

Historic American Buildings Survey Level II Report



LORSTA ATTU Attu Island, Alaska



Final October 2011





Prepared by



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HISTORIC AMERICAN BUILDINGS SURVEY
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ATTACHMENTS

Index to Photographs/National Register of Historic Places Color Transparencies
Alaska Building Inventory Forms
Architectural Drawings
HABS Release Form

Name: USCG LORAN-C Station Historic District, Attu

Location: USCG LORSTA Attu, Building 26, P.O. Box 190090,

Kodiak, AK 99619

Present Owner: U.S. Fish and Wildlife Service, 605 West 4th Avenue,

Rm. G-61 Anchorage, AK 99501

Present Use: Attu Battlefield National Historic Landmark

Aleutian Islands National Wildlife Refuge

Significance: Long Range Aid to Navigation (LORAN) was a government-

provided, terrestrial navigation system established for military

and civilian users throughout the United States, Canada,

Europe, Asia, and Russia. Since its inception in 1940, LORAN provided marine, air, and land positions to users during World War II (WWII), through the Cold War, and into the twenty-first century. LORAN-C, a later version of the long-range navigation series, operated as a low frequency hyperbolic navigation system using the time difference in pulses from three or more transmitting stations to obtain a position. It was highly accurate, all-weather, and available twenty-four hours a day. In 2010, the United States and Canada both ceased operation of the system.

The LORAN-C system was deployed on Attu in 1961 by the U.S. Coast Guard (USCG). In addition to the Signal and

Barracks Building, the station consisted of a Generator Building, a Transmitter Building, and one 625' guyed tower. The LORAN-C station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation, representing the federal government's growing involvement and responsibility for safe navigation. The transmission tower was demolished in 2010. All buildings

associated with the operation of LORAN-C are considered

contributing elements to the district.

Historian: Terri Asendorf, Architectural Historian, MSHP

Jacobs Engineering Group Inc. (Jacobs)

Project Information: The USCG LORAN-C Station Historic District, Attu, Alaska,

recording project was performed under contract with the U.S. Army Corps of Engineers (USACE) for USCG under the direction of the Alaska State Historic Preservation Officer and the Advisory Council on Historic Preservation. The historical reports and photographs were prepared by Jacobs. Terri Asendorf served as architectural historian and Casey Martin

served as architect.

I. Historical Information

I.a. Physical History

I.a.i. Date of Erection

1960-61

I.a.ii. Architect

USCG

I.a.iii. Original and Subsequent Owners, Occupants, Uses

U.S. Navy Department, Naval Air Facility, 1943-1946

USCG, LORAN-A and LORAN-C Stations, 1943-2010

I.a.iv. Builder, Contractor, Suppliers

625' guyed antenna: Swager Tower Corporation

Transmitters: AN/FPN-44B Tube-Type

Diesel Generators: NC Machinery Company Power Systems and Zenith Automatic

Control Equipment

LORAN-C Monitoring Receiver: Locus

Vacuum Tubes: Econco

Obstruction Light Assembly: Hughey & Phillips, Inc.

I.a.v. Original Plans and Construction

These are discussed individually below and on the attached architectural building inventory forms. Site plans and architectural drawings of the facilities are also provided.

I.a.vi. Alterations and Additions

These are discussed individually below and on the attached architectural building inventory forms. Site plans and architectural drawings of the facilities are also provided.

I.b. Historical Context

I.b.i. LORAN-A to C

Historically, maritime and aviation positioning was done using dead reckoning, celestial navigation, and later, radio beacon. With the approach of World War II (WWII), the development of a more accurate system was needed for defense operations, and in 1940 the Army Signal Corps issued a requirement for "Precision Navigational Equipment for Guiding Airplanes." The pulsed, hyperbolic, long-range radio navigation system that eventually became known as LORAN was proposed by physicist Alfred L. Loomis, working under the direction of the National Defense Research Committee (NDRC). In 1941, his proposal was accepted and trial stations were established at inactive USCG lifeboat stations at Montauk Point in Long Island, New York, and Fenwick Island, Delaware. Corporations such as RCA,

Sperry, Bell Laboratories, Westinghouse, and General Electric filled equipment orders for the model stations (Pierce, McKenzie, and Woodward 1948).

LORAN was further developed by scientists at the Radiation Laboratory of the Massachusetts Institute of Technology. Generally derived from the British GEE (generalized estimating equation) system, the first iteration of LORAN operated at the 1,850 and 1,950 kilohertz (kHz) frequencies. Later called "LORAN-A," its use by naval and air convoys in defense missions quickly increased due to requirements by the Allied forces for a means of a tactical bombing system (Joint Aids to Navigation Panel 1957). Under the Lend-Lease program established in 1941, the United States used LORAN-A to guide planes and bombers to the former Soviet Union during the war (Thomas 2011).

Between 1942 and 1944, LORAN-A use rapidly increased, and by 1945, there were stations built all over the world providing some sixty million square miles of coverage (Pierce, McKenzie, and Woodward 1948). The stations were grouped into regional chains consisting of one "master" transmitting station and two or more "secondary" transmitting stations, each separated by several hundred miles. Station location and orientation were determined by coverage requirements. By 1944, approximately 75,000 receivers were distributed to military and civilian users with seventy-five U.S. and fifteen British and Canadian LORAN transmitters providing coverage over 30 percent of the earth's surface (Pierce, McKenzie, and Woodward 1948), including high-traffic water and air routes.

Originally a U.S. Army-driven effort, the LORAN-A program was later transferred to the U.S. Navy because of its mission to precisely and safely route convoys and guide and deliver defense material – tasks which could be achieved using LORAN. In November 1941, the U.S. Treasury Department transferred the USCG to the U.S. Navy to support war efforts. Given its official role as operator and administrator of U.S. Aids to Navigation, the USCG assumed management of the LORAN program for the Navy. After the war, in 1946, the USCG was transferred back to the Treasury Department and retained management of the LORAN program (Thomas 2011). Incidentally, USCG was transferred to the Department of Transportation in 1967, and then again to the Department of Homeland Security in 2002.

In 1947, the International Telecommunications Union Conference (ITU) allocated the frequency band 90–110 kHz for the development of a farther-reaching, long distance, radio navigation system on a worldwide basis (Dickinson 1959). This was partly in response to a need for less signal interference: the higher ranges were allocated solely for military use during wartime, but when they were returned to civilian use after the war, signal interference increased. Over the next decade, various military branches were attempting to improve LORAN including the U.S. Air Force (USAF) which developed the Cycle Matching Tactical Bombing and Navigation System (CYTAC). CYTAC was an experimental electronic strategic bombing system that used the same hyperbolic principles as LORAN-A, but at the lower frequencies allocated by the ITU. Since the tactical bombing application of CYTAC was classified, its use for civilian navigation was limited; therefore, USAF declassified the civilian application of CYTAC and named it "LORAN-C," while the

tactical bombing application remained confidential (Joint Aids to Navigation Panel 1957). The first LORAN-C navigation system was installed on the U.S. East Coast in 1957 at stations in Carolina Beach, North Carolina, Martha's Vineyard, Massachusetts, and Jupiter Inlet, Florida.

In 1974, LORAN-C was authorized by the Secretary of Transportation to be the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ), which is defined as the area seaward of a harbor entrance to fifty nautical miles offshore, or the edge of the Continental Shelf, whichever is greater. This mandate drove the expansion of LORAN-C service to all coasts of the United States – including Alaskan waters and the Gulf of Mexico – and to the Great Lakes by 1980. LORAN-C also aided early environmental initiatives. In the 1970s, the system was used to guide oil tankers along the Pacific Coast from Alaska to Canada and the contiguous United States to assure high precision navigation and minimize potential collision-related damage from growing tanker traffic.

I.b.ii. LORSTA Attu

LORSTA (LORAN station) Attu is located on Attu Island, Alaska, the western-most island of the Aleutian archipelago. Roughly thirty-seven miles long and 120 acres, Attu is approximately 1,100 miles from the Alaska mainland and less than 200 miles from the Russian Komandorski Islands. The closest town is forty miles away at Shemya Island, Alaska. The first known inhabitants on Attu were the Aleuts, an Alaskan Native group. Their population was drastically decreased by the Russian Empire, who discovered the Aleutians in the 1740s and exploited them for fur-trading. Attu became American territory in 1867. In 1913, President William Taft established the Aleutian Islands Refuge, which included Attu. The island saw few visitors until June 1942, when it was captured by the Japanese in WWII. During the invasion, the Aleuts were either killed or imprisoned at internment camps in Japan, never to return to Attu. In 1943, Americans retook the island in the Battle of Attu, which was the only WWII battle to take place on American soil.

During the remainder of the war, the Navy used the island as a base and staging area for the planned invasion of Japan. "Navy Town" consisted of more than 200 Quonset huts and two paved runways on the eastern end of the island at Point Barbara (Department of the Navy 1947). In 1943, USCG built the LORAN-A station on Theodore Point. At the war's peak, more than 7,000 USCG and U.S. Navy servicemen were housed at Navy Town, in addition to the rotating battalions of U.S. Army and USAF personnel (Department of the Navy 1947). In 1948, with the beginning of the Cold War, the LORAN-A station was moved to Casco Cove near Murder Point, where it was better located for receiving supplies (State of Alaska 1997). The following year, the Navy constructed a large Aerological Station Building at Navy Town. The Station Building served to monitor weather for bomber routes to the USSR and seismic information to detect nuclear submarines (USCG 1959). The building was decommissioned in 1957.

In 1961, the LORAN-C system was deployed on Attu. For thirty years, Attu served as a secondary station within the North Pacific chain where St. Paul was the designated master and Port Clarence and Kodiak were additional secondary stations. In 1991, Attu became a dual-rated station, producing two different sets of

timed pulses from the same transmitter to provide coverage in a larger area. Attu was unique because it was the only dual-rated station connected to a Russian LORAN chain, or Chayka. Stations in Petropavlovsk, Kamchatka, and Alexandrovsk, Sakhalin Island were connected to Attu to form the Russian-American Chain.

At the end of the Cold War, when the Russian-American Chain became operational, there were estimated to be more than 572,000 users of the LORAN-C system: 82 percent domestic and international marine users, 14 percent civil aviators, and 3.8 percent land users (USCG 1992).

Construction

From the beginning of the LORAN program, it was apparent that a typical station would need several basic components. First, the antenna and grounding system for LORAN signal transmission would be required. Second, a building to house the technical apparatus for the transmission and communications systems, and a building to house the diesel-electric generators and other parts of the power plant were needed. Finally, staff quarters' offices; facilities for the mess hall, galley, and sick bay; and supporting infrastructure including sewage disposal, and a water system were necessary.

The existing LORAN-A complex on Casco Cove consisted of a Main Station Building, a Transmitter Building, and a warehouse for storage. According to the original site investigation conducted in 1959, while the Casco Cove site was considered electronically well-suited for the installation of the LORAN-C system, the facilities would have required a large addition to house the extra equipment and crew, as well as two miles of new roadway to connect to the airstrip and pier. Alternatively, the USCG could easily re-use the large Navy Aerological Station (NAS) Building at Massacre Bay for operations, housing, and everything, except actual transmission. Additionally, the building was perfectly situated next to the extant Navy airstrip for logistic support. Therefore, in order to efficiently operate the transmittal of both signals from the same building, the LORAN-A equipment was transferred to the NAS Building when the LORAN-C system was installed. The A signal was phased out over the next two decades so that users had ample time to upgrade their receivers from LORAN-A to LORAN-C devices. The LORAN-A signal was officially terminated in 1979 on Attu Island, and the A system in its entirety was terminated in the United States on December 31, 1980.

USCG Crew - Isolated Duty

To serve duty on Attu was to be isolated. As one of the last three operational, isolated, restricted-duty LORAN stations (all of which were located in Alaska), Attu was the most remote. Being in a maritime climate zone, it also suffered extreme weather conditions. According to the Alaska Climate Research Center website, Attu has an average annual temperature of 38°F, average annual rainfall of 48", and accumulated snowfall of 74".

Each LORAN station was run by a crew of USCG servicemen and officers who formed departments including Operations, Engineering, and Administration. There were twenty servicemen on Attu including officers, electronics technicians, engineers, mechanics, firemen, a medic, a storekeeper, and two cooks.

Crewmembers typically held an eight-hour work day that entailed performing their specific duties. In the evenings, or when off-duty, most of the crew would participate in extracurricular activities that varied according to the season. Hiking the island and fishing were popular sports in the summer; snowboarding was enjoyed in the winter. Throughout the year, the crew could relax in the station lounge, or "rec-deck," which included a movie screen and movie theater seating, a beer bar, and a convertible pool/ping-pong table. Internet service was made available to the crew for personal use beginning in 2004, which helped lessen the impacts of seclusion.

The crew depended on USCG Air Station Kodiak on Kodiak Island, Alaska, to bring in supplies every two weeks. These flights were the crews' primary contact with other people for mail, food, supplies, and travel to and from the island. Occasionally, researchers and bird enthusiasts visited the island; sailors used the island as a rest stop; and the Japanese have visited several times to recover remains from the Battle of Attu. During sixty-six years of operation, 1,300 Coast Guardsmen served on Attu. This included a few women before 2004 when women were excluded entirely from serving on the island.

I.b.iii. State of LORAN

In 1993, as a response to the advent of Global Navigation Satellite Systems (GNSS), the Department of Defense advised that there was no longer a requirement for LORAN. As a result, USCG attempted to close U.S. LORAN stations and returned operation of all international stations to the host countries. The Russian-American Chain that included Attu remained in operation as a gesture made by both countries to promote peace after the Cold War. Moreover, Congress did not allow for closure of U.S. stations based on the protests of civilian users, and the program continued in operation for another fourteen years (Thomas 2011).

In October 2009, in an overall effort to eliminate unnecessary federal programs, the U.S. Department of Homeland Security signed into law an act terminating the LORAN-C system. The USCG began a phased decommissioning of LORAN-C stations throughout the United States in February 2010 including demolishing transmission towers, which were an obstruction to air traffic, and placing all associated buildings in layaway. LORAN-C remains in use in several countries including the United Kingdom, France, Germany, Norway, Saudi Arabia, India, Korea, Japan, China, and Russia.

The domestic LORAN-C signal on Attu Island was terminated on February 8, 2010 and the Russian Chayka signal was terminated on August 1, 2010. Several members of the current crew attended the termination ceremonies. The USCG Navigation Center in Alexandria, Virginia coordinated the last signal shutdown, calling Attu to express their gratitude for the crews' dedication in operating the LORAN-A and LORAN-C signals continuously for sixty-six years in an extremely isolated location. On the count of three, two servicemen threw the switches for

Transmitters A and B (named Karen and Ashley by the crew) and the sound of 1.6 megawatts of radiated power died. The crewmembers were subsequently stationed at the USCG base of their choice in exchange for having spent one year on the remote island. The tower was demolished on August 14, 2010, and the official decommissioning ceremony took place on August 27, 2010.

Future of LORAN

The termination of LORAN-C in the United States and Canada has incited speculation on the need for a backup navigation system should disruptions occur with GNSS. Enhanced LORAN, or eLORAN, is the latest iteration of LORAN technology, providing navigation services completely independent of GNSS. eLORAN has enhanced the LORAN-C signal by providing: (1) better control and tolerance of timing and pulse shape; (2) time-of-transmission synchronization to universal coordinated time (UTC) at each transmitter site independent of any changes in signal propagation; and (3) the addition of a digital data broadcast capability called the LORAN data channel which can be used to send timesynchronization and text messages.

Several European countries, including the United Kingdom, Saudi Arabia, and South Korea are converting former LORAN stations to eLORAN technology, while other countries including Ireland and Sweden are building new stations (Schue 2011). In North America, debate over which system should serve as backup for GNSS has prevented a transition from LORAN-C to eLORAN.

II. Architectural Information

II.a. Physical History of Buildings (USCG 2005)

II.a.i. Fire Cart Garage and Terminal Building, 1960

Original Plans: This building is a 430-square-foot rectangular building, approximately 26' x 16' with a 4.5' x 3' entry. Floor joists span the short direction of the building over a 16' x 16' area; the remainder of the floor is asphalt. This paved portion serves as the fire cart storage area and is accessible via an overhead door. The walls are timber-framed with plywood sheathing. The mono-shed roof consists of 2' x 10' rafters sheathed with plywood featuring exposed-fastener corrugated metal. The windows are site-built in wood frames. The door is hollow metal with a hollow metal frame. There is a steel, manually-operated garage door at the fire cart storage room.

Alterations and Additions: An alteration is documented for 1984 but no details of the modification are apparent.

II.a.ii. Flammable Materials Storage Shed, ca. 1990

Original Plans: This is a prefabricated steel structure with a square plan measuring 5' x 5' and a slab-on-grade foundation.

II.a.iii. Fuel Farm Catwalks, 1960

Original Plans: Galvanized steel stairs and steel grate catwalks provide access to the top of fuel tanks one through eight in the Fuel Tank Farm. The catwalk is 3' wide x 120' long. It features handrails with a top height of 29" above the top of the steel grating; there is no toe plate. The catwalk that accesses tanks nine through fifteen is approximately 3' wide x 110' long and has galvanized steel grating with galvanized steel handrails 42" tall. Five 8' x 3' access platforms with aluminum framing and grating and 42"-tall steel handrails on each side provide access to the tank fill valves. A timber-framed catwalk connects the two sections of galvanized steel catwalks. The timber-framed catwalk is approximately 80' long and has 29"-tall, timber-framed handrails consisting of wood posts and rails.

II.a.iv. Fuel Tank Containment Area, 1984

Original Plans: The original tank farm containment area has a 4" slab-on-grade reinforced concrete floor that is approximately 10,800 square feet. The perimeter of this tank farm has 6" x 6' walls with 2' x 10" strip footings that are buried 4' below grade. The total length of the perimeter walls is 470'. The tanks are supported on concrete saddles that are approximately 1' x 5.5' with 1'-3" x 8'-6" concrete footings. There are approximately 586' of these saddles in the original tank farm. The total estimated concrete volume in the original containment area is approximately 605 cubic yards.

Alterations and Additions: In 1993, the tank farm containment area was expanded an additional 5,040 square feet. The slab is 6" thick with four 71'-long thickened strips to support welded steel tank saddles. The perimeter walls are 8" x 1'-8" with a 1' x 2' footing. There are approximately 180' of perimeter walls. The total amount of concrete in this newer fuel containment area is 133 cubic yards.

II.a.v. Fuel Transfer Building, 1984

Original Plans: This structure consists of a conventional perimeter foundation wall with strip footing supporting 8"-thick concrete block walls and a metal roof. The building is 8'-8" x 10'-8". The foundation is a 6" slab-on-grade foundation. The building is 8'-0" tall at the rear and 8'-8" at the façade.

II.a.vi. Generator Building, 1991

Original Plans: The Generator Building consists of a conventional poured perimeter foundation wall with strip footing, a slab-on-grade foundation, and reinforced concrete walls made from pre-cast concrete panels. The roof consists of openwebbed steel roof joists and a steel roof deck. Each generator sits on an isolated, elevated slab-on-grade foundation. Tube steel columns support crane rail beams, but no crane was installed. The roofing consists of an ethylene propylene diene monomer (EPDM) membrane over rigid insulation with an adhered walk protection layer over the entire roof. The exterior walls are exposed pre-cast concrete panels with interior wood-stud furring and batt insulation. There are no windows in the building. The doors are hollow metal in hollow metal frames; there is one steel overhead coiling door.

II.a.vii. Hazardous Material Storage Shed, ca. 1990

Original Plans: This structure is a 15'-0" x 20'-8", prefabricated, modular steel structure. It is supported on timber sleepers placed on a gravel pad. The timber sleepers are anchored at each end to a reinforced concrete beam. The door is accessed via a 28" x 44" galvanized steel grated landing and a galvanized steel stairway connected to the landing. The building features a roll-up door for freight access.

II.a.viii. Signal and Barracks Building, 1949

Original Plans: The Signal and Barracks Building is the largest building at LORSTA Attu; it is approximately 29,024 gross square feet. The building was originally constructed by the U.S. Navy in 1949 as an aerological station. In 1957, it was decommissioned as such, and in 1961 the USCG began using the building for LORAN-A and LORAN-C operations.

It consists of three stories and a basement. The basement includes the barracks, showers, fitness rooms, a laundry room, a wood shop, mechanical and electrical equipment, a timer room, storage space, and offices. The first floor contains the mess hall, galley, storage space, commander's quarters, offices, exchange, more barracks, sick bay and toilet, vehicle storage bays, a boiler room, and parts storage. The second floor contains even more barracks and a recreation deck; the third level contains the ham deck which serves as an outdoor recreation area.

The building consists of a conventional reinforced concrete foundation with perimeter foundation walls with strip footings and internal spread footings and slab-on-grade floors at the basement level. Structural reinforced concrete beams, walls, and slabs form the first, second, and third floors. The roof deck is a concrete slab supported by reinforced concrete beams and columns. The lateral load-resisting system consists of reinforced concrete slab diaphragms and shear walls.

