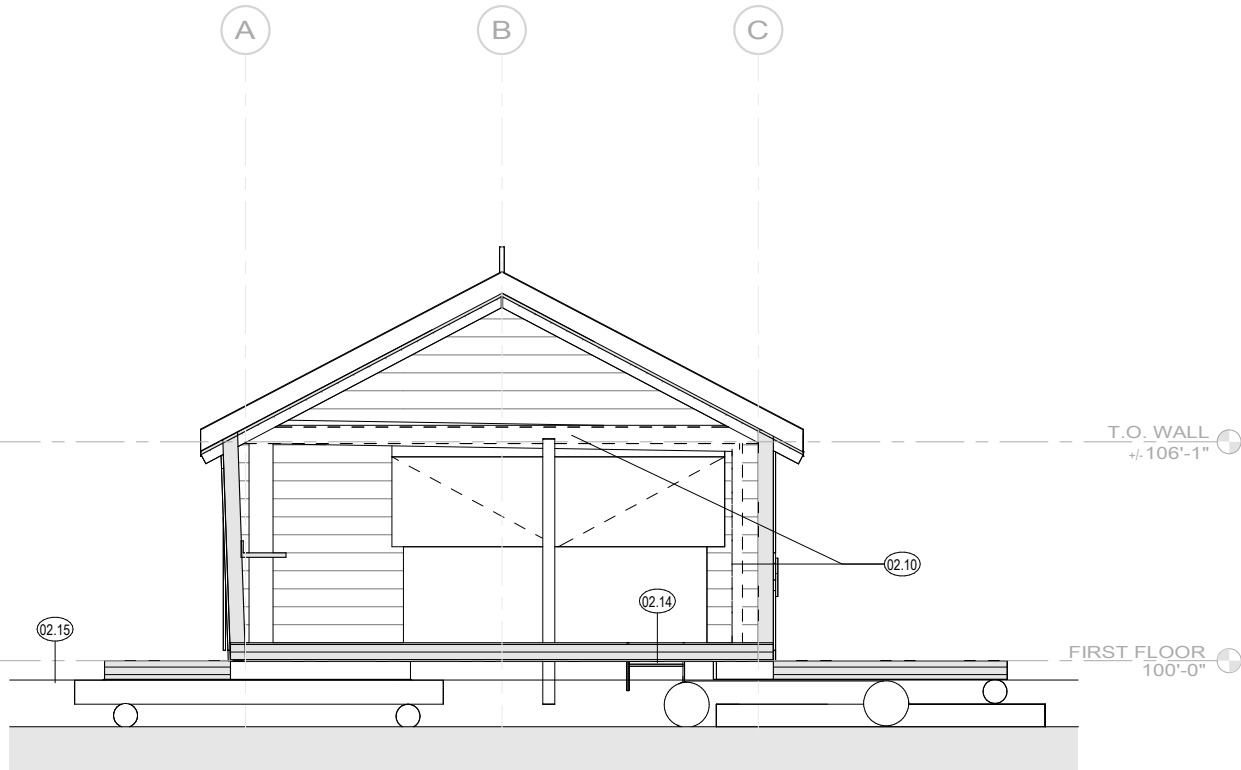
ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - SMALL BARNUM BOAT HOUSE

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
3 OF 5

KEYNOTES	
02.02	<E> VENT THROUGH ROOF
02.05	<E> WOOD COUNTER
02.06	<E> WOOD BENCH
02.07	<E> WOOD STOVE
02.08	<E> BOAT HOIST
02.10	<N> TEMPORARY WD SHORING ALONG NORTH SIDE OF STRUCTURE
02.14	<E> WD LADDER
02.15	APPROXIMATE LAKE LEVEL. LAKE LEVEL FLUCTUATE SEASONALLY AND FROM YEAR-TO-YEAR



2 NORTH - SOUTH SECTION
A300 SCALE (A)



1 EAST - WEST SECTION
A300 SCALE (A)

SCALE: (A) 2 0 3 6
SCALE OF FEET

PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.
A300

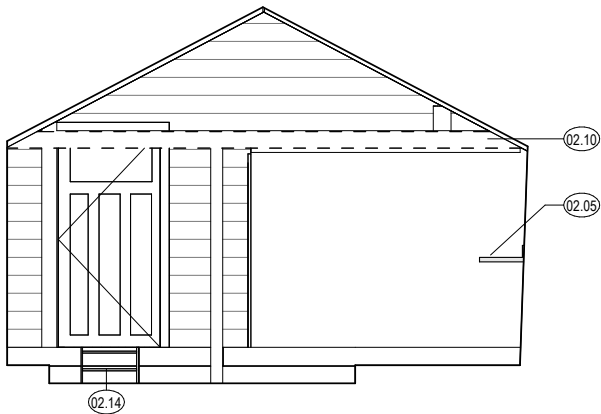
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BUILDING SECTIONS