The snow blower garage was added later. It has a slab-on-grade floor, timberframed walls with plywood sheathing, and a roof system consisting of wood chord trusses with steel webs and a plywood roof deck. A timber-framed wall on the south side of the garage and the garage bay concrete wall on the north side of the garage support the roof trusses.

The paint storage shed was also added. It consists of a concrete slab-on-grade floor, timber-framed walls supporting timber rafters, and a plywood deck. The timber walls consist of 2" x 4" studs at 16" on-center and plywood sheathing. The roof over the paint storage shed is un-insulated plywood deck with roll tar roofing.

In the original generator room, there is an overhead crane with a manual chainoperated hoist. The crane has double bridge girders and rail beams on each side of the room. Corbels off the concrete columns support the rail beams.

Roofing over the major portion of the building consists of modified bitumen roof membrane on plywood substrate over wood furring and insulation. The roof over the basement floor vestibules - excluding the stairway, the paint storage shed, and the kitchen storage shed – consists of un-insulated plywood deck with roll tar roofing.

The exterior walls for the major portion of the building – including the stair vestibules - consist of painted concrete. A variety of other substrates occur in smaller areas as follows: the basement floor vestibules and kitchen storage are uninsulated walls with painted plywood siding; the rec-deck vestibule and ham deck vestibule are insulated walls with painted plywood siding. The windows are aluminum-insulated with storm sashes. The doors are hollow metal in hollow metal frames.

Alterations and Additions: According to the USCG Door III Site Survey (USCG 1959), several renovations were to have been completed circa 1958 when the USCG converted the building to LORAN purposes. Renovations are also documented as having been completed in 1984 and 2003. In 1984, the snow blower garage and paint shed were added.

Two arctic entries were added to the basement entrances of the building. These consist of concrete slab-on-grade floors, 2" x 4" stud walls constructed on the edges of the slabs, and 2" x 4" rafters with plywood roof sheathing.

The incinerator room was also added to the main building after original construction. The structure consists of a slab-on-grade floor, tube steel columns supporting steel roof beams, light-gauge steel roof joists, a metal roof deck, and metal siding walls. The roof on the incinerator addition is a standing seam metal roof.

II.a.ix. Sewage Treatment Plant, 1960

Original Plans: The Sewage Treatment Plant is a 288-square-foot structure consisting of a slab foundation that is at exterior grade for one-quarter of the building, and recessed 7'-8" below exterior grade for the remaining three-quarters of the building. This recessed area has reinforced concrete retaining walls on each side up to the level of the exterior grade. Above the exterior grade, the walls are

timber stud walls with plywood sheathing on both sides of the studs. The walls support timber roof trusses and plywood roof sheathing. The lateral load-resisting system includes the roof deck diaphragm and plywood shear walls.

The roofing over the major portion of the building consists of modified bitumen roof membrane on plywood substrate. The roof is not insulated. There are no windows in this building. The door is hollow metal with a hollow metal frame.

II.a.x. Water Tank, 1960

Original Plans: The structure containing the three below-grade water tanks consists of a reinforced concrete floor, reinforced concrete walls, and reinforced concrete roof. It is 57'-0" x 27'-4" with 8'-8" x 8"-thick retaining walls. The floor slab varies in thickness from 6" to 9". The roof is an 8"-thick concrete slab. Two 10"-thick walls divide the length into three 18' x 26' chambers.

II.a.xi. Transmitter Building, 1991

Original Plans: The newer Transmitter Building is a 3,851-square-foot structure consisting of a conventional reinforced concrete spread footing foundation with perimeter foundation walls with strip footings and internal column spread footings. Concrete walls made from interconnected pre-cast concrete panels and tube steel columns support steel roof beams that support open-web steel roof joists and a steel roof deck. Pre-cast wall panels are welded together and to the foundation at cast imbeds.

The lateral load-resisting system consists of the metal deck roof diaphragm and shear walls made of the pre-cast wall panels. The roofing consists of EPDM membrane over rigid insulation with an adhered walk protection layer over the entire roof. The exterior walls are exposed pre-cast concrete panels with interior plywood sheathed wood-stud furring and batt insulation. There are no windows. The doors are hollow metal in hollow metal frames.

II.a.xii. Transmitter Building, "Old", 1960

Original Plans: The 1,922-gross-square-foot building consists of a conventional spread footing foundation with perimeter foundations walls with strip footings, a slab-on-grade floor, cast-in-place reinforced concrete walls, a concrete slab roof, and concrete roof beams. The lateral load-resisting system consists of the roof slab diaphragm and the concrete shear walls.

The roofing over the major portion of the building consists of modified bitumen roof membrane on what is assumed to be plywood substrate over wood furring and insulation. The windows are double-hung wood with un-insulated glass. The doors are hollow metal in hollow metal frames.

Alterations and Additions: This building was abandoned in 1995 for the newer Transmitter Building.

II.a.xiii. Warehouse, ca. 1943

Original Plans: The original Warehouse is 12,321 square feet. It consists of a foundation system of perimeter and internal timber pony walls supported by timber sills bearing on the gravel, and timber strip footings beneath the interior timber

columns. The pony walls are parallel with the building ridge and are approximately 10' on-center. The pony walls are cross-braced at approximately 10' on-center.

The pony walls support timber floor joists and timber floor decking. The sidewalls consist of approximately 14'-tall timber stud walls that support rafters. The rafters are spaced approximately 21" on-center and span between the sidewalls and the internal beams at posts parallel to and approximately 12' from the sidewalls. Trusses spaced at approximately 42" on-center span the beam lines at approximately 36'. The trusses are made of 3x timber framing with bolted connections. The beams consist of triple 2" x 14" timbers and span approximately 14'-4".

At the posts, frames are created from the roof trusses, double-stud columns at the external walls, a strut between the top of the external walls and the posts, double rafters at the post, diagonal bracing between the mid height of the wall and the mid span of the rafter, and diagonal bracing from the underside of the strut at the post to the quarter point of the roof trusses. The frame members are connected by bolted joints. Between the double-stud columns at the exterior walls, alternate wall studs and aligning rafters are braced with diagonal bracing between the mid height of the wall studs and mid span of the rafters. This bracing is not present in some locations that are believed to be former openings with recently-replaced studs.

The sidewalls once contained windows and doors that led to loading docks on each side of the Warehouse. The loading docks have been demolished and the windows and doors framed-in. End walls consist of timber studs with a plate at approximately 14' above the floor deck. The east wall is framed for an overhead door. The west wall has no door openings.

The roof sheathing consists of straight-sheathed timber decking. The sidewalls are sheathed with a combination of plywood and diagonal timber. This sheathing, the floor decking, the foundation cross-bracing, and the frames at the columns comprise the lateral load-resisting system of the building. The roofing consists of corrugated metal roof with exposed fasteners. Plywood siding clads the exterior. There are no windows. There are two doors; one is hollow metal with a hollow metal frame, and the other is site-built of a wood frame and plywood. There is one large vehicle door opening for an overhead coiling door. The door is present onsite but was never installed.

Alterations and Additions: Renovations were completed in 1969 and 1976. They consisted of removing the loading dock doors along the length of the building and installing translucent fiberglass panels. The panels were removed and the openings framed with wood studs and sheathed with siding in 1976.

II.a.xiv. Water Pump House, 1960

Original Plans: The Water Pump House is a 518-square-foot building with a reinforced concrete vault foundation beneath the building. The vault is approximately 8' deep and has a concrete floor and sidewalls. The vault space below the main level floor is a collection gallery for the auxiliary water supply.

The main level floor is an 11"-thick concrete slab. Above the floor, 8"-thick concrete walls support a 12"-thick concrete roof slab and supporting beams. The roof slab has a single direction slope. A single gable, timber-framed roof was constructed above the concrete roof slab. The roof is comprised of 2' x 6' rafters at 2' on-center and plywood sheathing.

The roofing consists of asphalt shingles. The gable end walls are enclosed with plywood siding. The exterior walls are exposed cast-in-place concrete. There are no windows in this building. The doors are hollow metal in hollow metal frames.

II.a.xv. Water Treatment Building, 2001

Original Plans: The Water Treatment Building is a timber-framed modular unit supported on timber sleepers on an exterior slab-on-grade foundation. The building is 11'-3" x 8'-3". The floor joists are 2" x 10", laid at 16" on-center, and support a plywood floor. The walls are 2" x 6" studs with 5/8"-thick interior sheathing and plywood exterior sheathing. The roof is a single gable, timber-framed roof with plywood sheathing.

II.a.xvi. 625' Guyed Antenna, 1960

Original Plans: The Antenna or "Tower", now razed, was a 625' tower comprised of galvanized steel structural members (legs, girts, and diagonals) anchored by guy wires. The tower featured a ladder, safety rail, and lighting system; it was painted entirely in orange and white aviation warning paint. The base of the tower consisted of an approximately 10' x 10' reinforced concrete foundation that was 9' thick. The foundation supported a fiberglass rod insulator, from which the tower rose. It was connected to the Transmitter Building by the signal feed line.

Alterations and Additions: The tower was demolished on August 27, 2010.

III. Site Description (USCG 2005)

LORSTA Attu is located on the southeast side of Attu Island overlooking Massacre Bay, 3,000' northwest of Point Barbara. By air, the station is accessed from the runway by 0.2 miles of a one-lane, asphalt-surfaced roadway. By ship, it is accessed using the beach landing. When occupied, there was minimal security at the site because of the station's remoteness and limited accessibility.

To function in such a remote location, the station had to be self-sustaining and the facilities had to be built to withstand a harsh environment. As a result, the buildings were constructed to form an easily-accessible cluster approximately 800' from shoreline. The Signal and Barracks Building housed the crew and the operations, and large areas dedicated to fuel storage and secondary buildings for treating water and processing waste were built around it.

The Signal and Barracks Building is a sprawling three-story structure with the longest dimension (central corridor) positioned in a north-south orientation; three wings extend from the central corridor. The mess deck/galley wing extends from the central corridor to the west and is approximately 70' from the north end of the building. Approximately 140' from the north end of the building, the barracks wing extends east of the central corridor. At the south end of the building, the garage/maintenance bays extend east of the central corridor, and the boiler room and old generator room (now a parts room) extend to the west of the central corridor. Attached to the west end of the old generator room is the newer Generator Building. The incinerator is in a shed on the south side of the old generator room. The snow blower garage is located at the southeast corner of the building.

The fire protection tanks (two 25,000-gallon for fire protection purposes), water storage tanks, and Water Treatment Building are located west of the garage/maintenance bays and boiler room wings.

The newer Transmitter Building and old Transmitter Building are approximately 1,600' south of the Signal and Barracks Building and are accessed via the asphalt-surfaced Transmitter Road.

The Sewage Treatment Plant is located along the gravel Warehouse Road approximately 250' northeast of the Signal and Barracks Building's north end. Warehouse Road connects the warehouse to the Signal and Barracks Building. The warehouse is approximately 200' from the beach and 1,200' northeast of the Signal and Barracks Building. The warehouse is oriented with the longest building dimension in a southeast-northwest orientation.

The Fuel Tank Farm is located approximately 120' southeast of the Signal and Barracks Building and contains fifteen fuel tanks. A fuel oil fill pipeline runs from the barge beach access to the Fuel Tank Farm. The beach access, where barges deliver freight and fuel, is approximately 1,000' east northeast of the Signal and Barracks Building.

There is a Hazardous Materials Storage Shed, a Fuel Transfer Building, and a Flammable Materials Storage Shed located north of the Fuel Tank Farm and east of the Signal and Barracks Building's garage/maintenance bays wing.

The operational, 6,000'-long, North-South runway is located approximately 1,050' west of the Signal and Barracks Building and is connected to the building by means of Runway Road. In the event that this runway is being serviced, LORAN Station Attu also has the 6,000'-long asphalt-surfaced East-West runway.

A Fire Cart Garage and Terminal Building and an aircraft-parking apron with tiedowns are located on the east side of the North-South runway, approximately 2,100' from the north end of the runway.

The Water Pump House is located approximately 1,050' southwest of the Signal and Barracks Building, approximately 150' from the North-South runway centerline, and 200' from the centerline of the Peaceful River.

There are numerous un-maintained roadways and four-wheeler trails connecting the facilities. There are also abandoned taxiways, piers, and U.S. Navy buildings, and three unexploded ordnance zones in the area. The LORAN-A buildings at Casco Cove are still extant, although in severe disrepair.

Attu Island is a National Historic Landmark commemorating the Battle of Attu. Recorded and unrecorded archeological artifacts from this period and earlier are scattered about the island, including some from the Aleut settlement at Chichagof Harbor, which the Japanese destroyed during the war (National Register of Historic Places 1985).

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Casey Martin, Photographer, July 2010

Photographic documentation was conducted according to the National Register of Historic Places (NRHP) standards, per the stipulations in the Programmatic Agreement.

Date	Frame	Description
7/27/2010	1	Station - Southeast Elevation
7/27/2010	2	Station - Southeast Elevation 2
7/27/2010	3	Station - Northeast Elevation
7/27/2010	4	Station - Northwest Elevation
7/27/2010	5	Station - Southwest Elevation
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7/27/2010	11	Station - Exterior Perspective 6
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7/27/2010 59 Flammable Materials Storage Shed - Rear 7/27/2010 60 Flammabe Materials Storage Shed - Perspective 1 7/27/2010 61 Flammable Materials Storage Shed - Perspective 2 7/27/2010 62 Flammable Materials Storage Shed - Perspective 3 7/27/2010 63 Hazardous Materials (HAZMAT) Shed - Front 7/27/2010 64 HAZMAT Shed - Side 7/27/2010 65 HAZMAT Shed - Rear 7/27/2010 66 HAZMAT Shed - Perspective 1	7/27/2010	57	Flammabe Materials Storage Shed - Front
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7/27/2010 66 HAZMAT Shed - Perspective 1	7/27/2010	64	HAZMAT Shed - Side
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7/27/2010 67 HAZMAT Shed - Perspective 2	7/27/2010	66	HAZMAT Shed - Perspective 1
	7/27/2010	67	HAZMAT Shed - Perspective 2

7/27/2010 68 Warehouse - Front 7/27/2010 69 Warehouse - Side 7/27/2010 70 Warehouse - Rear 7/27/2010 71 Warehouse - Perspective 2 7/27/2010 72 Warehouse - Interior 1 7/28/2010 73 Warehouse - Interior 2 7/28/2010 74 Warehouse - Interior 2 7/28/2010 75 Well Pump Building (Water Pump House) - Front 7/28/2010 76 Well Pump Building (Water Pump House) - Perspective 1 7/28/2010 77 Well Pump Building (Water Pump House) - Perspective 2 7/28/2010 78 Well Pump Building (Water Pump House) - Interior 1 7/28/2010 79 Well Pump Building (Water Pump House) - Interior 2 7/28/2010 80 Well Pump Building (Water Pump House) - Well Pump 7/28/2010 81 Well Pump Building (Water Pump House) - Well Pump 7/28/2010 82 Water Treatment Building - Front 7/28/2010 83 Water Treatment Building - Rear 7/28/2010 84 Water Treatment Building - Perspective 2 7/2	_,		T
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7/28/2010 83 Water Treatment Building - Side 7/28/2010 84 Water Treatment Building - Rear 7/28/2010 85 Water Treatment Building - Perspective 1 7/28/2010 86 Water Teatment Building - Perspective 2 7/28/2010 87 Water Tanks - Site 7/28/2010 88 Water Tanks - Perspective 1 7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	81	Well Pump Building (Water Pump House) - Well Pump
7/28/2010 84 Water Treatment Building - Rear 7/28/2010 85 Water Treatment Building - Perspective 1 7/28/2010 86 Water Treatment Building - Perspective 2 7/28/2010 87 Water Tanks - Site 7/28/2010 88 Water Tanks - Perspective 1 7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	82	Water Treatment Building - Front
7/28/2010 85 Water Treatment Building - Perspective 1 7/28/2010 86 Water Treatment Building - Perspective 2 7/28/2010 87 Water Tanks - Site 7/28/2010 88 Water Tanks - Perspective 1 7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	83	Water Treatment Building - Side
7/28/2010 86 Water Treatment Building - Perspective 2 7/28/2010 87 Water Tanks - Site 7/28/2010 88 Water Tanks - Perspective 1 7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	84	Water Treatment Building - Rear
7/28/2010 87 Water Tanks - Site 7/28/2010 88 Water Tanks - Perspective 1 7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	85	Water Treatment Building - Perspective 1
7/28/2010 88 Water Tanks - Perspective 1 7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	86	Water Treatment Building - Perspective 2
7/28/2010 89 Water Tanks - Perspective 2 7/28/2010 90 Water Tanks - Hatch 7/28/2010 91 Sewage Treatment Building - Front 7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	87	Water Tanks - Site
7/28/201090Water Tanks - Hatch7/28/201091Sewage Treatment Building - Front7/28/201092Sewage Treatment Building - Rear7/28/201093Sewage Treatment Building - Perspective 17/28/201094Sewage Treatment Building - Perspective 27/28/201095Sewage Treatment Building - Interior 1	7/28/2010	88	Water Tanks - Perspective 1
7/28/201091Sewage Treatment Building - Front7/28/201092Sewage Treatment Building - Rear7/28/201093Sewage Treatment Building - Perspective 17/28/201094Sewage Treatment Building - Perspective 27/28/201095Sewage Treatment Building - Interior 1	7/28/2010	89	Water Tanks - Perspective 2
7/28/2010 92 Sewage Treatment Building - Rear 7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	90	Water Tanks - Hatch
7/28/2010 93 Sewage Treatment Building - Perspective 1 7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	91	Sewage Treatment Building - Front
7/28/2010 94 Sewage Treatment Building - Perspective 2 7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	92	Sewage Treatment Building - Rear
7/28/2010 95 Sewage Treatment Building - Interior 1	7/28/2010	93	Sewage Treatment Building - Perspective 1
Ţ Ţ	7/28/2010	94	Sewage Treatment Building - Perspective 2
7/28/2010 96 Sewage Treatment Building - Interior 2	7/28/2010	95	Sewage Treatment Building - Interior 1
	7/28/2010	96	Sewage Treatment Building - Interior 2



AK_Attu_LORANStation_001.tif



 $AK_Attu_LORANStation_002.tif$



AK_Attu_LORANStation_003.tif



AK_Attu_LORANStation_004.tif



AK_Attu_LORANStation_005.tif



AK_Attu_LORANStation_006.tif



AK_Attu_LORANStation_007.tif



AK_Attu_LORANStation_008.tif



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AK_Attu_LORANStation_010.tif



AK_Attu_LORANStation_011.tif



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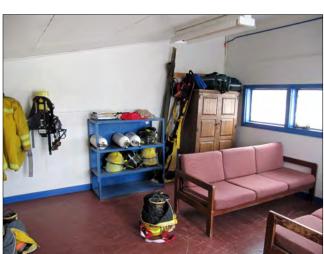
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AK_Attu_LORANStation_096.tif



Alaska Building Inventory Form				AHRS: ATU-260 Associated District: Attu						
Historic Name:		-		Other Name):					
625-foot Guyed Antenna				N/A						
Building Address:				City:						
Attu Island, AK				Attu						
Current Owner's Name and Address:										
United States Coast Guard, Civil Engineerir	ng Unit, Po	O Box 21747, Junea	au, AK, 99802-174	7						
USGS Quad Name and Map Sheet:	Section	n:		Township:				Range:		
Attu C-3				s084s264w						
GPS Coordinate (NAD-27 Alaska):				UTM:						
N 52 50.755 E 173 11.041				Zone 59N		Easting 5857364		Northing 647082	I	
Historic Associations										
Historic Function and Sub-function:										
Communications Facility	2.	Antenna		3.				4.		
Current Function and Sub-function:		A								
Communications Facility	2.	Antenna		3.				4.		
Significant Person(s):				Significant	Dates					
1. N/A	2.			1. 1	N/A			2.		
Architect, Builder, Contractor, Designer:				Original Ov	ner:					
USCG				USCG						
Architectural Information:										
Date of Construction: 1958	Date M N/A	oved:		Destruction N/A	Date:			Reconstruction Date N/A	te:	
Alteration Dates	IN/A			IN/A			I	IN/A		
1. N/A	2.			3.				4.		
Resource Type				Stories						
[] Building [] Site	[x] Stru	ucture [10	Object		N/A			2.		
Architectural Style:	[A] Oliv	[]	,	Building Ty						
Utilitarian				Structure	r					

Number of Ancillary Structures:	Plan:		Cultural Affiliation:
0	N/A		US Government
Foundation Materials:	Roof Materials:	Exterior Wall Materials:	Other Materials:
1. Concrete	1. N/A	Galvanized Steel	1. Copper
Galvanized Steel	2.	2.	2.
Architectural Description (Include setting		Statement of Significance:	
			s the federally-provided radio navigation system for
(legs, girts and diagonals) anchored by guy v			CZ) from approximately 1940 to 2010. (The CCZ is
featured a ladder, safety rail, and lighting sys			oor entrance to 50 nautical miles offshore or the edge
white aviation warning paint. The base of the			greater.) The LORAN-C Station at Attu is eligible as
			the national level of significance, for its role as a
tower rises. It is connected to the transmitter	building by the signal feed line. The tower		nted growing State and Federal government
was demolished on August 27, 2010.			e navigation. The station is also eligible under
			rty of exceptional importance that has achieved
		significance within the past 50 years.	
			was done using dead reckoning or celestial
			ponsibility for providing navigational aids increased,
			system was needed. The LORAN system was
			leral government by scientists at the Massachusetts
			modeled after the British Gee system. The first
			-A") operated at frequencies between 1,850 and
			Telecommunications Union Conference allocated the
			evelopment of a further-reaching long distance radio-
			sis. LORAN-C operated in this low-frequency as a
			ing the time difference in pulses from two pairs of
			ation fix. The system was highly accurate (better
			racy in the defined coverage area), all-weather, long-
		range, and available 24 hours per day	<i>1</i> .

				(USCG) in 194 Asia, and Euro LORAN-A stat Cold War, by t used as an aid military suppo aviators (and s 572,000 users	3. By that tir pe to eventuations were buil ne time it was to civilian na t to providing ome terrestri of the LORA	me, stations we ally provide so ally provide so it during WWII is developed in avigation. After a navigational a fall users later). N C system, w	ere built throughous 70 million squand used for was 1957, the LORA r World War II, the assistance to civil. In 1991 there was set to the set of	out the U.S., uare miles or ur-time activit N C technolo e USCG shi lians, includir vere estimate omestic and	ogy was primarily ited its mission from
				2010. The LO produced two as a secondar master, and P was unique in LORAN Chain	RAN-C Station different sets of station within ort Clarence at that it was the known as the	on at Attu funct of timed pulse in the North Pa and Kodiak we e only U.S. sta ne Russian-Am	tioned as a dual res to provide cove acific Chain, whe	rated station erage in a lar re St. Paul w secondary seduced signate two chain	ger area. It served as the designated stations. But Attu Is for a Russian s together are
Eligibility:				Criteria Consid					
[x] Yes [] No If yes:	[x] A [] E		[]D	[] A []) []E	[]F	[x] G Date:
Prepared by: Terri Asendorf	[] Architect		i meets the id nitectural Hist		nai Quaiilicat Historian		Historic Architect	[] None	12/2/2010
SHPO Response:	15 3 - 11 - 11 - 11	[1] 7 11 01				[]		21.15.10	
[] Eligible (Concur) [] Eligible (Do Not Co		Not Eligible (Co	ncur)	[] Not Eligible	(Do Not Cond	cur)			
Minor Recommendations and Comments In					,				
[] Need more information related to: Authorized Signature:	[] Historic Con	text [] Integ	rity [] Archite	ectural Descriptio	n []Pe	eriod of Signific	cance	Date:	
Authorized Signature:								Date:	

Alaska Building Inventory Form				AHRS: ATU-251 Associated District: Attu							
Historic Name:	,		Other Na	ime:							
Fire Cart Garage and Terminal Building			N/A								
Building Address:			City:								
Attu Island, AK			Attu	Attu							
Current Owner's Name and Address:											
United States Coast Guard, Civil Engineer	ing Unit, PC	Box 21747, Juneau, AK, 9980	2-1747								
USGS Quad Name and Map Sheet:	Section	:	Townshi	p:	Range:						
Attu C-3			s084s264	1w							
GPS Coordinate (NAD-27 Alaska):			UTM:								
N 52 50.755 E 173 11.041			Zone 59N	Easting 5857364		Northing 647082					
Historic Associations											
Historic Function and Sub-function:											
1. Air-related	2.	Terminal/Storage	3.		4.						
Current Function and Sub-function:											
1. Air-related	2.	Terminal/Storage	3.		4.						
Significant Person(s):			Significa								
1.	2.		1.	1984 (date unknown) - Reno plan for building completed	ovation 2.	1987 (date unknown) - As- built drawings completed for building renovation					
Architect, Builder, Contractor, Designe	r:		Original	Owner:							
USCG			USCG								
Architectural Information:											
Date of Construction:	Date Mo	oved:	Destruct	ion Date:	Recons	truction Date:					
1960	N/A		N/A		N/A						
Alteration Dates											
Unknown if alteration/renovation was completed	on 2.		3.		4.						
Resource Type			Stories		_						
[x] Building [] Site	[] Struc	cture [] Object	1.	_1	2.						
Architectural Style: Utilitarian			Building Warehou								
			1								

wood 1. rrugated metal 2. s): Stater	Plywood	ment Other Materials: 1. Metal doors						
wood 1. rrugated metal 2. s): Stater	Plywood							
rrugated metal 2.		1. Metal doors						
s): Stater	[2	n						
		<u> </u>						
assenger waiting area at the II ong-	Statement of Significance:							
, rectangular, 430-square-foot s concrete slab; the roof is ling features wood-framed metal door (no interior doors accessed by a single, steel-involv. Criteri	storic district under Criterion A, at the national oric aid to navigation that represented growing lvement and responsibility for safe navigation. erion Consideration G, as a property of except	proximately 1940 to 2010. (The CCZ is to 50 nautical miles offshore or the edg ne LORAN-C Station at Attu is eligible at level of significance, for its role as a State and Federal government. The station is also eligible under						
naviga the de develo Institu LORA 1,950 freque naviga hyperi transn than 0	gation. As State and Federal responsibility for development of a more accurate system was reloped under a program of the federal governr tute of Technology and generally modeled afte RAN system (later called "LORAN -A") operate to kHz. In 1947, the International Telecommunium part of the development of gation system on a world-wide basis. LORAN erbolic radio navigation system using the time smitting stations to obtain a navigation fix. The 10.25 nautical mile absolute accuracy in the de-	r providing navigational aids increased, needed. The LORAN system was ment by scientists at the Massachusetts er the British Gee system. The first d at frequencies between 1,850 and nications Union Conference allocated th of a further-reaching long distance radio I-C operated in this low-frequency as a difference in pulses from two pairs of e system was highly accurate (better						
	metal door (no interior doors a his accessed by a single, steel-invo Critic sign At the devi lasti LOF 1,95 freq navi hypr tran thar	metal door (no interior doors a historic district under Criterion A, at the national						

				(USCG) in 194: Asia, and Europ LORAN-A static Cold War, by the used as an aid military support aviators (and se 572,000 users	 By that time, so to eventually pons were built during time it was devito civilian navigate to providing navione terrestrial us 	tations were be crovide some 7 ring WWII and eloped in 195 ion. After Wo gational assis ers later). In system, with 8	uilt througho ouilt througho oused for wa oused for wa oused for wa oused for wa oused oused oused ouse ouse ouse ouse ouse ouse ouse ouse	ut the U.S., uare miles of r-time activit N C technolo e USCG shi ians, includii ere estimate	f coverage. While y throughout the ogy was primarily fted its mission from
				2010. The LOF produced two c as a secondary master, and Po was unique in t LORAN Chain,	RAN-C Station at lifferent sets of ting station within the	Attu functione ned pulses to North Pacific Kodiak were to U.S. station ssian-America	d as a dual r provide cove Chain, wher vo additional that also pro- an Chain. Th	ated station, rage in a lar re St. Paul w secondary s duced signa ne two chains	ger area. It served ras the designated stations. But Attu Is for a Russian s together are
Eligibility:				Criteria Consid					
[x] Yes [] No If yes:	[x] A [] [[]D	[]A []E		[]D	[]E	[]F	[x] G Date:
Prepared by: Terri Asendorf	[] Architect		i meets the fo nitectural Hist		iai Qualifications: listorian		ric Architect	[] None	12/2/2010
SHPO Response:	15.1	į., 7 i. o.				[]		.,	1
[] Eligible (Concur) [] Eligible (Do Not Co		Not Eligible (Co	ncur)	[] Not Eligible (Do Not Concur)				
Minor Recommendations and Comments In									
[] Need more information related to:	[] Historic Con	ntext [] Integ	grity [] Archite	ectural Description	[] Period	of Significand	е	IDete	
Authorized Signature:								Date:	

Flammable Materials Storage Shed N/A	Alaska Building Inv	ry Form	AHR	AHRS: ATU-253 Associated District: Attu							
City: Adtu Island, AK	Historic Name:		-	Other Name:	Other Name:						
Attu Attu Attu Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 Township:	Flammable Materials Storage Shed			N/A							
Current Owner's Name and Address: Section: Section: Township: Sold-84264w Section: Section:	Building Address:			City:							
United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Section: Township: s084s264w	Attu Island, AK			Attu							
USGS Quad Name and Map Sheet: Section: Township: Sold Share	Current Owner's Name and Address:										
Significant Person(s): N/A 2. N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	United States Coast Guard, Civil Enginee	ering Unit, P	O Box 21747, Juneau, AK, 9980	2-1747							
UTM: Zone Easting Northing 59N 5857364 647082	USGS Quad Name and Map Sheet:	Section	on:	Township:		Range:					
N 52 50.755 E 173 11.041 Zone	Attu C-3			s084s264w							
Secont S	GPS Coordinate (NAD-27 Alaska):			UTM:							
Historic Associations	N 52 50.755 E 173 11.041			Zone	Easting	Northing					
Historic Function and Sub-function: 1.				59N	5857364	647082					
Historic Function and Sub-function: 1.											
1. Industry 2. Industrial Storage 3. 4. Current Function and Sub-function:	Historic Associations										
Current Function and Sub-function: 1.	Historic Function and Sub-function:										
1.	1. Industry	2.	Industrial Storage	3.		4.					
1.	•		· ·								
Significant Person(s): 1.	Current Function and Sub-function:										
Significant Person(s): 1.	1. Industry	2.	Industrial Storage	3.		4.					
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: Original Owner: USCG Architectural Information: Date of Construction: Date Moved: N/A N/A N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type [x] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:	,										
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: Original Owner: USCG Architectural Information: Date of Construction: Date Moved: N/A N/A N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type [x] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:	Significant Person(s):			Significant Dates	1						
Original Owner: USCG		2			•	2					
USCG						L.					
Architectural Information: Date Moved: Destruction Date: Reconstruction Date: N/A N/											
Date of Construction: Date Moved: Destruction Date: Reconstruction Date: N/A N/A N/A				10000							
N/A	Architectural Information:										
Alteration Dates 1.	Date of Construction:	Date N	Moved:	Destruction Date	:	Reconstruction Date:					
1. N/A 2. 3. 4. Resource Type [x] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:	Uknown	N/A		N/A		N/A					
Stories	Alteration Dates			ı		•					
[x] Building [] Site [] Structure [] Object 1. 1. 2. Architectural Style: Building Type:	1. N/A	2.		3.		4.					
[x] Building [] Site [] Structure [] Object 1. 1. 2. Architectural Style: Building Type:											
[x] Building [] Site [] Structure [] Object 1. 1. 2. Architectural Style: Building Type:	Resource Type			Stories							
Architectural Style: Building Type:		[] Str	ucture [] Object	1. 1		2.					
			,	Building Type:							
	Utilitarian										

Number of Ancillary Structures: Plan:				Cultural Affiliation:						
0		Square			US Govern					
	Roof Mate		Exterior	Wall Materials:		Other N	laterials:			
1. Concrete	1.	Steel	1.	Steel		1.	N/A			
2.	2.		2.			2.				
Architectural Description (Include setting 8	& outbuildi	ngs):		ent of Significand						
This structure is a free-standing, pre-fabricate slab-on-grade supports this structure, which h	Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government involvement and responsibility for safe navigation. The station is also eligible under Criterion Consideration G, as a property of exceptional importance that has achieved significance within the past 50 years.									
			As State developi under a Technol (later ca the Inter 110 kHz a world-navigatio obtain	and Federal responent of a more ac program of the fec gogy and generally led "LORAN -A") national Telecoming for the developm wide basis. LORA on system using the an anavigation fix.	onsibility for providing na curate system was need deral government by scie modeled after the British operated at frequencies munications Union Confe ent of a further-reaching NN-C operated in this low the time difference in puls The system was highly a	avigational ed. The open trists at a Gee system of the control of	LORAN system was developed the Massachusetts Institute of stem. The first LORAN system 1,850 and 1,950 kHz. In 1947, ocated the frequency band 90-ance radio-navigation system on			

				(USCG) in 19 Asia, and Eu LORAN-A st War, by the t an aid to civi support to pr some terrest the LORAN	943. By arope to ations witime it willian naw roviding trial use C syste	vas developed in vigation. After Wo navigational ass rs later). In 1991	ns were bui de some 70 WWII and u 1957, the L orld War II, istance to c there were nt domestic	It throughout million squa sed for war-t ORAN C tec the USCG sh ivilians, inclu estimated to	the U.S., R re miles of c ime activity hnology was nifted its mis ding marine be more th	ussia, Canada,
				2010. The L produced two as a seconda master, and unique in tha Chain, know Gulf of Alask	ORAN- o differe ary stat Port Cla at it was n as the ca Chair	C Station at Attuent sets of timed in within the Noi arrence and Kodia the only U.S. state Russian-Americas. The station oc	functioned bulses to protect the Pacific Coak were two ation that also an Chain.	as a dual rate ovide covera chain, where additional se so produced The two chai	ed station, n ge in a large St. Paul was econdary sta signals for a ns together	er area. It served
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Cons	sideration	ons: []C	[]D	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by Profe						נוט	[]-	11'	Date:
Terri Asendorf	[] Architect		tectural Histo] Histor		[] Histor	ric Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co	oncur) [] Not I	Eligible (Con	cur)	[] Not Eligibl	le (Do N	lot Concur)				
Minor Recommendations and Comments In										
[] Need more information related to: Authorized Signature:	[] Historic Context	[] Integr	ity [] Archite	ectural Descript	ion	[] Period of S	ignificance		Date:	
Authorized Signature.									Date.	

Alaska Building Inventory Form AHRS: ATU-252 **Associated District:** Attu Historic Name: Other Name: Fuel Farm Catwalks N/A **Building Address:** City: Attu Island, AK Attu Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Township: Range: s084s264w Attu C-3 GPS Coordinate (NAD-27 Alaska): UTM: N 52 50.755 E 173 11.041 Zone Easting Northing 59N 5857364 647082 **Historic Associations** Historic Function and Sub-function: Industry 2. 3. 4. **Current Function and Sub-function:** Industry 2. 3. 4. Significant Dates Significant Person(s): Architect, Builder, Contractor, Designer: Original Owner: USČG **Architectural Information:** Date of Construction: Date Moved: **Destruction Date:** Reconstruction Date: 1960 N/A N/A N/A Alteration Dates N/A 3. Stories Resource Type [] Building [] Site [x] Structure [] Object 2. Architectural Style: **Building Type:** Utilitarian

Number of Ancillary Structures:	Plan:	Cultural A	Affiliation:
0	N/A	US Gover	
Foundation Materials:	Roof Materials:	Exterior Wall Materials:	Other Materials:
 Galvanized steel 	1. N/A	1. N/A	1. N/A
2.	2.	2.	2.
Architectural Description (Include setting		Statement of Significance:	
Galvanized steel access stairs and steel gra-		Long-Range Navigation (LORAN) was the federally-	
Tanks 1 to 8 in the fuel tank farm. This older		U.S. Coastal Confluence Zone (CCZ) from approxim	
	h a top height that is only 29" above the top of	as the area seaward of a harbor entrance to 50 naut	o a
the steel grating. The handrails have no toe		Continental Shelf, whichever is greater.) The LORAL	
galvanized coating that is near or past the er	nd of its effective life. The catwalk access	district under Criterion A, at the national level of sign	
stairs land within the containment area.		navigation that represented growing State and Feder	
		responsibility for safe navigation. The station is also	
The catwalk accessing Tanks 9 to 15 is appr		as a property of exceptional importance that has ach	leved significance within the past 50 years.
galvanized steel grating and galvanized stee			
each side. Five 8' long by 3' wide access pla			
	each side, provide access to fill valves on the		
newest five tanks.			
		At the beginning of WWII, positioning was done using	
		As State and Federal responsibility for providing nav	
		of a more accurate system was needed. The LORAI	
		of the federal government by scientists at the Massa	
		generally modeled after the British Gee system. The	, ,
		-A") operated at frequencies between 1,850 and 1,95	
		Telecommunications Union Conference allocated the	
		development of a further-reaching long distance radi	
		LORAN-C operated in this low-frequency as a hyper	
		time difference in pulses from two pairs of transmitting	
		system was highly accurate (better than 0.25 nautica	,
		coverage area), all-weather, long-range, and availab	ie 24 nours per day.

A timber-framed catwalk connects the two setimber catwalk, approximately 80 LF, also ha each side. The handrails consist of 2x posts	Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.								
				secondary station and Port Clarence	N-C Station at Attu rent sets of timed p within the North Pa and Kodiak were to U.S. station that a perican Chain. The	functioned as pulses to prov acific Chain, w wo additional also produced e two chains t	a dual rated ride coverage rhere St. Pau secondary s signals for a ogether are k	station, me in a larger I was the de tations. But Russian LC	aning that it area. It served as a esignated master, Attu was unique in DRAN Chain, known
Eligibility:	[.1 A [1]		LI D	Criteria Considera		ш			F-1 C
[x] Yes [] No If yes: Prepared by:	[x] A [] E		[]D	[] A [] B owing Professional	[]C	[]D	[]E	[]F	[x] G Date:
Terri Asendorf	I 1 Architect		itectural Histor			[] Histo	ric Architect	[] None	12/2/2010
SHPO Response:	11. 1	[-9,71101	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1,11100		[]		,,	
[] Eligible (Concur) [] Eligible (Do Not Co		Not Eligible (Cor	ncur)	[] Not Eligible (Do	Not Concur)				
Minor Recommendations and Comments Inc									
[] Need more information related to:	[] Historic Con	text [] Integ	rity [] Archited	ctural Description	[] Period of S	ignificance		Doto	
Authorized Signature:								Date:	

Alaska Building Inv	ry Form	AHRS: ATU-252 Associated District: Attu							
Historic Name:			Other Name:						
Fuel Tank Containment Area			N/A						
Building Address:			City:						
Attu Island, AK			Attu						
Current Owner's Name and Address:									
United States Coast Guard, Civil Engineer									
USGS Quad Name and Map Sheet:	Sectio	n:	Township:		Range:				
Attu C-3			s084s264w						
GPS Coordinate (NAD-27 Alaska):			UTM:						
N 52 50.755 E 173 11.041			Zone	Easting	Northing				
			59N	5857364	647082				
Historic Associations									
Historic Function and Sub-function:									
1. Industry	2.	Fuel Tank	3.		4.				
Current Function and Sub-function:									
1. Industry	2.	Fuel Tank	3.		4.				
Significant Person(s):			Significant Dates	3					
1. N/A	2.		1. N/A		2.				
Architect, Builder, Contractor, Designer	:		Original Owner:						
USCG			USCG						
Architectural Information:									
Date of Construction:	Date N	loved:	Destruction Date):	Reconstruction Date:				
1984	N/A		N/A		N/A				
Alteration Dates									
1. 1993	2.		3.		4.				
Resource Type			Stories						
[] Building [x] Site	[]Stru	icture [] Object	1. N/A		2.				
Architectural Style:			Building Type:						
Utilitarian			Storage						

Number of Ancillary Structures:		Plan:			Cultural A	ffiliation:			
0		L-shaped with rectangular addition	on US Government						
Foundation Materials:	Roof Mate	rials:	Exterior \	Wall Materials:		Other Materials:			
1. Concrete	1.	N/A	1.	Concrete		1. N/A			
2.	2.		2.			2.			
Architectural Description (Include setting 8				t of Significance:					
The original tank farm containment was const thickened edges. The slab area is approximatank farm has walls 6" wide by approximately buried 4' below grade. Thus, the top of the wagrade. Tanks are supported on concrete saddles, wh with 15" thick by 8.5' wide concrete footings. these saddles in the original tank farm. The trecontainment area is approximately 605 cubic on the original containment area.	tely 10,800 6' tall, with alls is appro- ich are app There are a otal estimat	square feet. The perimeter of this 2' x 10" strip footings that are eximately 2' above the exterior aroximately 12" wide and 5.5' tall approximately 586 linear feet of ed concrete volume in the original	U.S. Coas as the are Continent district un navigatior responsib	stal Confluence Zone (CCZ) from a seaward of a harbor entrance al Shelf, whichever is greater.) der Criterion A, at the national that represented growing Statility for safe navigation. The s	om approxir te to 50 nau The LORA level of sign te and Fede tation is also				
			As State a developm under a p Technolog (later calle the Internation of the 110 kHz fr world-wid system us navigation	and Federal responsibility for pent of a more accurate system rogram of the federal governm gy and generally modeled after d'LORAN -A") operated at fractional Telecommunications U or the development of a furthe e basis. LORAN-C operated in ting the time difference in pulsing the. The system was highly a	roviding na n was neede ent by scier r the British equencies b nion Confer r-reaching le n this low-frr es from two ccurate (be	ng dead reckoning or celestial navigation. vigational aids increased, the id. The LORAN system was developed tists at the Massachusetts Institute of Gee system. The first LORAN system etween 1,850 and 1,950 kHz. In 1947, ence allocated the frequency band 90- ong distance radio-navigation system on a equency as a hyperbolic radio navigation pairs of transmitting stations to obtain a tter than 0.25 nautical mile absolute , long-range, and available 24 hours per			