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - SMALL BARNUM BOAT HOUSE

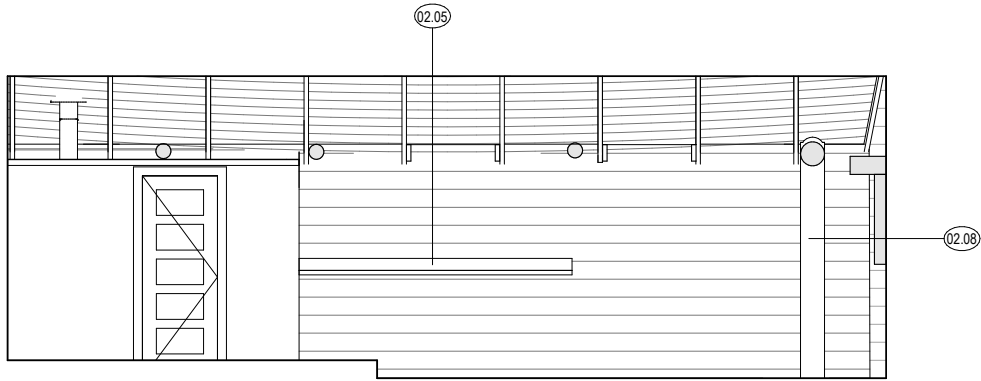
DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
4 OF 5

KEYNOTES

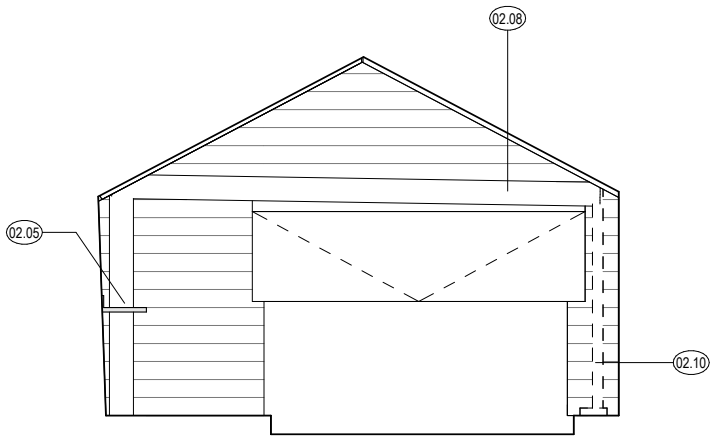
02.05	<E> WOOD COUNTER
02.08	<E> BOAT HOIST
02.10	<N> TEMPORARY WD SHORING ALONG NORTH SIDE OF STRUCTURE
02.14	<E> WD LADDER



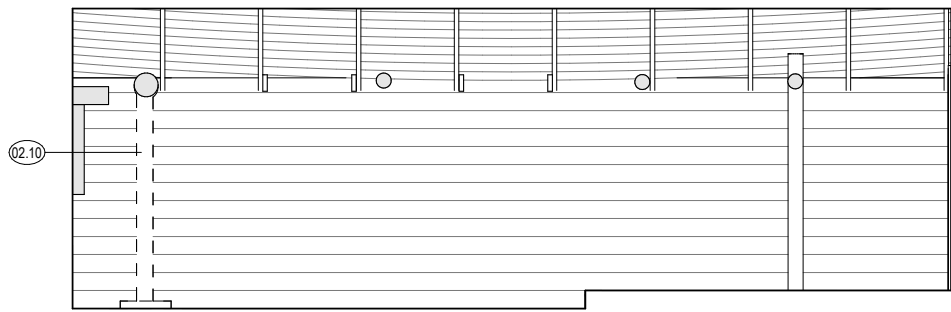
4 INTERIOR ELEVATION - NORTH
A400 SCALE (A)



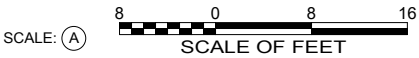
2 INTERIOR ELEVATION - EAST
A400 SCALE (A)