In 1993, the tank farm containment area was expand The slab is 6-inches thick with four 71-foot long thick tank saddles. The perimeter walls are 8-inches thick The total amount of concrete in this newer fuel containew containment area has no liner.	Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.									
				2010. The produced to a secondar master, and unique in the Chain, kno	LORAN- wo differency station of Port Clanat it was well as the	C Station at Attuent sets of timed within the North arence and Kodia the only U.S. sta	functioned a bulses to pro Pacific Chair k were two a tion that also an Chain. T	as a dual rate ovide coveragon, where St. Fadditional second produced so he two chair	d station, m ge in a large Paul was the condary stat ignals for a as together a	r area. It served as
Eligibility: [x] Yes [] No If yes: [x] A	ſΊΒ	[]C	[]D	Criteria Co	nsideratio	ons: []C	ΠD	ſΊΕ	[]F	[x] G
			meets the folk				ווט	[]c	[]'	Date:
Terri Asendorf [] Arch			tectural Histor		[] Histor		[] Histor	ic Architect	[] None	12/2/2010
SHPO Response:										
[] Eligible (Concur) [] Eligible (Do Not Concur)	[] Not El	ligible (Cond	cur)	[] Not Eligi	ble (Do N	lot Concur)				
Minor Recommendations and Comments Include: [] Need more information related to: [] Histo	oric Context	[1] Intogr	ity [] Archited	tural Dagari	ntion	[] Period of S	ianificanco			
Authorized Signature:	one Context	[] miegn	ny [] Architec	aurai Descii	Puon	[] Fellou 01 S	grimcance		Date:	

Alaska Building Inv	ventoi	ry Form	AHF	RS: ATU-252	Associated District: Attu						
Historic Name:			Other Name:								
Fuel Transfer Building			N/A								
Building Address:			City:								
Attu Island, AK			Attu								
Current Owner's Name and Address:											
United States Coast Guard, Civil Engine	ering Unit, P	O Box 21747, Juneau, AK, 9980	2-1747								
USGS Quad Name and Map Sheet:	Sectio	n:	Township:		Range:						
Attu C-3			s084s264w								
GPS Coordinate (NAD-27 Alaska):			UTM:								
N 52 50.755 E 173 11.041			Zone	Easting	Northing						
			59N	5857364	647082						
Historic Associations											
Historic Function and Sub-function:											
1. Industry	2.	Fuel Transfer	3.		4.						
Current Function and Sub-function:											
1. Industry	2.	Fuel Transfer	3.		4.						
Significant Person(s):			Significant Date	es							
1. N/A	2.		1. N/A		2.						
Architect, Builder, Contractor, Design	er:		Original Owner								
USCG			USCG								
Architectural Information:											
Date of Construction:	Date N	loved:	Destruction Date	te:	Reconstruction Date:						
1945	N/A		N/A		N/A						
Alteration Dates					<u>.</u>						
1. N/A	2.		3.		4.						
Resource Type			Stories								
[x] Building [] Site	[]Stru	ıcture [] Object	1. 1		2.						
Architectural Style:			Building Type:								
Utilitarian			Warehouse								

Number of Ancillary Structures:		Cultural Affiliation:						
0		Rectangle				JS Govern		
	Roof Mate			Exterior V	/all Materials:		Other Mar	
1. Concrete	1.	Metal roofi	ng	1.	Concrete block		1.	N/A
2.	2.			2.			2.	
Architectural Description (Include setting &					of Significance:			
This structure consists of a conventional perim			, ,		ge Navigation (LORAN) was the	, ,		o ,
supporting 8" concrete block walls that support								to 2010. (The CCZ is defined
(outside measurements). A 6" slab-on-grade is								
rear and 8'8" at the front. The building houses	fuel pipin	g, fuel valve	s, and fuel pump.					n at Attu is eligible as a historic
					ler Criterion A, at the national le			
					that represented growing State			
					ity for safe navigation. The star			
					rty of exceptional importance th	iat nas acn	ievea sign	ilicance within the past 50
				years.				
				Operation	and maintenance of LORAN sta	ations was	transforras	d to the U.S. Coast Guard
								ne U.S., Russia, Canada, Asia,
								of coverage. While LORAN-A
								hroughout the Cold War, by the
					developed in 1957, the LORAN			
					rigation. After World War II, the			
					navigational assistance to civilia			, , , ,
					users later). In 1991 there were			
					system, with 82 percent domes			
					id 3.8 percent land users.	ilic and inte	malionain	name users, 14 percent civil
				aviation at	au o.o percent land doers.			

				(USCG) in and Europe Loran-A sta War, by the aid to civilia support to p some terres	943. By to event tions were time it were n naviga roviding trial user system,	ually provide some built during WV as developed in tion. After World navigational assists later). In 1991 with 82% being of	s were built be seventy n VII and used 1957, the Lo War II, the I stance to civ there were	throughout the inillion square of for war-time or technows USCG shifted villans, includestimated to leave the initial of the i	he U.S., Rus miles of con activity thro logy was pr I its mission ing mariners be more tha	ssia, Canada, Asia, verage. While sughout the Cold imarily used as an from military and aviators (and n 572,000 users of
				2010. The produced twa secondary and Port Clathat it was the known as the	ORAN-O yo difference as arence as are only Use Russia	within the North F	unctioned a ulses to pro Pacific Chair vo additional so produce n. The two	is a dual rate ovide coverag n, where St. F al secondary : d signals for chains togetl	d station, me e in a larger Paul was the stations. Bu a Russian Li ner are knov	eaning that it area. It served as designated master, it Attu was unique in ORAN Chain,
Eligibility:	[-1 A [1]	110	шь	Criteria Cor			(10			F-1 C
[x] Yes [] No If yes: Prepared by:	[x] A [] B Reviewed by Profe	[]C	[]D]B	[]C	[]D	[]E	[]F	[x] G Date:
Terri Asendorf	[] Architect		tectural Histo		1 Histori		[] Histo	ric Architect	[] None	12/2/2010
SHPO Response:	111111111111111111111111111111111111111	[:-] /			. 1		[]		[].70110	1
[] Eligible (Concur) [] Eligible (Do Not Co		Eligible (Cond	cur)	[] Not Eligib	le (Do N	ot Concur)				
Minor Recommendations and Comments Inc										
[] Need more information related to:	[] Historic Context	[] Integr	ity [] Archite	ctural Descrip	tion	[] Period of Signature	gnificance		ID-4-	
Authorized Signature:									Date:	

Alaska Building Inv	entor	y Form	1	AH	AHRS: ATU-250 Associated District: Attu						
Historic Name:				Other Name:							
Generator Building				N/A							
Building Address:				City:							
Attu Island, AK				Attu							
Current Owner's Name and Address:											
United States Coast Guard, Civil Engineer	ing Unit, Po	D Box 21747, v	Juneau, AK, 998	02-1747							
USGS Quad Name and Map Sheet:	Section	ո։		Township:		Range:					
Attu C-3				s084s264w							
GPS Coordinate (NAD-27 Alaska):				UTM:							
N 52 50.755 E 173 11.041				Zone	Easting	Nort	hing				
				59N	5857364	6470	182				
Historic Associations											
Historic Function and Sub-function:											
1. Industry	2.	Generator		3.		4.					
Current Function and Sub-function:											
1. Industry	2.	Generator		3.		4.					
Significant Person(s):				Significant Da	ntes						
1. N/A	2.			1.		2.					
Architect, Builder, Contractor, Designer	:			Original Owne	er:						
USCG				USCG							
Architectural Information:											
Date of Construction:	Date M	oved:		Destruction D	ate:	Reconstruction	Date:				
1991	N/A			N/A		N/A					
Alteration Dates											
1. N/A	2.			3.		4.					
Resource Type				Stories							
[x] Building [] Site	[] Stru	cture	[] Object	1. 1		2.					
Architectural Style:			-	Building Type):						
Modern				Communication	ns Facility						

Number of Ancillary Structures:		Plan:		Cultural Af	ffiliation:	
0		Rectangle		US Govern		
Foundation Materials:	Roof Mate		Exterior Wall Materials:		Other Materia	ls:
1. Concrete	1.	EPDM membrane	 Pre-cast concrete panels 		1. Gy	psum
2.	2.	Steel	2.		Ply	wood
Architectural Description (Include setting			Statement of Significance:			
Roofing consists of EPDM membrane over rig layer over the entire roof. Exterior walls are elements wood-stud furring and batt insulation. There a hollow metal frames with one steel overhead Partitions are of painted gypsum on wood-stud wood studs with painted plywood panels. Flor painted gypsum wallboard or painted plywood the entry vestibule where 2" x 4" acoustical painted pain	xposed preamed are no wind coiling door deferring agors are pair deferrings agos are coilings agos agos are coilings agos agos agos agos agos agos agos ag	e-cast concrete panels with interior ows. Doors are hollow metal in capacity pre-cast concrete panels or ted concrete. Wall finish is are exposed metal deck except in	Long-Range Navigation (LORAN) was th Coastal Confluence Zone (CCZ) from ap area seaward of a harbor entrance to 50 Shelf, whichever is greater.) The LORAN Criterion A, at the national level of signific represented growing State and Federal gnavigation. The station is also eligible ur exceptional importance that has achiever	proximately nautical mil N-C Station cance, for it government nder Criterio	1940 to 2010. les offshore or the at Attu is eligibles of as a historian consideration.	(The CCZ is defined as the the edge of the Continental le as a historic district under pric aid to navigation that and responsibility for safe n G, as a property of
			At the beginning of WWII, positioning wa State and Federal responsibility for provimore accurate system was needed. The federal government by scientists at the Mmodeled after the British Gee system. To operated at frequencies between 1,850 at Telecommunications Union Conference adevelopment of a further-reaching long of LORAN-C operated in this low-frequency difference in pulses from two pairs of trar was highly accurate (better than 0.25 nat area), all-weather, long-range, and available.	iding naviga to LORAN sy Massachuse The first LOR and 1,950 kh allocated the distance radi y as a hyper nsmitting sta utical mile a	tional aids increstem was devetts Institute of TAAN system (lat Hz. In 1947, the frequency bailor-navigation sybolic radio naviations to obtain bsolute accura	passed, the development of a loped under a program of the echnology and generally er called "LORAN -A") e International and 90-110 kHz for the stem on a world-wide basis. gation system using the time a navigation fix. The system

slabs on grades at generators, reinforced concrete walls made from pre-cast concrete panels with supporting open-webbed-steel roof joists supporting a steel roof deck. Tube steel columns support crane rail beams, but no crane was ever installed. Above the motor control panels, an interior structureappears to be a rain shelter for the electrical equipment	Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) din 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigationals assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.							
	The Attu LORAN-C Station was constructed in 1958 by the USCG and decommissioned in 2010. The LORAN-C Station at Attu functioned as a dual rated station, meaning that it produced two different sets of timed pulses to provide coverage in a larger area. It served as a secondary station within the North Pacific Chain, where St. Paul was the designated master, and Port Clarence and Kodiak were two additional secondary stations. But Attu was unique in that it was the only U.S. station that also produced signals for a Russian LORAN Chain, known as the Russian-American Chain. The two chains together are known as the Gulf of Alaska Chains. The station consisted of one 625' guyed tower.							
Eligibility:	Criteria Considerations:							
[x] Yes [] No If yes: [x] A [] B [] C [] D	[]A []B []C []D []E []F [x]G							
Prepared by: Reviewed by Professional that meets the following								
Terri Asendorf [] Architect [x] Architectural Histo	ian [] Historian [] Historic Architect [] None 12/2/2010							
SHPO Response: [] Eligible (Concur)	[] Not Eligible (Do Not Concur)							
Minor Recommendations and Comments Include:	•							
[] Need more information related to: [] Historic Context [] Integrity [] Architecture	tural Description [] Period of Significance							
Authorized Signature:	Date:							

Attu C-3	Alaska Building Inv	/entor	y Form		AHRS: ATU-254 Associated District: Attu							
Building Address: Attu Stand, AK Attu Current Owner's Name and Address: City: Attu Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Section: Township:	Historic Name:		-		Other Name:							
Attu Stand, AK	Hazardous Material Storage Shed				N/A							
Attu Stand, AK	Building Address:				City:							
United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Section: Township: s084s264w					Attu							
Section: Township: Section: Township: So84s264w So84s2	Current Owner's Name and Address:											
Attu C-3	United States Coast Guard, Civil Enginee	ering Unit, PC	Box 21747, Junea	u, AK, 99802-1747	,							
UTM: Zone Easting Northing 59N 5857364 647082	USGS Quad Name and Map Sheet:	Section) :		Township:		Range:					
Nothing Section Sect					s084s264w							
Historic Associations	GPS Coordinate (NAD-27 Alaska):				UTM:							
Historic Associations	N 52 50.755 E 173 11.041				Zone	Easting	Northing					
Historic Function and Sub-function: 1.					59N	5857364	647082					
Historic Function and Sub-function: 1.												
1. Industry 2. Storage 3. 4. Current Function and Sub-function:	Historic Associations											
Current Function and Sub-function: 1.	Historic Function and Sub-function:											
1. Industry 2. Storage 3. 4. Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG Architectural Information: Date of Construction: Unknown Date Moved: N/A Destruction Date: N/A Unknown N/A N/A Alteration Dates 3. 4.	1. Industry	2.	Storage		3.		4.					
1. Industry 2. Storage 3. 4. Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG Architectural Information: Date of Construction: Unknown Date Moved: N/A Destruction Date: N/A Unknown N/A N/A Alteration Dates 3. 4.			-									
Significant Person(s): Significant Dates 1. N/A 2. 1. N/A 2.	Current Function and Sub-function:	-										
Significant Person(s): 1. N/A 2.	1. Industry	2.	Storage		3.		4.					
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG USCG Architectural Information: Date of Construction: Unknown N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4.	,		· ·									
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG USCG USCG Architectural Information: Date of Construction: Unknown Date Moved: N/A Destruction Date: N/A Reconstruction Date: N/A Unknown N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4.	Significant Person(s):				Significant Dates							
Architect, Builder, Contractor, Designer: USCG Architectural Information: Date of Construction: Unknown Unkn		2.					2.					
USCG	Architect, Builder, Contractor, Designe				Original Owner:							
Date of Construction: Date Moved: Destruction Date: N/A N/A N/A												
Date of Construction: Date Moved: Destruction Date: N/A N/A N/A				l e e e e e e e e e e e e e e e e e e e								
Unknown N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4.	Architectural Information:											
Alteration Dates 3. 4. 1. N/A 2. 3. 4.		Date Mo	oved:		Destruction Date:							
1. N/A 2. 3. 4.	Unknown	N/A			N/A		N/A					
	Alteration Dates											
Resource Type Stories	1. N/A	2.			3.		4.					
Resource Type Stories												
	Resource Type				Stories							
[X] Building [] Site [] Structure [] Object 1. 1 2.	[x] Building [] Site	[] Struc	ture []O	bject	1. 1		2.					
Architectural Style: Building Type:					Building Type:							
Utilitarian Storage Storage	Utilitarian				Storage							

Number of Ancillary Structures:	Plan:	Cultural Affiliation:							
0		Rectangle			US Govern				
	Roof Mate		Exterior	Wall Materials:		Other Ma			
1. Timber	1.	Steel	1.	Steel		1.	Gravel		
2. Concrete	2.		2.			2.			
Architectural Description (Include setting &				nt of Significance:					
This structure is a hazardous materials storage freestanding, pre-fabricated, modular steel str. on the gravel pad. The timber sleepers are an beam. The man-door is accessed with a galve stairway, connected to the landing, of two galv door for freight access adjacent to the man-do	ucture supp achored at e anized stee vanized stee	orted on timber sleepers placed each end to a reinforced concrete grated landing, 28" x 44" and a	U.S. Coa defined a of the Co historic o aid to na responsi	astal Confluence Zone as the area seaward of ontinental Shelf, which district under Criterion vigation that represent bility for safe navigation	(CCZ) from approxi f a harbor entrance t ever is greater.) The A, at the national lev ted growing State ar on. The station is als	mately 19 to 50 naut e LORAN- vel of signing Federa so eligible	I radio navigation system for the 40 to 2010. (The CCZ is iccl miles offshore or the edge C Station at Attu is eligible as a fificance, for its role as a historic I government involvement and under Criterion Consideration It significance within the past 50		
			As State developr under a p Technolo (later cal the Inter 110 kHz a world-v navigatio to obtain	and Federal responsil ment of a more accural program of the federal gogy and generally mod led "LORAN -A") operanational Telecommunic for the development owide basis. LORAN-C on system using the tin a navigation fix. The accuracy in the define	bility for providing na te system was need government by scie leled after the British ated at frequencies I cations Union Confe of a further-reaching operated in this low ne difference in puls system was highly a	avigationa ed. The L entists at the Gee syst between 1 erence allo long dista erfrequence es from two accurate (b	eckoning or celestial navigation. laids increased, the ORAN system was developed ne Massachusetts Institute of term. The first LORAN system ,850 and 1,950 kHz. In 1947, cated the frequency band 90-navigation system on y as a hyperbolic radio yo pairs of transmitting stations better than 0.25 nautical mile , long-range, and available 24		

				(USCG) in 19 Asia, and Eu LORAN-A st War, by the t an aid to civi support to pr some terrest the LORAN	943. By arope to ations witime it willian naw roviding trial use C syste	vas developed in vigation. After Wo navigational ass rs later). In 1991	ns were bui de some 70 WWII and u 1957, the L orld War II, istance to c there were nt domestic	It throughout million squa sed for war-t ORAN C tec the USCG sh ivilians, inclu estimated to	the U.S., R re miles of c ime activity hnology was nifted its mis ding marine be more th	ussia, Canada,
				2010. The L produced two as a seconda master, and unique in tha Chain, know Gulf of Alask	ORAN- o differe ary stat Port Cla at it was n as the ca Chair	C Station at Attuent sets of timed in within the Noi arrence and Kodia the only U.S. state Russian-Americas. The station oc	functioned bulses to protect the Pacific Coak were two ation that also an Chain.	as a dual rate ovide covera chain, where additional se so produced The two chai	ed station, n ge in a large St. Paul was econdary sta signals for a ns together	er area. It served
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Cons	sideration	ons: []C	[]D	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by Profe						נוט	[]-	11'	Date:
Terri Asendorf	[] Architect		tectural Histo] Histor		[] Histor	ric Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co	oncur) [] Not I	Eligible (Con	cur)	[] Not Eligibl	le (Do N	lot Concur)				
Minor Recommendations and Comments In										
[] Need more information related to: Authorized Signature:	[] Historic Context	[] Integr	ity [] Archite	ectural Descript	ion	[] Period of S	ignificance		Date:	
Authorized Signature.									Date.	

Alaska Building Inventory Form AHRS: ATU-201 Associated District: Attu **Historic Name:** Other Name: Lower Henderson River Bridge N/A **Building Address:** City: Attu Island, AK Attu Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Section: Township: Range: Attu C-3 s084s264w GPS Coordinate (NAD-27 Alaska): UTM: N 52 50.755 E 173 11.041 Zone Easting Northing 59N 5857364 647082 **Historic Associations** Historic Function and Sub-function: Road-related 3. 4. 2. Bridge Current Function and Sub-function: Road-related 2. Bridge 3. 4. Significant Person(s): Significant Dates N/A N/A 2. Architect, Builder, Contractor, Designer: Original Owner: USCG USCG **Architectural Information:** Date of Construction: Date Moved: **Destruction Date:** Reconstruction Date: 1945 N/A N/A N/A Alteration Dates 3. Resource Type Stories [] Building []Site [x] Structure [] Object N/A Architectural Style: Building Type: Bridge

Number of Ancillary Structures:	Plan:		Cultural Affiliation:
0	Rectangle		US Government
Foundation Materials: Roof	Materials:	Exterior Wall Materials:	Other Materials:
1. Timber 1.	N/A	1. N/A	1. N/A
2.		2.	2.
Architectural Description (Include setting & out		Statement of Significance:	
This bridge is on the beach road, which provides a		Long-Range Navigation (LORAN)) was the federally-provided radio navigation system
the Hogsback Road, which is part of the ROF 5-Mil	e Road, that provides access to the Air	for the U.S. Coastal Confluence 2	Zone (CCZ) from approximately 1940 to 2010. (The
Force ROF site and the Japanese war monument.		CCZ is defined as the area seawa	ard of a harbor entrance to 50 nautical miles offshore
		or the edge of the Continental Sh	nelf, whichever is greater.) The LORAN-C Station at
This structure is a 105' long, single lane (approximation)	ately 13' wide), multi-span timber bridge.	Attu is eligible as a historic distric	ct under Criterion A, at the national level of
Timber piles support timber pile caps. Timber strin	gers span across pile caps. Timber	significance, for its role as a histo	oric aid to navigation that represented growing State
bracing, across piles and caps, provides transverse	load resistance and stiffness. Timber	and Federal government involven	ment and responsibility for safe navigation. The
decking spans across stringers. An additional wea	r deck has been placed over the original	station is also eligible under Crite	erion Consideration G, as a property of exceptional
deck. There are no bridge rails. Backwalls are tim	ber planks against piles and cap at	importance that has achieved sig	nificance within the past 50 years.
abutment.			
			!
The bridge is not useable as all timber is rotten, on	e span has collapsed, and there is		!
considerable erosion at the abutments.		At the beginning of WWII, position	ning was done using dead reckoning or celestial
			Il responsibility for providing navigational aids
		S .	more accurate system was needed. The LORAN
			program of the federal government by scientists at the
			lology and generally modeled after the British Gee
			n (later called "LORAN -A") operated at frequencies
			n 1947, the International Telecommunications Union
			ncy band 90-110 kHz for the development of a further-
			igation system on a world-wide basis. LORAN-C
			s a hyperbolic radio navigation system using the time
			rs of transmitting stations to obtain a navigation fix.
			(better than 0.25 nautical mile absolute accuracy in
		the defined coverage area), all-we	reather, long-range, and available 24 hours per day.
		and some sorvings arou, all in	salis, isig iaigi, and arainbio 2 modis pol day.