3 INTERIOR ELEVATION - SOUTH
A400 SCALE (A)



1 INTERIOR ELEVATION - WEST
A400 SCALE (A)



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

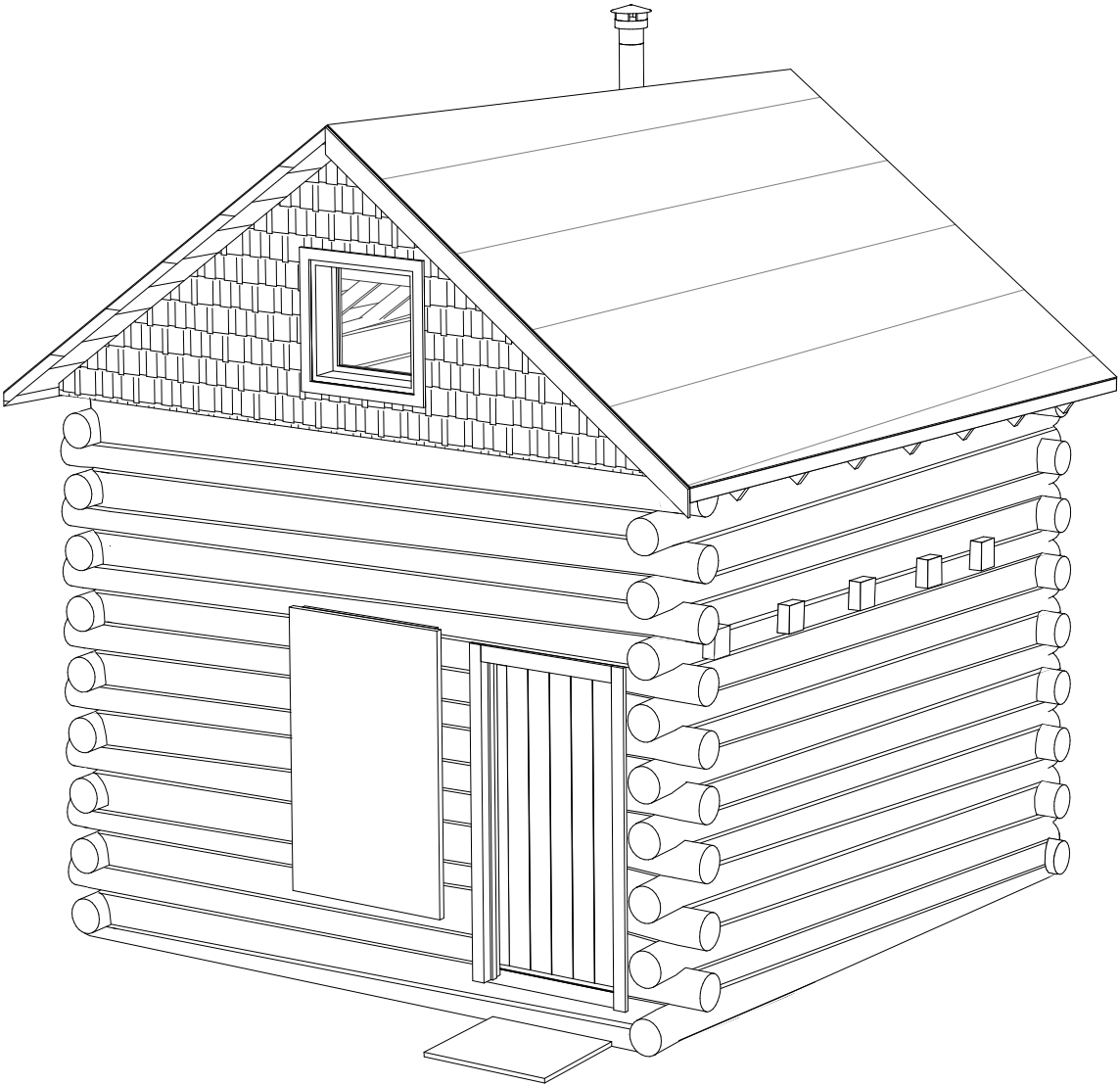
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CADD
NJM/EAV
TECH REVIEW:
LMH/EMH
DATE:
04/24/2025

SUB SHEET NO.
A400

TITLE OF SHEET
**INTERIOR ELEVATIONS -
EXISTING CONDITIONS**

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - SMALL BARNUM BOAT HOUSE

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
5 OF 5



ISLE ROYALE NATIONAL PARK
JOHNS CABIN EXISTING CONDITIONS



NORTHERN MICHIGAN



PHOTO: 1935 ISRO ARCHIVES



PHOTO: HAKALA 1952, NATIONAL REGISTER LISTING

EXISTING CONDITIONS DRAWINGS WERE PRODUCED WITH HAND-MEASUREMENTS. SIGNIFICANT PLANAR DISTORTION DUE TO STRUCTURAL MOVEMENT WAS OBSERVED, WHICH IS CAPTURED IN THESE DRAWINGS AS POSSIBLE.

ARCHITECT		Mark	Sheet	REVISION	Date	Initial
ANDERSON HALLAS ARCHITECTS, PC 140P2019D0016						
ARCH: ANDERSON HALLAS, PC GOLDEN, CO 80401	LANDSCAPE: MUNDUS BISHOP DENVER, CO 80204					
STRUCTURAL: JVA, INC. BOULDER, CO 80302	CIVIL/MARINE: AMI CONSULTING ENGINEERS SUPERIOR, WI 54880					

Mark	Sheet	REVISION	Date	Initial

QUALITY DESIGN CERTIFICATION	
☐ Prepared in Accordance with design Development (Title I)	Drawing No.
☐ Variance from Design Development (Title I)	Approved by Superintendent on
☐ Construction Drawing Not Preceded by Design Development (Title I)	Date
Project Manager	Date



PMIS 333132
100% HPPD
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE DENVER SERVICE CENTER