						Guard (US Canada, A coverage. activity three technology USCG shift civilians, ir there were	n and maintenance of LORAN stations was transferred to the U.S. Coast SCG) in 1943. By that time, stations were built throughout the U.S., Russia Asia, and Europe to eventually provide some 70 million square miles of . While LORAN-A stations were built during WWII and used for war-time roughout the Cold War, by the time it was developed in 1957, the LORAN C gy was primarily used as an aid to civilian navigation. After World War II, the lifted its mission from military support to providing navigational assistance to including mariners and aviators (and some terrestrial users later). In 1991 re estimated to be more than 572,000 users of the LORAN C system, with 8 tomestic and international marine users, 14 percent civil aviation and 3.8 and users.					
						The Attu LORAN-C Station was constructed in 1958 by the USCG and decommissioned in 2010. The LORAN-C Station at Attu functioned as a dual rated station, meaning that it produced two different sets of timed pulses to provide coveragin a larger area. It served as a secondary station within the North Pacific Chain, when St. Paul was the designated master, and Port Clarence and Kodiak were two additions secondary stations. But Attu was unique in that it was the only U.S. station that also produced signals for a Russian LORAN Chain, known as the Russian-American Chai The two chains together are known as the Gulf of Alaska Chains. The station consists of one 625' guyed tower.						
Eligibility:						Criteria Co						
[x] Yes [] No	If yes:	[x] A	[]B	[]C	[]D	[]A	[]B	[]C	[]D	[]E	[]F	[x] G
Prepared by:						llowing Profe				:- ^	[] Name	Date: 12/2/2010
Terri Asendorf		[] Archi	iect	[X] Arch	itectural Hist	unan	[] Historia	111	[] Histor	ic Architect	[] None	12/2/2010
	[] Eligible (Do Not C		[] Not E	Eligible (Cor	ncur)	[] Not Elig	ble (Do No	ot Concur)				
Minor Recommendation	ns and Comments Ir	nclude:										
[] Need more information	on related to:	[] Histo	ric Context	[] Integ	rity [] Archite	ectural Descri	ption	[] Period	of Signific	ance		
Authorized Signature:											Date:	

Alaska Building Inventory Form AHRS: ATU-247 **Associated District:** Attu **Historic Name:** Other Name: Signal and Barracks Building Main Building Building Address: City: Attu Island, AK Attu Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Township: Range: s084s264w Attu C-3 GPS Coordinate (NAD-27 Alaska): UTM: N 52 50.755 E 173 11.041 Zone Easting Northing 59N 5857364 647082 **Historic Associations** Historic Function and Sub-function: Defense 2. Coast Guard Station 3. 4. Current Function and Sub-function: Defense 2. Coast Guard Station 3. Maintenance Shop (wood) 4. Storage Significant Person(s): Significant Dates 1984 - First Renovation 2003 - Second Renovation Architect, Builder, Contractor, Designer: Original Owner: USCG **Architectural Information:** Date of Construction: Date Moved: **Destruction Date:** Reconstruction Date: 1958 N/A N/A N/A Alteration Dates 1984 2003 3. Resource Type Stories [x] Building [] Site [] Structure [] Object 2. Architectural Style: **Building Type:** Modern/International Barracks/Offices

Number of Ancillary Structures:	Plan:				Cultural Affiliation:				
0	Irregular			US Government					
Foundation Materials: Roof Mat		rials:	Exterio	r Wall Materials:	C	aterials:			
Reinforced concrete	1.	Metal	1.	Concrete	1	١.	Aluminum insulation (windows)		
		Modified bitumen	2.	Metal siding (incinerator add			Gypsum (interior partitions)		
	3.	Plywood	3.	Plywood	3	3.	Asbestos board (ext. and int.		
Architectural Description (Include setting &		ent of Significance:							
The existing Main building is located roughly 8 and 1,100' northwest of the existing/old Transn to the existing Boiler and Power Generation Bulargest footprint of all existing buildings on site a conventional reinforced concrete foundation footings and internal spread footings, slab-on-reinforced concrete beams, walls and slabs at concrete roof deck slab supported by reinforce load-resisting system consists of reinforced concreting additions include a snow blower garagentries, galley stores (which replaced original in	00' east of mitter Build uilding, ma . The build with perim grade floor the first, sed concrete ncrete slab ge, paint st	the north-south runway centerline ing. The Main building connects king this combined structure the ding's structural system consists of eter foundation walls with strip is at the basement level, structural econd and third Floors, and a beams and columns. The lateral or diaphragms and shear walls.	Long-R: Coastal area se Shelf, w Criterion represe navigati exception At the b State ar more ac federal modele operate Telecon develop differen	ange Navigation (LORAN) was to Confluence Zone (CCZ) from a award of a harbor entrance to 50 whichever is greater.) The LORA in A, at the national level of signification. The station is also eligible uponal importance that has achieved the contract of the country of the country of the country of the British Gees system. The dafter the British Gees system. The dafter the British Gees system. The country of a further reaching long of the country of the country of the country of the country of the British Gees system. The dafter the British Gees system. The dafter the British Gees system. The country of the country o	pproximately on autical mil IN-C Station IN-C Station Incarce, for it: government ander Criterio ed significance as done usin riding navigar e LORAN sy Massachuse The first LOR and 1,950 kt allocated the distance radii by as a hyper unsmitting sta	1940 to les offsh at Attu i s role as involver on Consi ce within g dead i tional ai sts Instit &AN syst Hz. In 1 e freque ibolic rac ibolic rac attions to	reckoning or celestial navigation. As ds increased, the development of a sa developed under a program of the ute of Technology and generally tem (later called "LORAN -A") 947, the International ncy band 90-110 kHz for the ation system on a world-wide basis. dio navigation system using the time obtain a navigation fix. The system		
				ill-weather, long-range, and avail			accuracy in the defined coverage ay.		

	Operation and maintenance of LORAN stations was transferred to the U.S. in 1943. By that time, stations were built throughout the U.S., Russia, Cana to eventually provide some 70 million square miles of coverage. While LOF built during WWII and used for war-time activity throughout the Cold War, be developed in 1957, the LORAN C technology was primarily used as an aid After World War II, the USCG shifted its mission from military support to proceed assistance to civilians, including mariners and aviators (and some terrestriate there were estimated to be more than 572,000 users of the LORAN C systed domestic and international marine users, 14 percent civil aviation and 3.8 percent civil aviation avia							nada, Asia, and Europe DRAN-A stations were by the time it was d to civilian navigation. providing navigational rial users later). In 1991 stem, with 82 percent			
				The Attu LORAN-C Station was constructed in 1958 by the USCG and decommissioned in 2010. The LORAN-C Station at Attu functioned as a dual rated station, meaning that it produced two different sets of timed pulses to provide coverage in a larger area. It served as a secondary station within the North Pacific Chain, where St. Paul was the designated master, and Port Clarence and Kodiak were two additional secondary stations. But Attu was unique in that it was the only U.S. station that also produced signals for a Russian LORAN Chain, known as the Russian-American Chain. The two chains together are known as the Gulf of Alaska Chains. The station consisted of one 625' guyed tower.							
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Considera	ations:	[]D	ſΊΕ	[]F	[x] G		
Prepared by:	Reviewed by Profes	ssional that n	neets the fo	ollowing Professional	Qualifications:				Date:		
Terri Asendorf	[] Architect	[x] Archite	ectural Histo	orian [] His	torian	[] Histor	ic Architect	[] None	12/2/2010		
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co		ligible (Conc	ur)	[] Not Eligible (De	Not Concur)						
Minor Recommendations and Comments Include:											
[] Need more information related to:											
Authorized Signature:								Date:			

Alaska Bullding inv	laska Building inventory Form				AHRS: ATU-201 Associated District:					
Historic Name:				Other Name:						
Runway Bridge Peaceful River				N/A						
Building Address:				City:						
Attu Island, AK				Attu						
Current Owner's Name and Address:										
United States Coast Guard, Civil Engineer			Juneau, AK, 9980)2-1747						
USGS Quad Name and Map Sheet:	Section	:		Township:		Range:				
Attu C-3				s084s264w						
GPS Coordinate (NAD-27 Alaska):				UTM:						
N 52 50.755 E 173 11.041				Zone	Easting	Northin				
				59N	5857364	647082				
Historic Associations										
Historic Function and Sub-function:										
 Road-related 	2.	Bridge		3.		4.				
Current Function and Sub-function:										
Road-related	2.	Bridge		3.		4.				
		_								
Significant Person(s):				Significant Dates						
1. N/A	2.			1. N/A		2.				
Architect, Builder, Contractor, Designe	r:			Original Owner:						
USCG				usčg						
				•						
Architectural Information:										
Date of Construction:	Date Mo	oved:		Destruction Date:		Reconstruction Da	ate:			
1960	N/A			N/A		N/A				
Alteration Dates										
1. N/A	2.			3.		4.				
						·				
Resource Type				Stories						
[] Building [] Site	[x] Stru	cture	[] Object	1. N/A		2.				
Architectural Style:				Building Type:						
N/A				Bridge						

Number of Ancillary Structures:		Plan:		Cultural A	ffiliation:
0		N/A	I	US Govern	nment
Foundation Materials:	Roof Mate		Exterior Wall Materials:		Other Materials:
1. Concrete	1.	N/A	1. N/A		1. Timber
2. Steel	2.		2.		2. Rocks
Architectural Description (Include setting			Statement of Significance:		
The bridge is a 250' wide by 56' long, two-sp pile caps and steel pipe piles. Pipe piles are piles are galvanized and some have welded concrete beams that support 30" deep by 5' deck panels. The panels are grouted at the sthe cap. Abutments consist of pre-cast concrete pane caps. The upper panels are 4' tall and the lo	10" diamete splices. Pile wide pre-stre sides to adja	er at 10' on center. Some of the caps are 30" wide by 30" deep assed, pre-cast, channel-shaped cent panels and at mid-span over ainst the steel pipe piles and pile	Coastal Confluence Zone (CCZ) from a area seaward of a harbor entrance to 50 Shelf, whichever is greater.) The LORA Criterion A, at the national level of signif	pproximate nautical n N-C Statio ficance, for governmer under Criter	
Upstream and downstream wing walls are m supported by creosoted timber piles. Large rwing walls. Bridge rails consist of 2" × 8" top rails and 2" × 8" timbers extending 26.5" above the deck	ock has bee	en placed in front of the base of the	At the beginning of WWII, positioning we State and Federal responsibility for proving more accurate system was needed. The federal government by scientists at the I modeled after the British Gee system. Operated at frequencies between 1,850 Telecommunications Union Conference development of a further-reaching long to LORAN-C operated in this low-frequence difference in pulses from two pairs of tra	viding navige LORAN see LO	kHz. In 1947, the International the frequency band 90-110 kHz for the idio-navigation system on a world-wide basis. erbolic radio navigation system using the time stations to obtain a navigation fix. The system absolute accuracy in the defined coverage

				in 1943. By to eventual built during developed After World assistance there were	y that time, ly provide s WWII and in 1957, the War II, the to civilians estimated	stations were some 70 millior used for war-ti e LORAN C ted USCG shifted , including mar to be more that	built through a square mil me activity to chnology wa I its mission iners and av a 572,000 u	nout the U.S. es of covera- throughout the as primarily un- from military viators (and se sers of the L	., Russia, Ca ge. While Lone Cold War used as an a or support to posome terrest corrections.	S. Coast Guard (USCG) anada, Asia, and Europe ORAN-A stations were, by the time it was id to civilian navigation. croviding navigational rial users later). In 1991 stem, with 82 percent a percent land users.
				The LORAL different se station with Clarence a the only U. Russian-Ar	N-C Station ts of timed in the Nort nd Kodiak S. station the merican Ch	n at Attu function pulses to provi h Pacific Chain were two additi nat also produc	ined as a du ide coveragon, where St. conal second ced signals f chains togeth	ial rated stat e in a larger Paul was the dary stations or a Russiar	ion, meaning area. It serve designated . But Attu w n LORAN Ch	ecommissioned in 2010. In that it produced two led as a secondary I master, and Port as unique in that it was lain, known as the If of Alaska Chains. The
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	ΠD	Criteria Co	nsideration []B	s: []C	[]D	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by Pro						11-	.1-	11.	Date:
Terri Asendorf	[] Architect		nitectural Histo		[] Historia		[] Histori	c Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Concur)	ncur) [] No	t Eligible (Cor	ncur)	[] Not Eligi	ble (Do No	t Concur)				
Minor Recommendations and Comments Incl		, ,								
[] Need more information related to:	[] Historic Conte	kt [] Integ	grity [] Archite	ctural Descrip	otion	[] Period of S	ignificance		_	
Authorized Signature:									Date:	

Alaska Bullding inv	iaska Building inventory Form				AHRS: ATU-258 Associated District:						
Historic Name:			Other Name:								
Sewage Treatment Plant			N/A								
Building Address:			City:								
Attu Island, AK			Attu								
Current Owner's Name and Address:											
United States Coast Guard, Civil Enginee											
USGS Quad Name and Map Sheet:	Sectio	n:	Township:		Range:						
Attu C-3			s084s264w								
GPS Coordinate (NAD-27 Alaska):			UTM:								
N 52 50.755 E 173 11.041			Zone	Easting	Northi	ing					
			59N	5857364	647083	2					
		·		·	·						
Historic Associations											
Historic Function and Sub-function:											
1. Industry	2.	Sewage treatment	3.		4.						
Current Function and Sub-function:											
1. Industry	2.	Sewage treatment	3.		4.						
Significant Person(s):			Significant Da	ites							
1. N/A	2.		1. N/A	4	2.						
Architect, Builder, Contractor, Designe	er:		Original Own	er:							
USCG			USCG								
Architectural Information:											
Date of Construction:		floved:	Destruction D	ate:	Reconstruction I	Date:					
1958	N/A		N/A		N/A						
Alteration Dates											
1. N/A	2.		3.		4.						
			1								
Resource Type			Stories								
[x] Building [] Site	[] Stru	ucture [] Object	1. 1		2.						
Architectural Style:			Building Type):							
Utilitarian			Warehouse								
1			1								

Number of Ancillary Structures:	Plan:			Cultural A	Affiliation:
0	Rectangle			US Govern	nment
Foundation Materials:	Roof Materials:	Exterio	r Wall Materials:		Other Materials:
 Reinforced concrete 	 Modified bitumen me 	nbrane 1.	Plywood		 Metal doors
2.	Plywood substrate	2.	Suspected asbestos		2.
Architectural Description (Include setting			ent of Significance:		
timber stud walls have plywood sheathing on trusses and plywood roof sheathing. The late deck diaphragm and plywood shear walls. Pa board (samples needed to confirm) on wood	the exterior grade. Above the ex both sides of studs. Walls supporal load-resisting system includes artitions appear to be of painted a studs. The door is wood in a woo ed. Floor finishes consist of paint	erior grade, Coastal t timber roof seaward whichev at the no drame. It growing the concrete.	Confluence Zone (CCZ) from the foliation of a harbor entrance to 50 terris greater.) The LORAN ational level of significance State and Federal government.	om approximately on autical miles offs I-C Station at Attuin, for its role as a himent involvement a on Consideration C	1940 to 2010. (The CCZ is defined as the area
		State ar more ac federal u modelec at frequi Confere distance as a hyp transmit nautical	Id Federal responsibility for curate system was needed government by scientists at a after the British Gee syste endicates between 1,850 and nce allocated the frequence er radio-navigation system coerbolic radio navigation system ting stations to obtain a na	r providing navigation. The LORAN system. The Massachusettem. The first LOR/1,950 kHz. In 194 yo band 90-110 kHz on a world-wide basestem using the timivigation fix. The system.	g dead reckoning or celestial navigation. As conal aids increased, the development of a stem was developed under a program of the is Institute of Technology and generally AN system (later called "LORAN -A") operated 7, the International Telecommunications Union of for the development of a further-reaching long sis. LORAN-C operated in this low-frequency e difference in pulses from two pairs of system was highly accurate (better than 0.25 ge area), all-weather, long-range, and available

			1943. By tha eventually pro- during WWII: 1957, the LO II, the USCG including mar be more than	time, stations were bu vide some 70 million s and used for war-time a RAN C technology was shifted its mission from	ill throughout the quare miles of captivity throughout primarily used military support some terrestriation.	ne U.S., Russ coverage. Wout the Cold \ as an aid to t to providing al users later) m, with 82 pe	sia, Canada /hile LORAN War, by the civilian navi g navigation). In 1991 tl ercent dome	N-A stations were built time it was developed in gation. After World War al assistance to civilians, here were estimated to
			The LORAN- different sets within the No Kodiak were station that al	th Pacific Chain, where wo additional secondar so produced signals for yo chains together are	oned as a dual r ide coverage in e St. Paul was t ry stations. But r a Russian LOI	rated station, a larger area he designate Attu was un RAN Chain, I	meaning tha. It served an aster, a ique in that known as the	at it produced two as a secondary station nd Port Clarence and it was the only U.S. e Russian-American
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C []D	Criteria Cons		ΙΙD	[]E	[]F	[x] G
	Reviewed by Profess				[][H	יוו	Date:
Terri Asendorf	[] Architect	sional that meets the [x] Architectural F		Historian	[] Histori	c Architect	[] None	12/2/2010
SHPO Response:					.,,			
[] Eligible (Concur) [] Eligible (Do Not Con		igible (Concur)	[] Not Eligible	(Do Not Concur)				
Minor Recommendations and Comments Include								
[] Need more information related to:	[] Historic Context	[] Integrity [] Arc	chitectural Description	n [] Period of S	Significance			
Authorized Signature:							Date:	
						•		

Alaska Building Inv	ento:	ry Form	AHRS	: ATU-201	Associated District: Attu	
Historic Name:		-	Other Name:			
Water Tank			N/A			
Building Address:			City:			
Attu Island, AK			Attu			
Current Owner's Name and Address:						
United States Coast Guard, Civil Enginee	ring Unit, P	O Box 21747, Juneau, AK, 998	02-1747			
USGS Quad Name and Map Sheet:	Section	on:	Township:		Range:	
Attu C-3			s084s264w			
GPS Coordinate (NAD-27 Alaska):			UTM:			
N 52 50.755 E 173 11.041			Zone 59N	Easting 5857364	Northing 647082	
			Dain	3637304	047002	
Historic Associations						
Historic Function and Sub-function:						
1. Industry	2.	Water Tank	3.		4.	
Current Function and Sub-function:						
1. Industry	2.	Water Tank	3.		4.	
Significant Person(s):			Significant Dates			
1. N/A	2.		1. N/A		2.	
Architect, Builder, Contractor, Designe	er:		Original Owner:			
USCG			USCG			
Architectural Information:						
Date of Construction:	Date N	Moved:	Destruction Date:		Reconstruction Date:	
1960	N/A		N/A		N/A	
Alteration Dates			·		•	
1. N/A	2.		3.		4.	
Resource Type			Stories			
[] Building [] Site	[x] Str	ucture [] Object	1. N/A		2.	
Architectural Style:			Building Type:			
N/A			Tank			