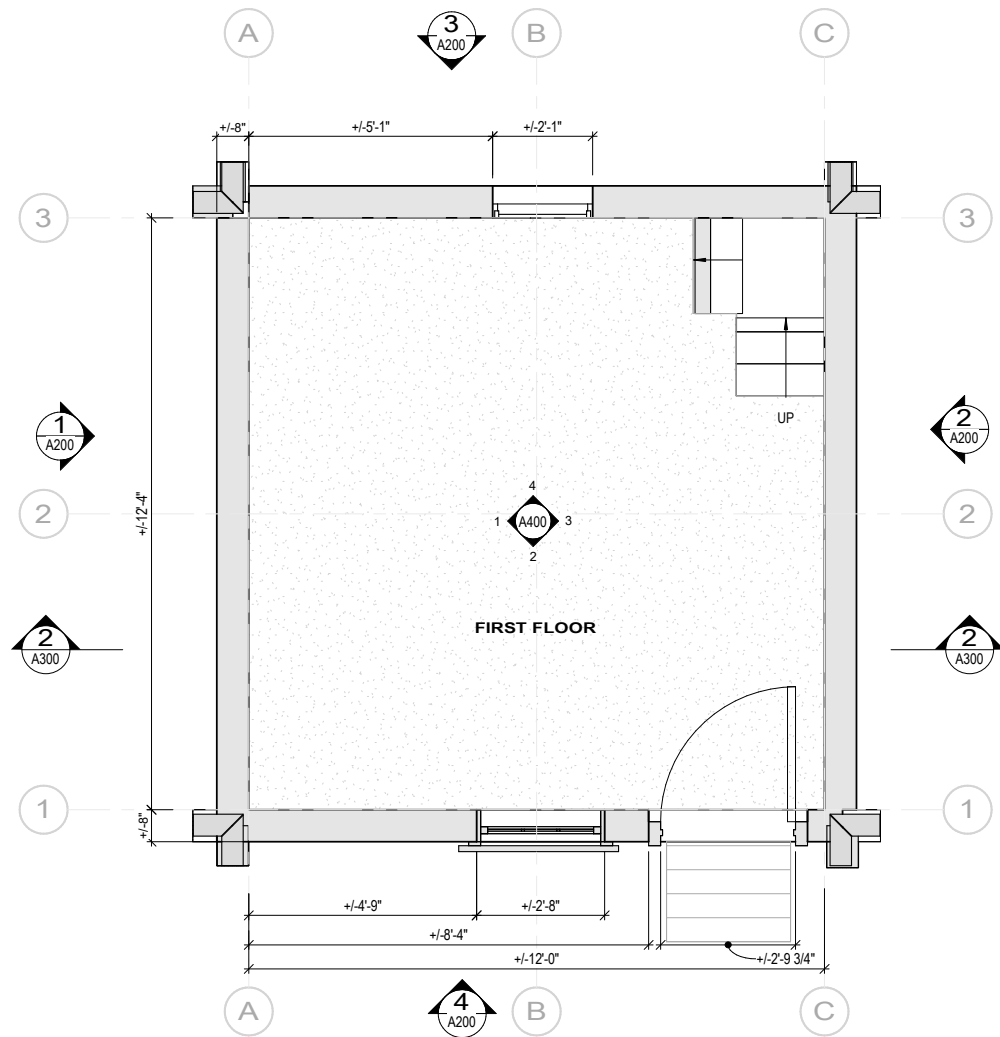
TITLE OF DRAWING ISRO BARNUM - JOHNS CABIN		
LOCATION WITHIN PARK BARNUM ISLAND		
NAME OF PARK ISLE ROYALE NATIONAL PARK		
REGION	COUNTY	STATE
MIDWEST	KEWEENAW	MICHIGAN