Number of Ancillary Structures:	Plan:		Cultural Affiliation:
0	Rectangle		JS Government
	Roof Materials:	Exterior Wall Materials:	Other Materials:
1. Concrete 1	1. Concrete	1. Concrete	1. N/A
2. 2	2.	2.	2.
Architectural Description (Include setting &		Statement of Significance:	
The structure of the three below-grade water ta reinforced concrete walls, and a reinforced con outside measurement, with 8'8" high by 8" thick thickness from 6" to 9". The roof is a concrete ten inches thick that divide the length into three concrete beams, which span from end retaining supports the roof.	ncrete roof. The structure is 57' by 27'4", k retaining walls. The floor slab varies in slab, 8" thick. There are two dividing walls e 18' by 26' chambers. Two 12" by 14"	Coastal Confluence Zone (CCZ) from apparea seaward of a harbor entrance to 50 Shelf, whichever is greater.) The LORAN Criterion A, at the national level of signific represented growing State and Federal g navigation. The station is also eligible un exceptional importance that has achieved At the beginning of WWII, positioning was State and Federal responsibility for provid more accurate system was needed. The federal government by scientists at the M modeled after the British Gee system. The first Loran system (late 1,850 and 1,950 kHz. In 1947, the Intern the frequency band 90-110 kHz for the de navigation system on a world-wide basis. radio navigation system using the time dit to obtain a navigation fix. It was highly ac	e federally-provided radio navigation system for the U.S. proximately 1940 to 2010. (The CCZ is defined as the nautical miles offshore or the edge of the Continental N-C Station at Attu is eligible as a historic district under rance, for its role as a historic aid to navigation that povernment involvement and responsibility for safe ider Criterion Consideration G, as a property of disignificance within the past 50 years. Is done using dead reckoning or celestial navigation. As ding navigational aids increased, the development of a Loran system was developed under a program of the lassachusetts Institute of Technology and generally exactly called "Loran-A") operated at frequencies between lational Telecommunications Union Conference allocated evelopment of a further-reaching long distance radio. Loran-C operated in this low-frequency as a hyperbolic fference in pulses from two pairs of transmitting stations ccurate (better than 0.25 nautical mile absolute accuracy r, long-range, and available twenty-four hours per day.

				in 1943. By that time to eventually provide built during WWII an- developed in 1957, t After World War II, th	e, stations were be some 70 million and used for war-time the LORAN C techne USCG shifted its, including maring to be more than	uilt throughous a country the activity the nology was ts mission fers and avional to the country through t	out the U.S., as of coverage proughout the primarily us from military ators (and seems of the LC)	Russia, Car je. While LC e Cold War, sed as an aid support to p ome terrestr DRAN C sys	d to civilian navigation. roviding navigational ial users later). In 1991 tem, with 82 percent
				The LORAN-C Static different sets of time station within the No Clarence and Kodiak the only U.S. station Russian-American C station consisted of o	on at Attu function d pulses to provid rth Pacific Chain, & were two additio that also produce hain. The two ch one 625' guyed to	ed as a dua e coverage where St. F nal seconda d signals fo ains togeth	al rated station in a larger a Paul was the ary stations. In a Russian	on, meaning area. It serve designated But Attu wa LORAN Cha	ed as a secondary master, and Port as unique in that it was
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Consideratio	ns: []C	ΠD	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by Profe	ssional that r	neets the fol	llowing Professional Qu	ualifications:				Date:
Terri Asendorf	[] Architect	[x] Archit	ectural Histo	orian [] Histori	an	[] Histori	c Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co	ncur) [] Not E	Eligible (Cond	cur)	[] Not Eligible (Do N	ot Concur)				
Minor Recommendations and Comments Inc									
[] Need more information related to:	[] Historic Context	[] Integri	ty [] Archite	ectural Description	[] Period of Sig	gnificance			
Authorized Signature:								Date:	

Attu Island, AK	Alaska Building Inv	/ento	ry Form	AHRS:	ATU-249	Associated District: Attu
Building Address Attu Island, AK	Historic Name:			Other Name:		
Attu Island, AK	Transmitter Building			N/A		
Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Section: So848264w So848264w So848264w So848264w So848264w So848264w So848264w So848264w So948264w So9	Building Address:			City:		
United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 Section: Township: S084s264w	Attu Island, AK			Attu		
Section: Township: Section: Township: Section: Township: Section: Soldstackew Sold	Current Owner's Name and Address:					
S084s264w Care S084s264w S084s264	United States Coast Guard, Civil Enginee	ring Unit, P	O Box 21747, Juneau, AK, 99802	-1747		
UTM:	USGS Quad Name and Map Sheet:	Section	n:	Township:		Range:
N 52 50.755 E 173 11.041 Zone Easting 5857364 S47082	Attu C-3			s084s264w		
Significant Person(s): N/A 2. Communications Facility Compute text	GPS Coordinate (NAD-27 Alaska):			UTM:		
Historic Associations Historic Function and Sub-function: 1. Industry 2. Communications Facility 3. 4. Current Function and Sub-function: 1. Industry 2. Communications Facility 3. 4. Significant Person(s): Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Architectural Information: Date of Construction: Date Moved: Destruction Date: N/A	N 52 50.755 E 173 11.041			Zone	Easting	Northing
Historic Function and Sub-function: 1.				59N	5857364	647082
Historic Function and Sub-function: 1.						
1. Industry 2. Communications Facility 3. 4. Current Function and Sub-function:	Historic Associations					
Current Function and Sub-function: 1.	Historic Function and Sub-function:					
1. Industry 2. Communications Facility 3. 4. Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG USCG Architectural Information: Date of Construction: Date Moved: N/A Destruction Date: N/A Reconstruction Date: N/A 1. N/A N/A N/A N/A Alteration Dates 3. 4. 1. N/A 2. 3. 4. Resource Type [X] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style:	1. Industry	2.	Communications Facility	3.		4.
1. Industry 2. Communications Facility 3. 4. Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG USCG Architectural Information: Date of Construction: Date Moved: N/A Destruction Date: N/A Reconstruction Date: N/A 1. N/A N/A N/A N/A Alteration Dates 3. 4. 1. N/A 2. 3. 4. Resource Type [X] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style:						
Significant Person(s): 1.	Current Function and Sub-function:					
1.	1. Industry	2.	Communications Facility	3.		4.
1.						
Architect, Builder, Contractor, Designer: USCG	Significant Person(s):			Significant Dates		
USCG		2.				2.
Architectural Information: Date of Construction: Date Moved: Destruction Date: Reconstruction Date: 1991 N/A N/A N/A Alteration Dates 3. 4. 1. N/A 2. 3. 4. Resource Type [X] Building [] Structure [] Object 1. 1 2. Architectural Style: Building Type: Building Type:	Architect, Builder, Contractor, Designe	er:		Original Owner:		
Date of Construction: Date Moved: Destruction Date: Reconstruction Date:	USCG			USCG		
Date of Construction: Date Moved: Destruction Date: Reconstruction Date:				•		
1991						
Alteration Dates 1. N/A 2. 3. 4. Resource Type [X] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:			Moved:			
1. N/A 2. 3. 4. Resource Type Stories [x] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:		N/A		N/A		N/A
Stories	Alteration Dates					
[x] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:	1. N/A	2.		3.		4.
[x] Building [] Site [] Structure [] Object 1. 1 2. Architectural Style: Building Type:						
Architectural Style: Building Type:	Resource Type			Stories		
		[]Stru	ucture [] Object	1. 1		2.
Modern Communications Facility	Architectural Style:			Building Type:		
	Modern			Communications Fac	lity	

Number of Ancillary Structures:		Plan:			Cultural Af	filiation:		
0		Rectangle			US Governi	ment		
Foundation Materials:	Roof Mate	rials:	Exterior	Wall Materials:		Other Ma	aterials:	
1. Concrete	1.	EPDM membrane	1.	Pre-cast concrete panels		1.	Gypsum	
2.	2.	Steel	2.			2.	Plywood	
Architectural Description (Include setting a			Statemer	nt of Significance:				
The structural system for the Transmitter Build concrete spread footing foundation with perim and internal column spread footings, concrete concrete panels, tube steel columns supportion open-web steel roof joists and a steel roof deand to the foundation at cast imbeds. The build Roofing consists of EPDM membrane over riglayer over the entire roof. Exterior walls are eplywood sheathed wood stud furring and batt hollow metal in hollow metal frames. Transmit extinguishing system.	eter foundar walls mading steel rook. Pre-cas ilding is 3,8 did insulation xposed preinsulation.	ation walls that have strip footings e from interconnected pre-cast f beams, which, in-turn support it wall panels are welded together 51 GSF. In with an adhered, walk protection cast concrete panels with interior There are no windows. Doors are	Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government involvement and responsibility for safe navigation. The station is also eligible under Criterion Consideration G, as a property of exceptional importance that has achieved significance within the past 50 years.					
			State and more acc federal go modeled operated Telecomr developm LORAN-O difference was highl	I Federal responsibility for proviurate system was needed. The overnment by scientists at the Nafter the British Gee system. Tat frequencies between 1,850 and unications Union Conference then of a further-reaching long of the conference of the province in pulses from two pairs of training to part of the province in pulses from two pairs of training the province in pulses from two pairs of training the province in pulses from two pairs of training the province in pulses from two pairs of training the province in pulses from two pairs of training the province in pulses from two pairs of training the province in pulses from two pairs of training the province in pulses from two pairs of training training the province in pulses from two pairs of training	ding navigate LORAN sy: Assachuseth first LOR and 1,950 khallocated the distance radio as a hyperinsmitting stautical mile all	cional aids stem was tts Institut AN syste Hz. In 190 e frequenco-navigat bolic radio titions to co	em (later called "LORAN -A") 47, the International cy band 90-110 kHz for the tion system on a world-wide basis. o navigation system using the time abtain a navigation fix. The system ccuracy in the defined coverage	

Partitions are of painted gypsum on plywood sheathed wood studs. Doors are hollow metal with hollow metal frames. Floor finishes consist of 30" x 30" raised access floor system in the transmitter areas and 12" x 12" VCT or exposed concrete in the remaining areas. Walls are painted gypsum wallboard. Ceilings are exposed metal decking in the mechanical spaces and painted gypsum wallboard or 2" x 4" acoustical panels in the electrical rooms and transmitter rooms.					Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.						
		The LORA different s within the Kodiak we station tha Chain. Th	N-C Station ets of timed North Pacifi re two addit t also produ	at Attu function pulses to prove c Chain, wher ional secondanced signals for s together are	oned as a dual vide coverage i e St. Paul was rry stations. Bu or a Russian LC	rated station in a larger and the designated that the designated that was to contact the manual representation of the designation of the manual representation of the designation of the	n, meaning t rea. It serve ited master, unique in tha i, known as t	ommissioned in 2010. hat it produced two d as a secondary station and Port Clarence and t it was the only U.S. he Russian-American he station consisted of			
Eligibility:		110	(1)		nsideration		110			1.10	
[x] Yes [] No If yes: Prepared by:	[x] A [] B Reviewed by Prof	[]C	[]D	[] A	[]B	[]C	[]D	[]E	[]F	[x] G Date:	
Terri Asendorf	[] Architect		ectural Histor		ssionai Qua 1 Historiai		[] Historia	c Architect	[] None	12/2/2010	
SHPO Response:	II 17 ii oi ii oot	[A] Alonic	2014141113101	i i i i i i i i i i i i i i i i i i i	[] i notorial		[] I listoric	3 / 11 OT 11 COL	[]140110	12/2/2010	
[] Eligible (Concur) [] Eligible (Do Not Co		Eligible (Concu	ur)	[] Not Elig	ible (Do No	Concur)					
Minor Recommendations and Comments Inc											
[] Need more information related to:	[] Historic Contex	t [] Integrit	y [] Archited	ctural Descr	iption	[] Period of S	Significance		-		
Authorized Signature:							Date:				

Alaska Bullding inv	entory	y Form		AHF	RS: ATU-248	Associated Distri	ct: Attu			
Historic Name:				Other Name:						
Transmitter Building				N/A						
Building Address:				City:						
Attu Island, AK				Attu						
Current Owner's Name and Address:										
United States Coast Guard, Civil Engineer			u, AK, 99802-17	47						
USGS Quad Name and Map Sheet:	Section	:		Township:		Range:				
Attu C-3				s084s264w						
GPS Coordinate (NAD-27 Alaska):				UTM:						
N 52 50.755 E 173 11.041				Zone	Easting		Northing			
				59N	5857364		647082			
Historic Associations										
Historic Function and Sub-function:										
1. Industry	2.	Communication	s Facility	3.		4.				
Current Function and Sub-function:										
1.	2.			3.		4.				
Significant Person(s):				Significant Date	es					
1. N/A	2.			1. 1995	- Abandoned	2.				
Architect, Builder, Contractor, Designe	r:			Original Owner						
USCG				USCG						
Architectural Information:										
Date of Construction:	Date Mo	ved:		Destruction Dat	te:		ction Date:			
1960	N/A			N/A		N/A				
Alteration Dates										
1. N/A	2.			3.		4.				
Resource Type				Stories						
[x] Building [] Site	[] Struc	ture []O	bject	1. 1		2.				
Architectural Style:				Building Type:						
Modern				Communications	Facility					

Number of Ancillary Structures:		Plan:			Cultural A	ffiliation	:
0		Rectangle					
Foundation Materials:	Roof Mate		Exterior	Wall Materials:		Other M	laterials:
 Concrete (spread footing) 	1.	Modified bitumen	1.	Concrete (load bearing)		1.	Hollow metal (doors)
2.	2.	Plywood	2.			2.	Asbestos board (walls, ceiling and interior partitions)
Architectural Description (Include setting	& outbuild	ings):	Stateme	nt of Significance:			
The Old Transmitter Building consists of a coperimeter foundation walls that have strip for reinforced concrete walls, a concrete slab ror system consists of the roof slab diaphragm a	tings, a slat of, and roof	beams. The lateral load-resisting	Coastal (area sea Shelf, wh Criterion represen navigatio	Confluence Zone (CCZ) from a ward of a harbor entrance to 50 hichever is greater.) The LORA A, at the national level of signif	oproximately onautical m N-C Station iicance, for i governmen inder Criteri	iles offsh iles offsh at Attu i ts role as t involver on Consi	
			State and more acc federal g modeled operated Telecom developn LORAN- difference was high	d Federal responsibility for procurate system was needed. The overnment by scientists at the after the British Gee system. at frequencies between 1,850 munications Union Conference nent of a further-reaching long C operated in this low-frequence in pulses from two pairs of tra	riding naviga e LORAN sy Massachuse The first LOI and 1,950 k allocated the distance race by as a hype ansmitting stautical mile a	ational aid ystem watetts Institute	947, the International ncy band 90-110 kHz for the ation system on a world-wide basis. Jio navigation system using the time obtain a navigation fix. The system accuracy in the defined coverage

				in 1943. By that time to eventually provide built during WWII and developed in 1957, the After World War II, the	e, stations were bu some 70 million s d used for war-tim he LORAN C tech he USCG shifted it s, including marin to be more than	uilt throughor square mile e activity the nology was as mission f ers and avi-	but the U.S., s of coverage iroughout the primarily us rom military ators (and sees of the LC	Russia, Ca je. While LC e Cold War, sed as an aid support to pome terrestr DRAN C sys	d to civilian navigation. roviding navigational ial users later). In 1991 tem, with 82 percent
				The LORAN-C Statio different sets of times station within the Nor Clarence and Kodiak the only U.S. station Russian-American C station consisted of c	in at Attu function d pulses to provid th Pacific Chain, were two addition were two addithat also produce hain. The two chaine 625' guyed to	ed as a dua e coverage where St. P nal seconda d signals fo ains togethe	al rated station in a larger and was the ary stations.	on, meaning area. It serv designated But Attu wa LORAN Cha	ed as a secondary master, and Port as unique in that it was
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Consideration	ns: []C	[]D	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by Profe	ssional that m	eets the fol	llowing Professional Qu	alifications:				Date:
Terri Asendorf	[] Architect	[x] Archite	ctural Histo	orian [] Historia	an	[] Histori	c Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co	ncur) [] Not E	Eligible (Concu	ır)	[] Not Eligible (Do No	ot Concur)				
Minor Recommendations and Comments Inc									
[] Need more information related to:	[] Historic Context	[] Integrity	/ [] Archite	ctural Description	[] Period of Sig	nificance		_	
Authorized Signature:								Date:	

Historic Name: Upper Henderson River Bridge - North N/A	Alaska Building Inv	entor/	y Forn	n	AHRS:	ATU-201	Associated District: Attu	ted District: Attu		
Building Address:	Historic Name:				Other Name:					
Attu Attu Stand, AK	Upper Henderson River Bridge - North				N/A					
Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747	Building Address:				City:					
United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Section: Township: S084s264w S08	Attu Island, AK				Attu					
USGS Quad Name and Map Sheet: Section: Township: so84s264w Section: Township: so84s264w Section: So84s264w So84s264	Current Owner's Name and Address:				•					
S084s264w UTM: Contractor S087364 S084s264w UTM: Contractor S087364	United States Coast Guard, Civil Engineer	ring Unit, Pr	O Box 21747,	Juneau, AK, 9980)2-1747					
UTM: Zone Easting Northing 59N 5857364 647082	USGS Quad Name and Map Sheet:	Section	n:		Township:		Range:			
N 52 50.755 E 173 11.041 Some Easting Some Some					s084s264w					
Significant Person(s): N/A 2. Bridge Significant Dates	GPS Coordinate (NAD-27 Alaska):				UTM:					
Historic Associations	N 52 50.755 E 173 11.041				Zone	Easting	Northing			
Historic Function and Sub-function: 1.					59N	5857364	647082			
Historic Function and Sub-function: 1.										
1. Road-related 2. Bridge 3. 4. Current Function and Sub-function:	Historic Associations									
Current Function and Sub-function: 1.	Historic Function and Sub-function:									
1. Road-related 2. Bridge 3. 4. Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG USCG Architectural Information: Date of Construction: Date Moved: Destruction Date: N/A Reconstruction Date: N/A 1. N/A N/A N/A Alteration Dates 3. 4. 1. N/A 2. 3. Resource Type [] Building [] Site [x] Structure [] Object 1. N/A 2. Architectural Style:	1. Road-related	2.	Bridge		3.		4.			
1. Road-related 2. Bridge 3. 4. Significant Dates 1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG USCG Architectural Information: Date of Construction: Date Moved: Destruction Date: N/A Reconstruction Date: N/A 1. N/A N/A N/A Alteration Dates 3. 4. 1. N/A 2. 3. Resource Type [] Building [] Site [x] Structure [] Object 1. N/A 2. Architectural Style: Building Type:			· ·							
1. Road-related 2. Bridge 3. 4. Significant Person(s):	Current Function and Sub-function:									
Significant Person(s): 1.		2	Bridge		3		4			
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG USCG Architectural Information: Date of Construction: Date Moved: Destruction Date: Reconstruction Date: 1945 N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type [] Building [] Stories 2. 2. Architectural Style: Building Type: Building Type:			9-							
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG Architectural Information: Date of Construction: Date Moved: N/A Destruction Date: N/A Reconstruction Date: N/A 1945 N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type [] Building [] Site [x] Structure [] Object 1. N/A 2. 2. Architectural Style: Building Type:	Significant Person(s):				Significant Dates					
Architect, Builder, Contractor, Designer: USCG		2					2			
USCG							Σ.			
Architectural Information: Date of Construction: Date Moved: Destruction Date: Reconstruction Date: 1945 N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. 1. N/A 2. Stories 2. 2. 4. Building [] Site [] Structure [] Object 1. N/A 2. 2. Architectural Style: Building Type: Building Type: 3. 4.		••								
Date of Construction: Date Moved: Destruction Date: Reconstruction Date:	0000				10000					
1945 N/A N/A N/A N/A N/A Alteration Dates	Architectural Information:									
Alteration Dates 1. N/A 2. 3. 4. Resource Type [] Building [] Site [x] Structure [] Object 1. N/A 2. Architectural Style: Building Type:	Date of Construction:	Date N	loved:		Destruction Date:		Reconstruction Date:			
1. N/A 2. 3. 4. Resource Type Stories [] Building [] Site [x] Structure] Object 1. N/A 2. Architectural Style: Building Type:	1945	N/A			N/A		N/A			
Resource Type	Alteration Dates				1 -		•			
Resource Type	1. N/A	2.			3.		4.			
[] Building [] Site [] Object 1. N/A 2. Architectural Style: Building Type:					·					
[] Building [] Site [] Object 1. N/A 2. Architectural Style: Building Type:	Resource Type				Stories					
Architectural Style: Building Type:		[x] Str	ucture	[] Object			2.			
					Building Type:					
					Bridge					