DRAWING NO. XXX XXXXX
PMIS/PKG NO. 333132
SHEET 1 OF 5

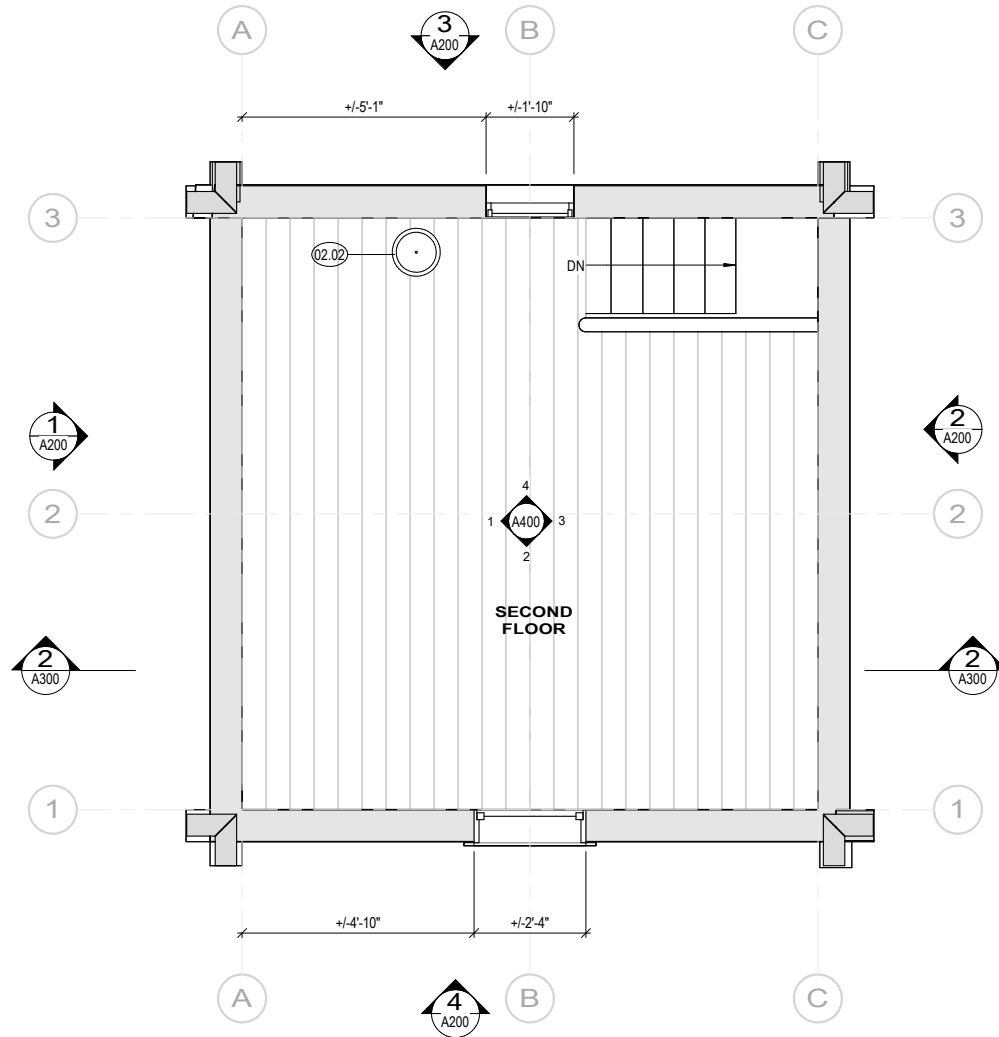
KEYNOTES	
02.02	<E> VENT THROUGH ROOF

LEGEND

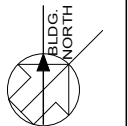
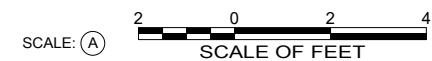
- <E> LOG WALL
- <E> 1X6 FLOOR PLANKS
- <E> CARPET



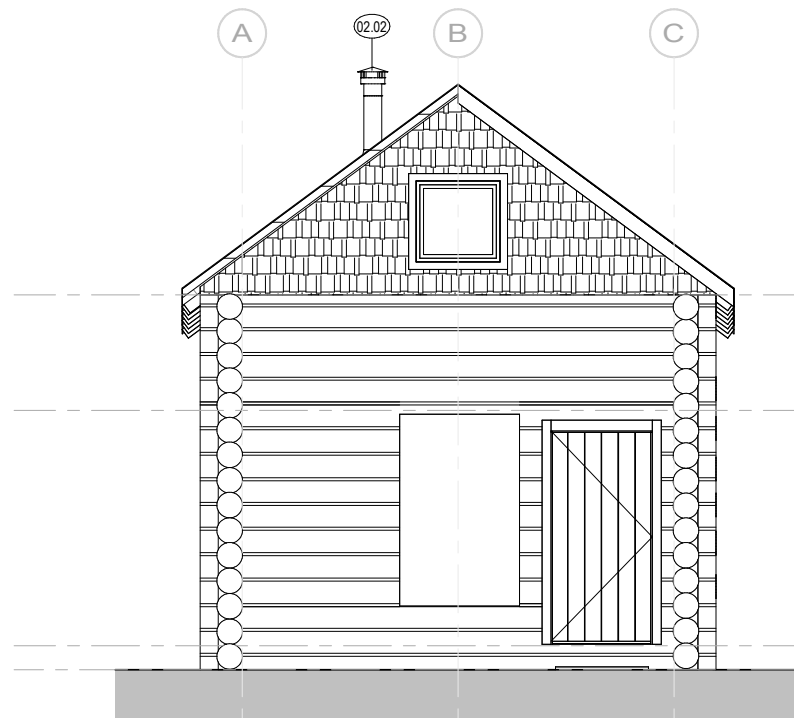
1 EXISTING CONDITIONS FIRST FLOOR PLAN
A001 SCALE (A)



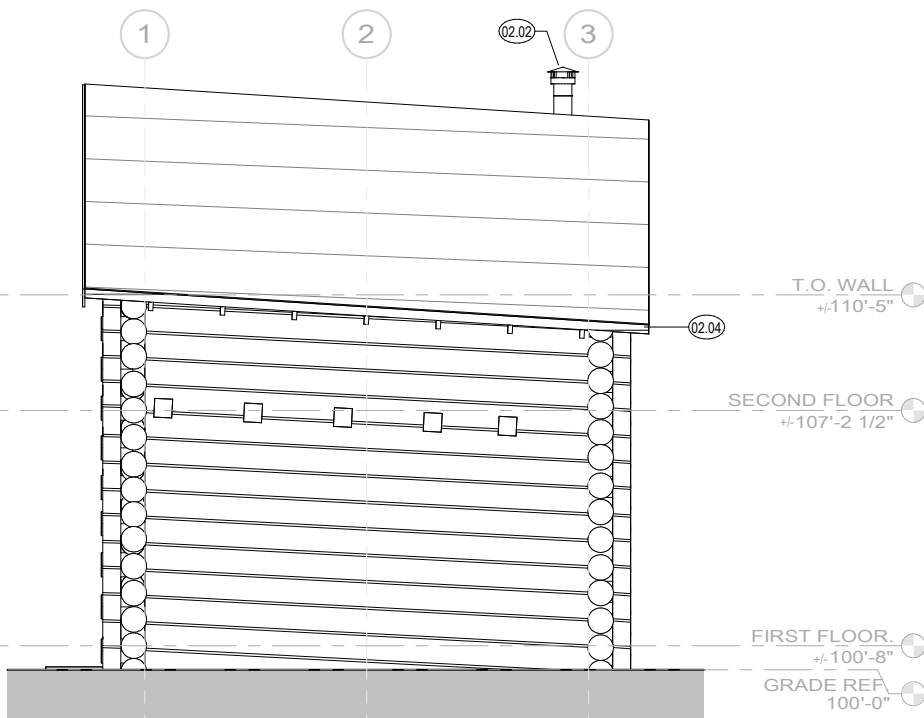
2 EXISTING CONDITIONS SECOND FLOOR PLAN
A001 SCALE (A)



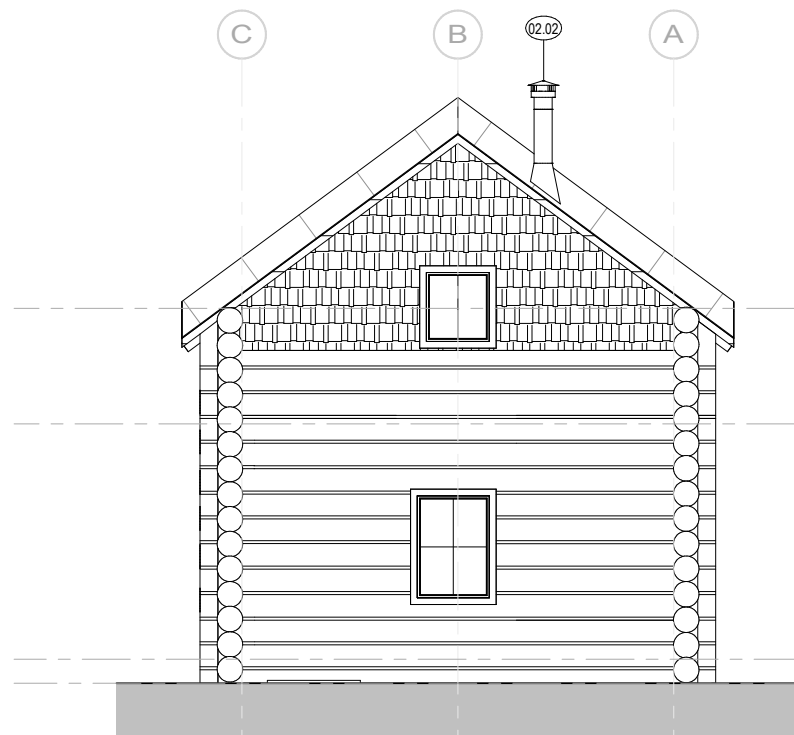
PRELIMINARY 100% HPPD NOT FOR CONSTRUCTION	DESIGNED: N/A	A001	TITLE OF SHEET FLOOR PLANS - EXISTING CONDITIONS ISLE ROYALE NATIONAL PARK BARNUM ISLAND - JOHNS CABIN	DRAWING NO. XXX XXXXX
	NJM/EAV			PMIS/PKG NO. 333132
	TECH REVIEW: LHM/EMH			SHEET
	DATE: 04/24/2024			2 OF 5