Number of Ancillary Structures: Plan:	Cultural Affiliation:
0 N/A	US Government
Foundation Materials: Roof Materials:	Exterior Wall Materials: Other Materials:
1. Timber 1. N/A	1. N/A 1. N/A
2. 2.	2.
Architectural Description (Include setting & outbuildings):	Statement of Significance:
This bridge is on the Smith Lake Road, several hundred yards from the Upper Henderson	
Bridge South. This road provides an alternative means of accessing the Hogsback Road	Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the
from the LORAN Station. The Hogsback road is part of the ROF 5-Mile Road, which	area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental
provides access to the Air Force ROF site and the Japanese war monument.	Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that
This structure is a double-span 28' long single lane (approximately 13.5' wide) timber	represented growing State and Federal government involvement and responsibility for safe
bridge. Timber piles at abutment and mid-channel support timber pile caps. Stringers	navigation. The station is also eligible under Criterion Consideration G, as a property of
span across pile caps. Timber deck spans across stingers. An additional wear deck has	exceptional importance that has achieved significance within the past 50 years.
been placed over the original deck. Backwalls consist of horizontal timber planks placed	
across piles and caps. Backwalls are approximately 7' tall. There are no bridge rails.	
This bridge is in very poor condition and should be condemned; however, is currently in	
use as other routes to access the Hogsback Road are impassable.	At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. As
use as other routes to access the riogsback road are impassable.	State and Federal responsibility for providing navigational aids increased, the development of a
	more accurate system was needed. The LORAN system was developed under a program of the
	federal government by scientists at the Massachusetts Institute of Technology and generally
	modeled after the British Gee system. The first LORAN system (later called "LORAN -A")
	operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International
	Telecommunications Union Conference allocated the frequency band 90-110 kHz for the
	development of a further-reaching long distance radio-navigation system on a world-wide basis.
	LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time
	difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system
	was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage
	area), all-weather, long-range, and available 24 hours per day.

				in 1943. By that time to eventually provide built during WWII and developed in 1957, the After World War II, the	e, stations were bu some 70 million s d used for war-tim he LORAN C tech he USCG shifted it s, including marin to be more than	uilt throughous aquare miles e activity the nology was smission from and aviation for an aviation for an aviation for a for	but the U.S., s of coverage iroughout the primarily us rom military ators (and sees of the LC	Russia, Car le. While LC e Cold War, sed as an aid support to pome terrestr DRAN C sys	d to civilian navigation. roviding navigational ial users later). In 1991 tem, with 82 percent
				The LORAN-C Statio different sets of timed station within the Nor Clarence and Kodiak the only U.S. station : Russian-American Cl station consisted of o	in at Attu function d pulses to provid th Pacific Chain, were two addition were two addithat also produce hain. The two chaine 625' guyed to	ed as a dua e coverage where St. P nal seconda d signals fo ains togethe	al rated station in a larger and was the ary stations.	on, meaning irea. It serve designated But Attu wa LORAN Cha	ed as a secondary master, and Port as unique in that it was
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Consideration	ns: []C	[]D	[]E	[]F	[x] G
Prepared by:	Reviewed by Profes	ssional that m		llowing Professional Qu					Date:
Terri Asendorf	[] Architect	[x] Archite	ctural Histo	orian [] Historia	an	[] Historic	c Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co		ligible (Concu	ır)	[] Not Eligible (Do No	ot Concur)				
Minor Recommendations and Comments Inc									
[] Need more information related to:	[] Historic Context	[] Integrity	/ [] Archite	ctural Description	[] Period of Sig	nificance		-	
Authorized Signature:								Date:	

Upper Henderson River Bridge - South	Alaska Building Inv	/entor	ry Forr	n	AHRS:	Attu		
Building Address:	Historic Name:		-		Other Name:			
Attu Attu Attu Current Owner's Name and Address:	Upper Henderson River Bridge - South				N/A			
Current Function and Sub-function: 1. Road-related 2. Bridge 3. 4.	Building Address:				City:			
United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 SugGS Quad Name and Map Sheet:	Attu Island, AK				Attu			
Section: Township: Section: Section: Township: Section: Soldstacked w Soldstac	Current Owner's Name and Address:				•			
Significant Dates Significant Dates Significant Dates USCG USCG	United States Coast Guard, Civil Enginee	ring Unit, P	O Box 21747	Juneau, AK, 9980)2-1747			
UTM:	USGS Quad Name and Map Sheet:	Sectio	n:		Township:		Range:	
No.	Attu C-3				s084s264w			
Significant Dates Sign	GPS Coordinate (NAD-27 Alaska):				UTM:			
Historic Associations	N 52 50.755 E 173 11.041				Zone	Easting	Northing	
Historic Function and Sub-function: 1.					59N	5857364	647082	
Historic Function and Sub-function: 1.								
Road-related 2. Bridge 3. 4.	Historic Associations							
Current Function and Sub-function:	Historic Function and Sub-function:							
1. Road-related 2. Bridge 3. 4. Significant Person(s):	 Road-related 	2.	Bridge		3.		4.	
1. Road-related 2. Bridge 3. 4. Significant Person(s):								
Significant Person(s): 1.	Current Function and Sub-function:							
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG USCG Architectural Information: Date of Construction: Date Moved: N/A N/A N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type Building Stories J Stories	 Road-related 	2.	Bridge		3.		4.	
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG USCG Architectural Information: Date of Construction: Date Moved: N/A N/A N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type Building Stories J Stories			•					
1. N/A 2. 1. N/A 2. Architect, Builder, Contractor, Designer: USCG Original Owner: USCG USCG Architectural Information: Date of Construction: Date Moved: N/A N/A N/A N/A N/A Alteration Dates 1. N/A 2. 3. 4. Resource Type Building Stories J Stories	Significant Person(s):				Significant Dates			
Original Owner: USCG		2.					2.	
USCG	Architect, Builder, Contractor, Designo							
Date of Construction: Date Moved: Destruction Date: Reconstruction Date: N/A N	USCG				usčg			
Date of Construction: Date Moved: Destruction Date: Reconstruction Date: N/A N								
1945	Architectural Information:							
Alteration Dates 1. N/A 2. 3. 4. Resource Type [] Building [] Site [x] Structure [] Object 1. N/A 2. Architectural Style: Building Type:	Date of Construction:		loved:				Reconstruction Date:	
1. N/A 2. 3. 4. Resource Type Stories Stories Sto	1945	N/A			N/A		N/A	
Stories Stories	Alteration Dates							
[] Building [] Site [x] Structure [] Object 1. N/A 2. Architectural Style: Building Type:	1. N/A	2.			3.		4.	
[] Building [] Site [x] Structure [] Object 1. N/A 2. Architectural Style: Building Type:								•
Architectural Style: Building Type:	Resource Type				Stories			
		[x] Str	ucture	[] Object			2.	
N/A Bridge	Architectural Style:							
	N/A				Bridge			

Number of Ancillary Structures:		Plan:		Cultural A	ffiliation:
0		N/A		US Govern	
Foundation Materials:	Roof Mate	erials:	Exterior Wall Materials:		Other Materials:
1. Timber	1.	N/A	1. N/A		1. N/A
2.	2.		2.		2.
Architectural Description (Include setting			Statement of Significance:		
This bridge is on the Smith Lake Road, which			0 0 0 ,	,	-provided radio navigation system for the U.S.
the Hogsback Road from the LORAN Station					y 1940 to 2010. (The CCZ is defined as the
Mile Road, which provides access to the Air	Force ROF	site and the Japanese war			iles offshore or the edge of the Continental
monument.					at Attu is eligible as a historic district under
			Criterion A, at the national level of signific		
This structure is a double span 23.5' long sir			represented growing State and Federal g		
bridge. Timber piles at abutment and mid-cl			navigation. The station is also eligible un		
span across pile caps. Timber deck spans a			exceptional importance that has achieved	d significan	ce within the past 50 years.
been placed over the original deck. Backwa					
across piles and caps. Backwalls are appro	ximately 7' ta	all. There are no bridge rails.			
The baider is in our case and ities and abo					
The bridge is in very poor condition and sho use as other routes to access the Hogsback					
use as other routes to access the Hogsback	Road are in	ipassable.			ng dead reckoning or celestial navigation. As
					ational aids increased, the development of a
					ystem was developed under a program of the
			federal government by scientists at the M		
			modeled after the British Gee system. The		
			operated at frequencies between 1,850 a		
			Telecommunications Union Conference a		
					lio-navigation system on a world-wide basis.
					rbolic radio navigation system using the time
					ations to obtain a navigation fix. The system
			0 ,		absolute accuracy in the defined coverage
			area), all-weather, long-range, and availa	IDIE 24 NOU	iis pei uay.

				in 1943. By that tim to eventually provide built during WWII an developed in 1957, After World War II, ti	e, stations were be some 70 million d used for war-tir he LORAN C tec ne USCG shifted is, including maried to be more than	square mile square mile me activity th hnology was its mission f ners and avi 1 572,000 us	out the U.S., as of coverage proughout the primarily us from military ators (and so ters of the LC)	Russia, Car e. While LC e Cold War, sed as an aid support to p ome terrestri DRAN C sys	d to civilian navigation. roviding navigational ial users later). In 1991 tem, with 82 percent
				The LORAN-C Static different sets of time within the North Pac Kodiak were two add station that also process.	on at Attu function d pulses to provid ific Chain, where ditional secondary duced signals for ins together are k	ned as a dua de coverage St. Paul was y stations. E a Russian L	al rated station in a larger a sthe designated that the state was ordered to the state of the st	on, meaning irea. It serve ated master, unique in tha n, known as	commissioned in 2010. that it produced two ed as a secondary station and Port Clarence and at it was the only U.S. the Russian-American The station consisted of
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Consideratio	ns:	[]D	[]E	[]F	[x] G
Prepared by:				Illowing Professional Q		[]0	[]=	IJΓ	Date:
Terri Asendorf	[] Architect		ctural Histo			[] Histor	ric Architect	[] None	12/2/2010
SHPO Response:		lisible (Carr)	Cl Net Flieble /D . N	-t C				
[] Eligible (Concur) [] Eligible (Do Not Con Minor Recommendations and Comments Incl		ligible (Concu	ır)	[] Not Eligible (Do N	ot Concur)				
Need more information related to:	[] Historic Context	[] Integrity	/ [] Archite	ectural Description	[] Period of Si	gnificance			
Authorized Signature:		., 5)	.,					Date:	

Alaska Building Inventory Form AHRS: ATU-255 **Associated District:** Attu Historic Name: Other Name: Warehouse N/A **Building Address:** City: Attu Island, AK Attu Current Owner's Name and Address: United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 USGS Quad Name and Map Sheet: Township: s084s264w Range: Attu C-3 GPS Coordinate (NAD-27 Alaska): UTM: N 52 50.755 E 173 11.041 Zone Easting Northing 59N 5857364 647082 **Historic Associations** Historic Function and Sub-function: Defense 2. Warehouse 3. 4. Current Function and Sub-function: Defense 2. Warehouse 3. 4. Significant Person(s): Significant Dates 1969 - First Renovation 1976 - Second Renovation Architect, Builder, Contractor, Designer: Original Owner: USCG **Architectural Information:** Date of Construction: Date Moved: Destruction Date: Reconstruction Date: circa 1943 N/A Loading Docks (date unknown) N/A Alteration Dates 1969 1976 3. Resource Type Stories [x] Building [] Site [] Structure [] Object 2. Architectural Style: **Building Type:** Utilitarian Warehouse

Number of Ancillary Structures:	Plan:	Cultural Affiliation:							
0		Rectangle	US Government						
	Roof Mate		Exterior Wall Materials:		Materials:				
		Timber	1. Plywood	1.	Metal door (metal frame)				
		Plywood	Suspected asbestos	2.	Plywood door (plywood frame)				
L. L.		Corrugated Metal	0						
Architectural Description (Include setting &			Statement of Significance:						
The existing warehouse building is situated near roughly 2,000' east-northeast of the existing no building. The building's structural system cons and internal timber pony walls supported by tim strip footings beneath the interior timber column exterior walls, alternate wall studs and aligning between the mid-height of the wall studs and m present in some locations, believed to be locating Side walls once contained windows and doors warehouse. The loading docks have been der in.	orth-south resists of a pender sills bender sill bender sills bender sill bender si	unway and the main station primeter foundation of pony walls earing on the gravel and timber en the double-stud columns at the braced with diagonal bracing the rafters. This bracing is not dows and recently replaced studs. loading docks on each side of the	Coastal Confluence Zone (CCZ) from a area seaward of a harbor entrance to 5/Shelf, whichever is greater.) The LORA Criterion A, at the national level of significence and Federal navigation. The station is also eligible texceptional importance that has achieve	approximately 1940 0 nautical miles of AN-C Station at Att ficance, for its role government invol- under Criterion Co	fshore or the edge of the Continental tu is eligible as a historic district under as a historic aid to navigation that wement and responsibility for safe nsideration G, as a property of				
			At the beginning of WWII, positioning w State and Federal responsibility for promore accurate system was needed. Th federal government by scientists at the modeled after the British Gee system. operated at frequencies between 1,850 Telecommunications Union Conference development of a further-reaching long LORAN-C operated in this low-frequencifference in pulses from two pairs of trawas highly accurate (better than 0.25 narea), all-weather, long-range, and avai	viding navigational ne LORAN system Massachusetts Ins The first LORAN s and 1,950 kHz. In a allocated the freq distance radio-nav cy as a hyperbolic ansmitting stations autical mile absolu	aids increased, the development of a was developed under a program of the stitute of Technology and generally ystem (later called "LORAN -A") in 1947, the International puency band 90-110 kHz for the vigation system on a world-wide basis. radio navigation system using the time to obtain a navigation fix. The system the accuracy in the defined coverage				

				in 1943. By that ti to eventually provi built during WWII a developed in 1957 After World War II assistance to civili there were estimat	me, stations were de some 70 millio and used for war-t, the LORAN C te the USCG shifter ans, including mared to be more that	built through n square mile ime activity t chnology wa d its mission riners and av an 572,000 us	nout the U.S. es of coverage hroughout the s primarily u from military riators (and s sers of the L	, Russia, Ca ge. While Lo ne Cold War, sed as an ai support to p some terrestr ORAN C sys	S. Coast Guard (USCG) nada, Asia, and Europe DRAN-A stations were by the time it was d to civilian navigation. providing navigational rial users later). In 1991 stem, with 82 percent percent land users.
				The LORAN-C Sta different sets of tin station within the N Clarence and Kod the only U.S. static Russian-American station consisted of	tion at Attu functi- ned pulses to providerth Pacific Chain ak were two addir on that also produ Chain. The two of one 625' guyed	oned as a du vide coverage n, where St. tional second ced signals f chains togeth	al rated stati e in a larger a Paul was the lary stations. or a Russian	on, meaning area. It serve designated But Attu wa LORAN Ch	as unique in that it was
Eligibility: [x] Yes [] No If yes:	[x] A [] B	[]C	[]D	Criteria Considera	tions:	[]D	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by Profes	ssional that m	neets the fo	llowing Professional	Qualifications:				Date:
Terri Asendorf	[] Architect	[x] Archite	ectural Histo	orian [] Histo	orian	[] Histor	ic Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Co		ligible (Conc	ur)	[] Not Eligible (Do	Not Concur)				
Minor Recommendations and Comments Inc									
[] Need more information related to:	[] Historic Context	[] Integrit	ty [] Archite	ectural Description	[] Period of S	Significance			
Authorized Signature:								Date:	

Alaska Building Inven	tory	Form	AHRS: ATU-256 Associated District: Attu						
Historic Name:			Other Name:						
Water Pump House			N/A						
Building Address:			City:						
Attu Island, AK			Attu						
Current Owner's Name and Address:			•						
United States Coast Guard, Civil Engineering U	nit, PO Bo	x 21747, Juneau, AK, 99802-1747	7						
USGS Quad Name and Map Sheet:	Section	on:	Township:		Range:				
Attu C-3			s084s264w						
GPS Coordinate (NAD-27 Alaska):			UTM:						
N 52 50.755 E 173 11.041			Zone	Easting	Northing				
			59N	5857364	647082				
Historic Associations									
Historic Function and Sub-function:									
1. Processing	2.	Water Pump House	3.		4.				
Current Function and Sub-function:									
1. Processing	2.	Water Pump House	3.		4.				
, and the second		•							
Significant Person(s):			Significant Dates						
1. N/A	2.		1. N/A		2.				
Architect, Builder, Contractor, Designer:			Original Owner:						
USCG			USCG						
Architectural Information:									
Date of Construction:		Moved:	Destruction Date:		Reconstruction Date:				
1958	N/A		N/A		N/A				
Alteration Dates									
1. N/A	2.		3.		4.				
Resource Type			Stories						
[x] Building [] Site	[] Str	ucture [] Object	1. 1		2.				
Architectural Style:			Building Type:						
Utilitarian			Outbuilding; utility						

Number of Ancillary Structures: Plan: Cultural Affiliation:								
0		Rectangle	US Government					
Foundation Materials:	Roof Mate	rials:	Exterior Wall Materials:		Other Ma	aterials:		
Reinforced concrete	1.	Asphalt shingles	 Concrete 		1.	Plywood, brick		
2.	2.		2.		2.	Metal doors		
Architectural Description (Include setting & outb			Statement of Significance:					
The Water Pump House is located approximately 1, Building, and 150' from the centerline of the runway, one-story, rectangular, 518-square-foot concrete but concrete slab; the roof is timber-framed above a confeature any windows. Doors are hollow metal in holl	Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government involvement and responsibility for safe navigation. The station is also eligible under Criterion Consideration G, as a property of exceptional importance that has achieved significance within the past 50 years. At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. As							
			State and Federal responsibility for promore accurate system was needed. T federal government by scientists at the modeled after the British Gee system: operated at frequencies between 1,850 Telecommunications Union Conference development of a further-reaching long LORAN-C operated in this low-frequen difference in pulses from two pairs of twas highly accurate (better than 0.25 or area), all-weather, long-range, and available.	oviding navigues of the LORAN and Albert LCORAN and 1,950 and 1,950 and 1,950 and 1,950 are allocated and gransmitting anautical mile	gational aid system was setts Institut DRAN syst kHz. In 1 the freque adio-naviga erbolic rad stations to	ds increased, the development of a sign developed under a program of the ute of Technology and generally tem (later called "LORAN -A") 947, the International ncy band 90-110 kHz for the atton system on a world-wide basis. Jio navigation system using the time obtain a navigation fix. The system accuracy in the defined coverage		

				in 1943. to eventubuilt durii develope After Wo assistand there wei	By that time ally providing WWII are down 1957, and War II, to be to civiliance estimate	e, stations were be some 70 million of used for war-tin the LORAN C teche USCG shifted ns, including marid to be more than	built through square mil me activity the chnology wa its mission mers and avents of 572,000 u	nout the U.S. es of covera throughout the as primarily u from military viators (and s sers of the L	., Russia, Ca ge. While Lone Cold War, ised as an air support to posome terrest ORAN C sys	S. Coast Guard (USCG) anada, Asia, and Europe ORAN-A stations were, by the time it was id to civilian navigation. providing navigational rial users later). In 1991 stem, with 82 percent 8 percent land users.
				The LOR different station w Clarence the only Russian-	AN-C Stati sets of time ithin the No and Kodia J.S. station American (on at Attu function of pulses to provious to provious the provious that also production at Atta that also productions.	ned as a du de coveragon, where St. onal second red signals f hains togeth	ial rated stati e in a larger Paul was the dary stations for a Russiar	ion, meaning area. It serve designated . But Attu w n LORAN Ch	ecommissioned in 2010. If that it produced two led as a secondary I master, and Port as unique in that it was nain, known as the If of Alaska Chains. The
Eligibility: [x] Yes [] No If yes:	[x] A [x]	В []С	ſΙD	Criteria C	Consideration	ons: []C	ſΙD	ſΊΕ	[]F	[x] G
Prepared by:	Reviewed by	Professional that	meets the fo	llowing Prof	essional Q	ualifications:		• •		Date:
Terri Asendorf	[] Architect	[x] Arch	itectural His	orian	[] Histor	ian	[] Histori	c Architect	[] None	12/2/2010
SHPO Response: [] Eligible (Concur) [] Eligible (Do Not Concur)	[]	Not Eligible (Cor	ncur)	[] Not Eli	igible (Do N	lot Concur)				
Minor Recommendations and Comments Include: [] Need more information related to:	[] Historic Co	ntext [] Integ	rity [] Archit	ectural Desc	ription	[] Period of Si	ignificance			
Authorized Signature:		., ,					<u> </u>		Date:	

Alaska Bullding inv	entory/	Form	AHRS:	ATU-257	Associated District: Attu
Historic Name:			Other Name:		
Water Treatment Building			N/A		
Building Address:			City:		
Attu Island, AK			Attu		
Current Owner's Name and Address:					
United States Coast Guard, Civil Enginee		x 21747, Juneau, AK, 9980			
USGS Quad Name and Map Sheet:	Section:		Township:		Range:
Attu C-3			s084s264w		
GPS Coordinate (NAD-27 Alaska):			UTM:		
N 52 50.755 E 173 11.041			Zone	Easting	Northing
			59N	5857364	647082
Historic Associations					
Historic Function and Sub-function:					
1. Waterworks	2.	Water Treatment	3.		4.
Current Function and Sub-function:					
1. Waterworks	2.	Water Treatment	3.		4.
Significant Person(s):			Significant Dates		
1. N/A	2.		1. N/A		2.
Architect, Builder, Contractor, Designo USCG	er:		Original Owner: USCG		
Architectural Information:					
Date of Construction:	Date Move	d:	Destruction Date:		Reconstruction Date:
2001	N/A		N/A		N/A
Alteration Dates			•		•
1. N/A	2.		3.		4.
Resource Type			Stories		
[x] Building [] Site	[] Structur	e [] Object	1. 1		2.
Architectural Style:			Building Type:		
Utilitarian			Outbuilding; utility		
			, ,		