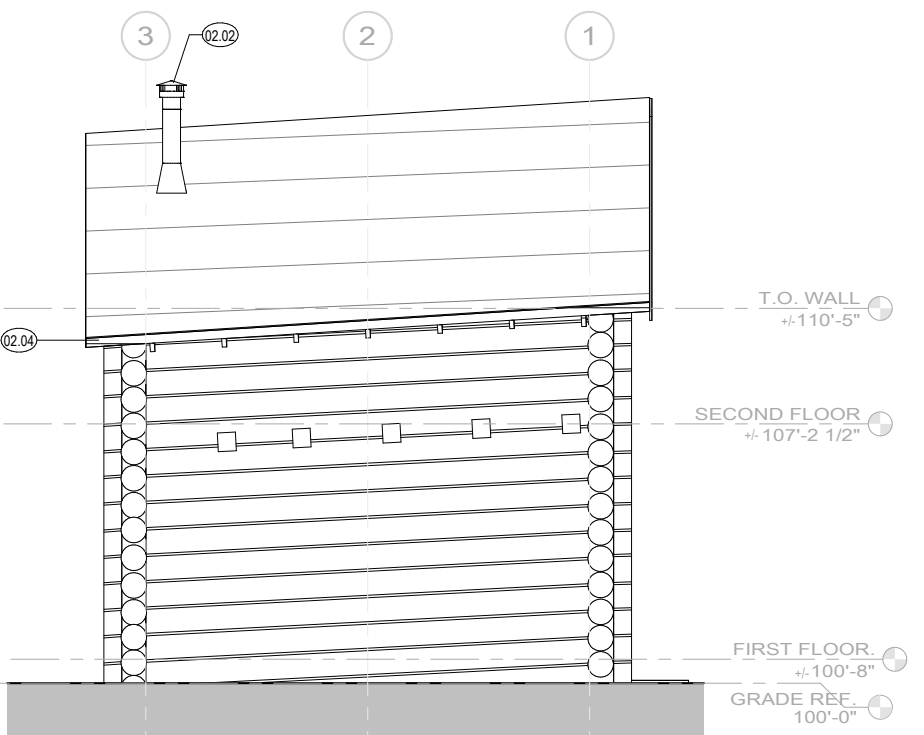
4 SOUTH ELEVATION
A200 SCALE (A)



2 EAST ELEVATION
A200 SCALE (A)



3 NORTH ELEVATION
A200 SCALE (A)



1 WEST ELEVATION
A200 N.T.S.

KEYNOTES

02.02	<E> VENT THROUGH ROOF
02.04	<E> ROOF STRUCTURE IS SIGNIFICANTLY DISTORTED BY STRUCTURAL SETTLEMENT. MEASURED RELATIVE TO GRADE, THE ROOF IS APPRX. 12" LOWER ON THE NORTH FAÇADE THAN THE SOUTH

LEGEND

	<E> LOG WALL
	<E> CEDAR SHINGLES
	<E> PLYWOOD SHUTTER

SCALE: (A)



PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LHM/EMH
DATE:
04/24/2024

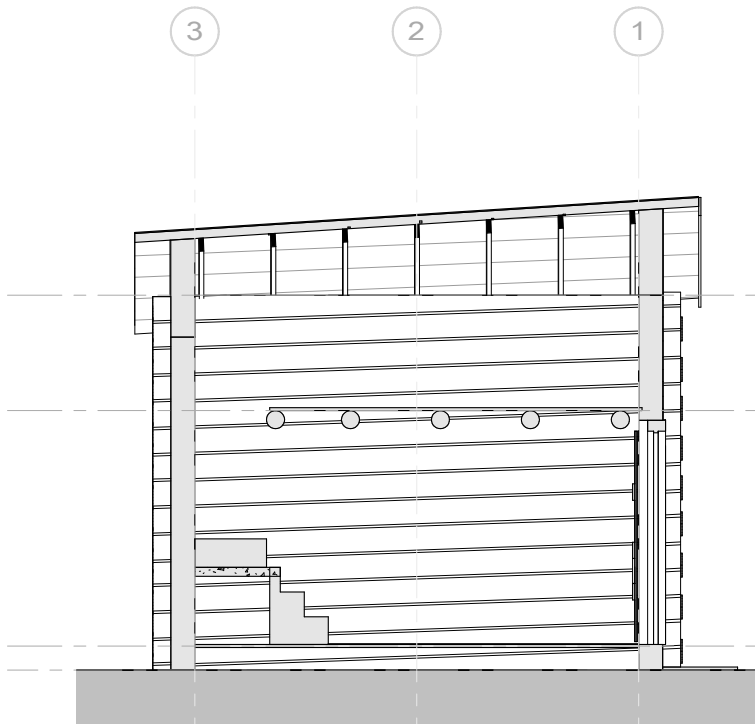
SUB SHEET NO.
A200

TITLE OF SHEET
BUILDING ELEVATIONS -
EXISTING CONDITIONS

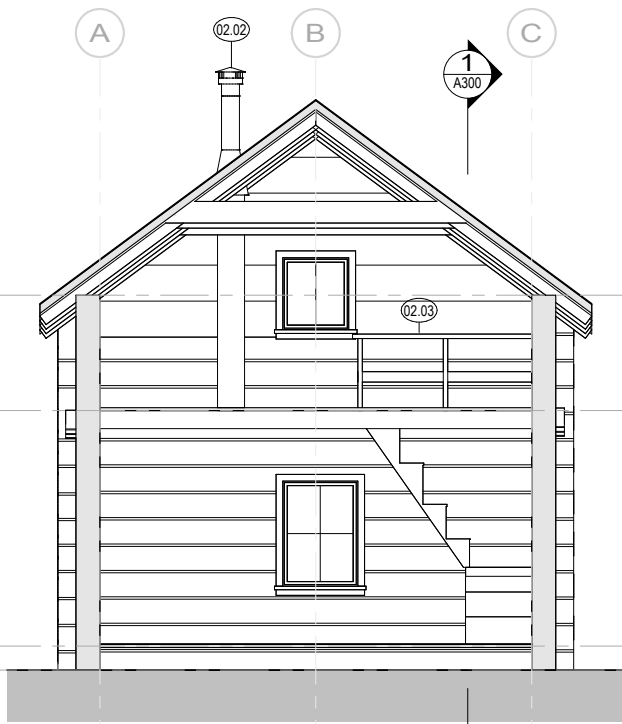
ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - JOHNS CABIN

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
3 OF 5

KEYNOTES	
02.02	<E> VENT THROUGH ROOF
02.03	<E> 2X4 RAILING



1 NORTH-SOUTH SECTION
SCALE (A)



2 EAST-WEST SECTION
SCALE (A)

T.O. WALL
+/- 110'-5"

SECOND FLOOR
+/- 107'-2 1/2"

FIRST FLOOR
+/- 100'-8"

GRADE REF.
100'-0"

SCALE: (A) 8 0 8 16
SCALE OF FEET

PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
CADD
NJM/EAV
TECH REVIEW:
LHM/EMH
DATE:
04/24/2024

SUB SHEET NO.
A300

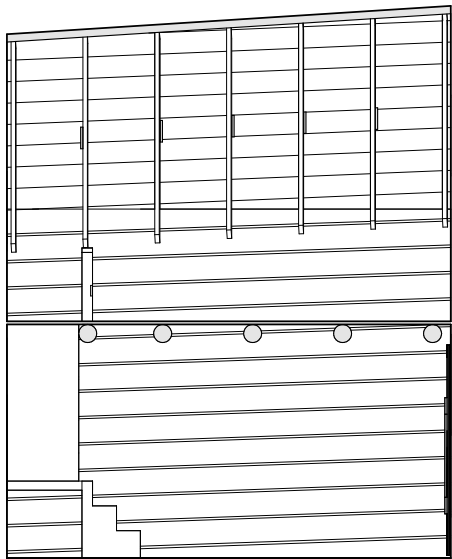
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**BUILDING SECTIONS -
EXISTING CONDITIONS**

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - JOHNS CABIN

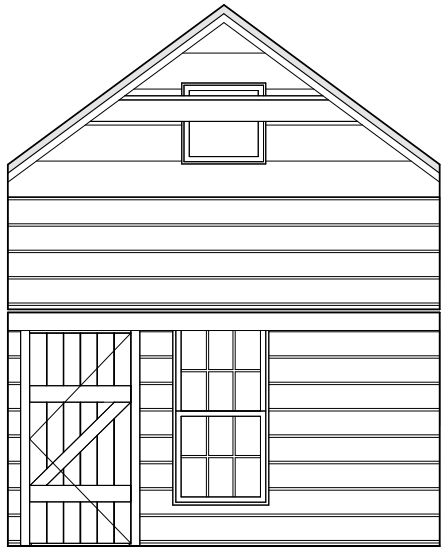
DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
4 OF 5



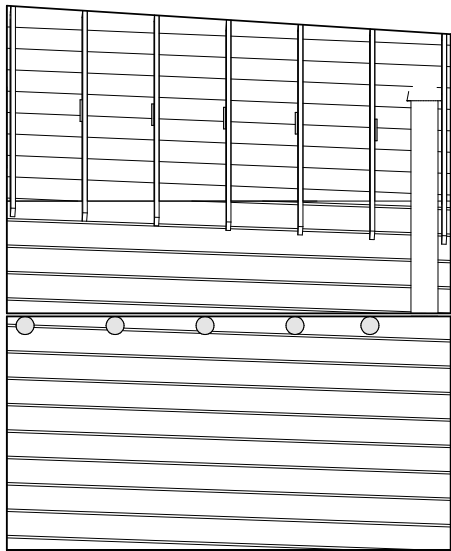
4 INTERIOR ELEVATION - SOUTH
A400 SCALE (A)



3 INTERIOR ELEVATION - EAST
A400 SCALE (A)



2 INTERIOR ELEVATION - NORTH
A400 SCALE (A)



1 INTERIOR ELEVATION - WEST
A400 SCALE (A)

SCALE: (A) 2 0 2 4
SCALE OF FEET

PRELIMINARY
100% HPPD
NOT FOR
CONSTRUCTION

DESIGNED:
N/A
GADD
NJM/EAV
TECH REVIEW:
LHM/EMH
DATE:
04/24/2024

SUB SHEET NO.
A400

TITLE OF SHEET
**INTERIOR ELEVATIONS -
EXISTING CONDITIONS**

ISLE ROYALE NATIONAL PARK
BARNUM ISLAND - JOHNS CABIN

DRAWING NO.
XXX
XXXXX
PMIS/PKG NO.
333132
SHEET
5 OF 5



Barnum Island

Historic Property Project Documentation and Treatment Plan

April 2025