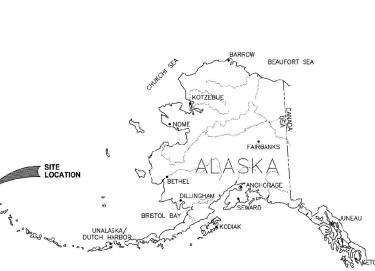
Number of Ancillary Structures:		Plan:		Cultural Affili	ation:
0		Rectangle		US Governme	nt
Foundation Materials:	Roof Mate	erials:	Exterior Wall Materials:	Ot	her Materials:
 Concrete 	1.	Timber	1. Timber	1.	N/A
Timber	2.	Plywood	Concrete	2.	
Architectural Description (Include setting			Statement of Significance:		
Built in 2001, the Water Treatment Building is timber sleepers on an exterior slab-on-grade. measurement. Floor joists are $2" \times 10"$ at $16"$ Walls are $2" \times 6"$ studs with $^5/_8"$ thick interior s sheathing. The roof is a single-gable, timber-This building houses muratic and chlorine tan treat water from the pump house prior to pum	The buildi on center heathing a framed roo ks, pumps,	ng is 11'3" x 8'3" outside that support a plywood floor. nd T1-11 exterior plywood f with plywood sheathing. unit heaters and lights needed to	Coastal Confluence Zone (CCZ) from agarea seaward of a harbor entrance to 50	pproximately 19 0 nautical miles NN-C Station at a ficance, for its ro government inv under Criterion C	offshore or the edge of the Continental Attu is eligible as a historic district under ble as a historic aid to navigation that colvement and responsibility for safe Consideration G, as a property of
			State and Federal responsibility for provmore accurate system was needed. The federal government by scientists at the I modeled after the British Gee system. Toperated at frequencies between 1,850 Telecommunications Union Conference development of a further-reaching long LORAN-C operated in this low-frequence.	viding navigation to LORAN syste Massachusetts The first LORAN and 1,950 kHz. a fallocated the fredistance radio-recy as a hyperbol ansmitting statio autical mile absolution and station autical mile absolution and station autical mile absolution autical mile autica	I system (later called "LORAN -A") In 1947, the International equency band 90-110 kHz for the navigation system on a world-wide basis. ic radio navigation system using the time ns to obtain a navigation fix. The system blute accuracy in the defined coverage

				in 1943. By that time, to eventually provide s built during WWII and developed in 1957, th After World War II, the	stations were bu some 70 million so used for war-time e LORAN C techn USCG shifted its including marine to be more than 5	ilt throughor quare miles e activity the hology was a mission files ars and avia 572,000 use	out the U.S., is of coverage roughout the primarily us rom military stators (and scens of the LC	Russia, Car e. While LC e Cold War, ed as an aic support to pome terrestri DRAN C syst	by the time it was d to civilian navigation. roviding navigational ial users later). In 1991 tem, with 82 percent
				The LORAN-C Statior different sets of timed within the North Pacifi Kodiak were two addi station that also produ	at Attu functione pulses to provide c Chain, where S ional secondary s iced signals for a s together are kno	ed as a dua coverage t. Paul was stations. B Russian L	I rated station in a larger and the designation of the designation of the larger and the larger	on, meaning rea. It serve ated master, unique in tha n, known as	ed as a secondary station and Port Clarence and
Eligibility:				Criteria Consideration					
[x] Yes [] No If yes: Prepared by:	[x] A [] B			[]A []B owing Professional Qua	[]C	[]D	[]E	[]F	[x] G Date:
Terri Asendorf	[] Architect	[x] Architect				[] Histori	c Architect	[] None	12/2/2010
SHPO Response:	If 1 , ii oi iii oot	[A] A GAINGO		ia [] i iistoria		[]11101011		LITTORIC	1.2,2,2010
[] Eligible (Concur) [] Eligible (Do Not Co		Eligible (Concur))	[] Not Eligible (Do No	t Concur)				
Minor Recommendations and Comments Inc									
[] Need more information related to:	[] Historic Contex	t [] Integrity	[] Architect	tural Description	[] Period of Sign	nificance		- In .	
Authorized Signature:								Date:	

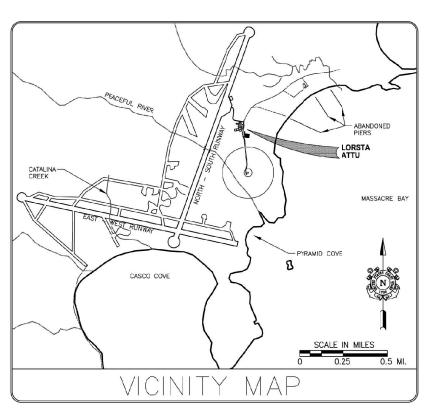


U.S. COAST GUARD CIVIL ENGINEERING UNIT LORSTA ATTU

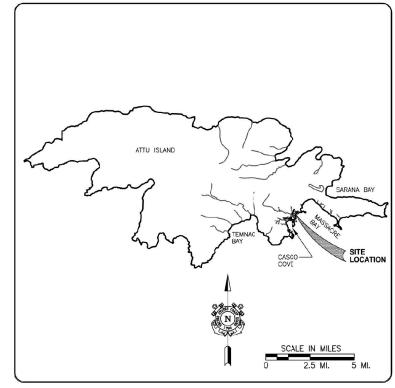
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ALASKA — AREA WAF



ATU = 17 OPFAC = 40198 INSTALLATION = 17030 SITE = 00



LOCATION MAP

₄ ASBUILT

	CONSULTANTS
С	P N D CONSULTING ENGINEERS Incorporated 3220 Hospital Drvc Stc 200 Phone: 907.586.2093 Juneau, Alaska 95801 Fax: 907.586.2099
	U. S. COAST GUARD CIVIL ENGINEERING UNIT JUNEAU
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DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1 SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
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COVER, VICINITY MAP, DRAWING INDI

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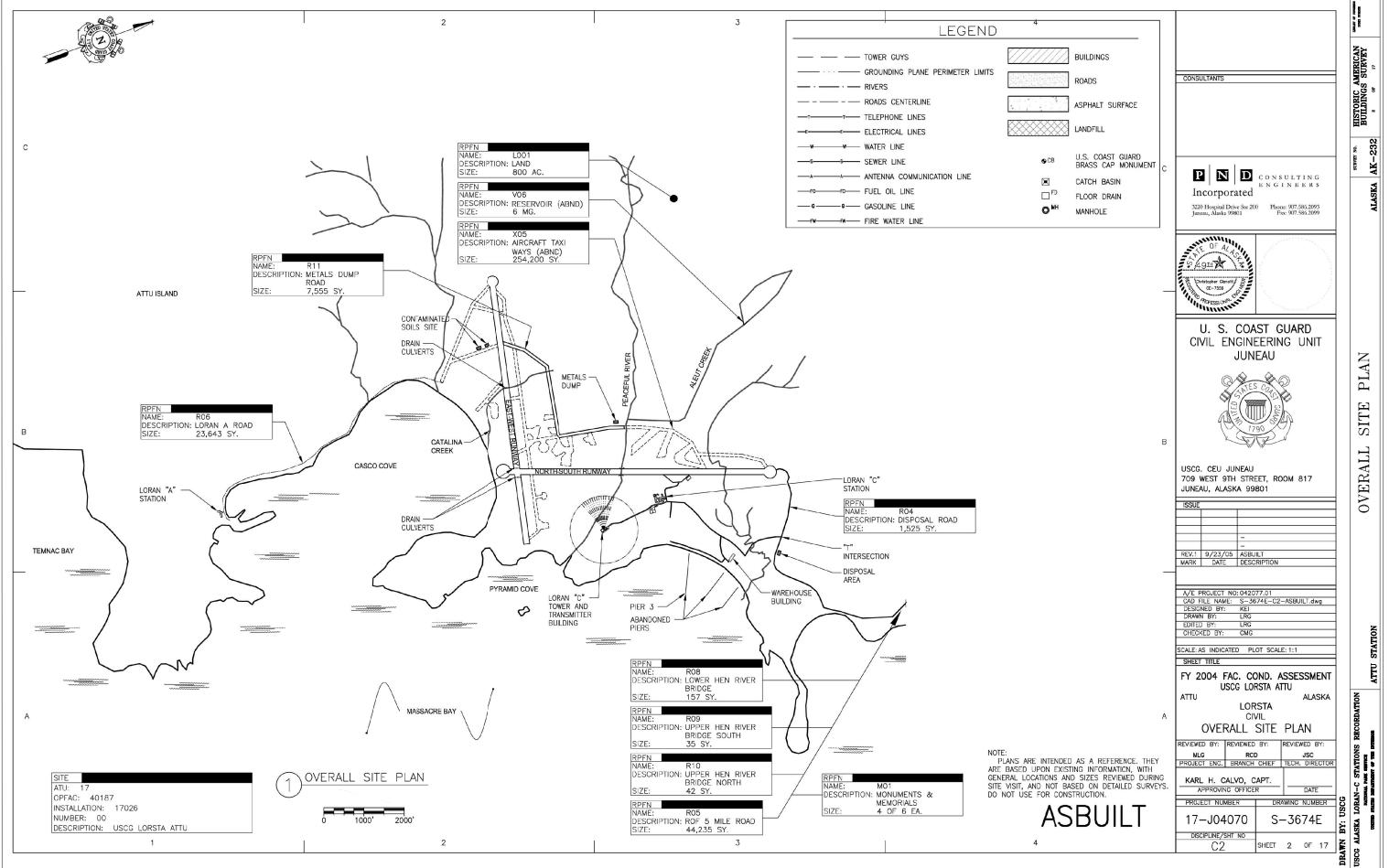
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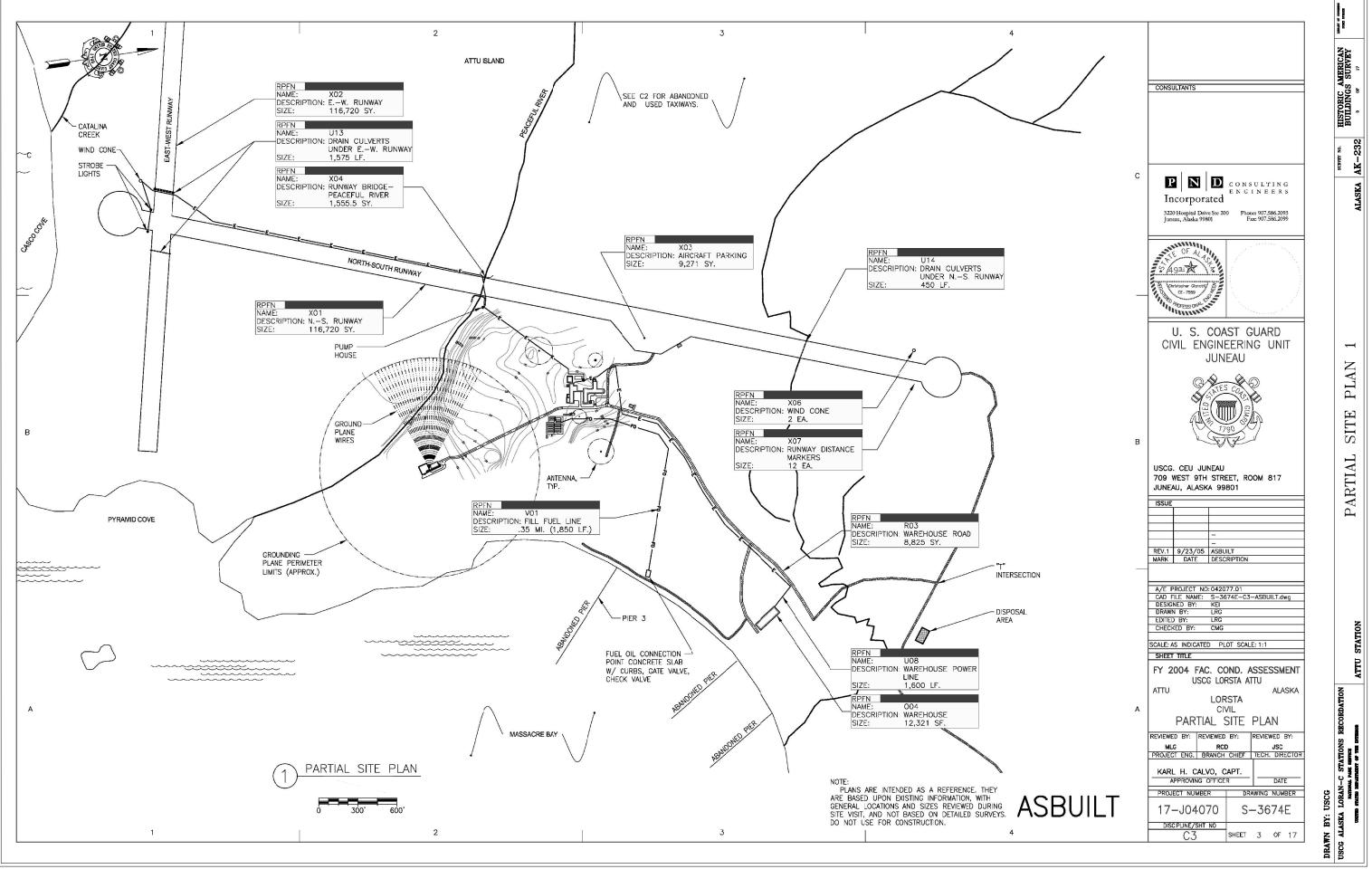
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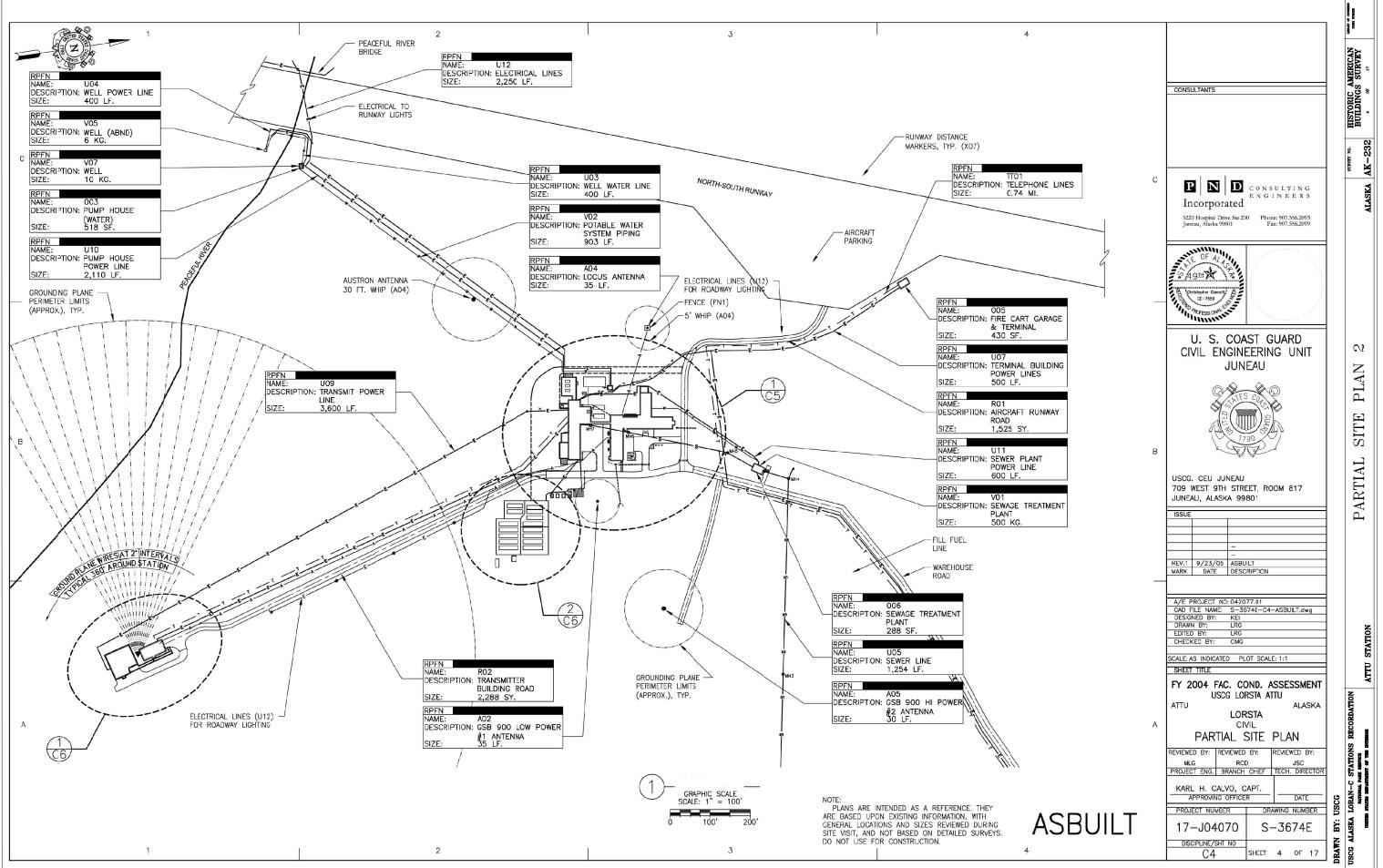
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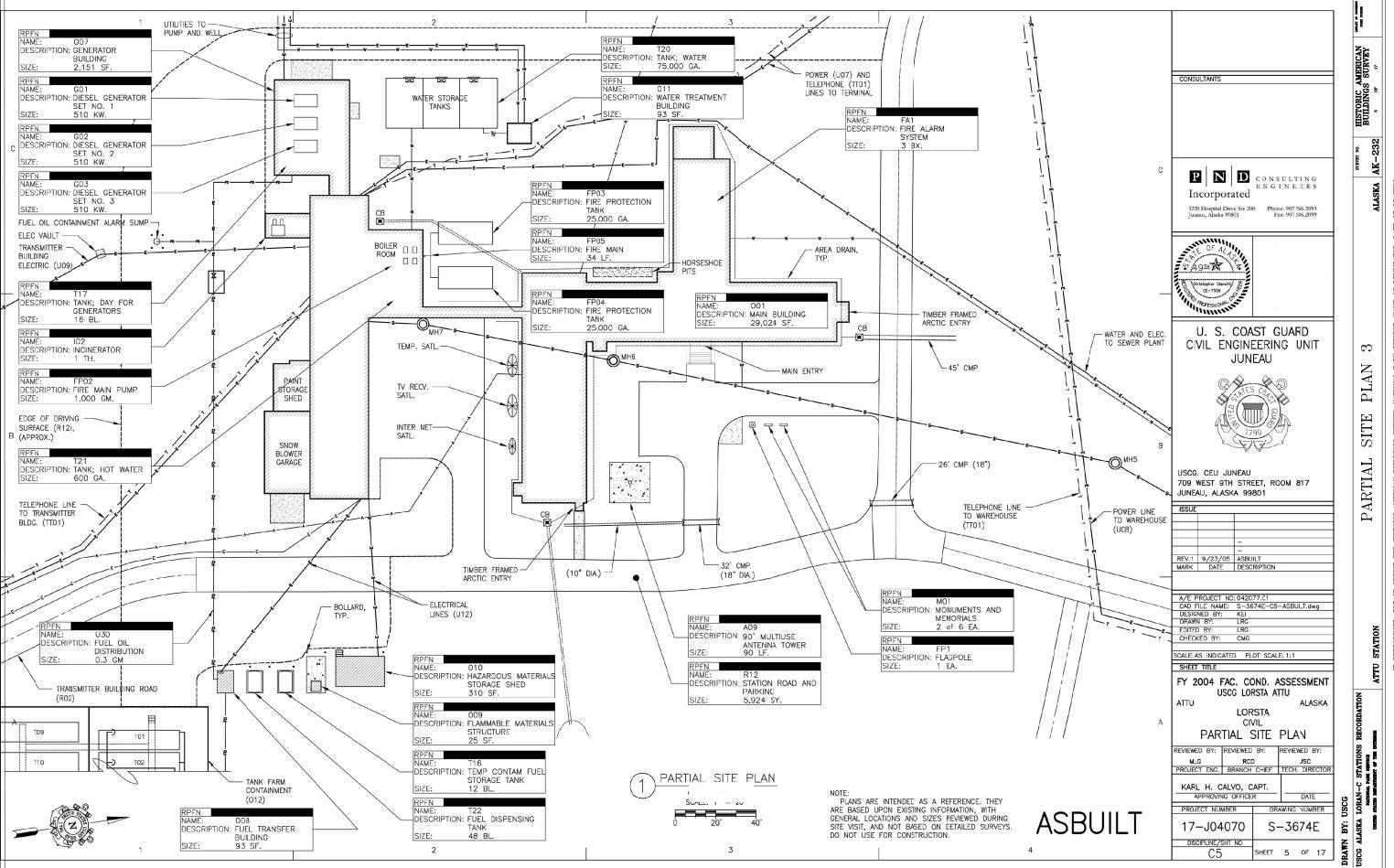
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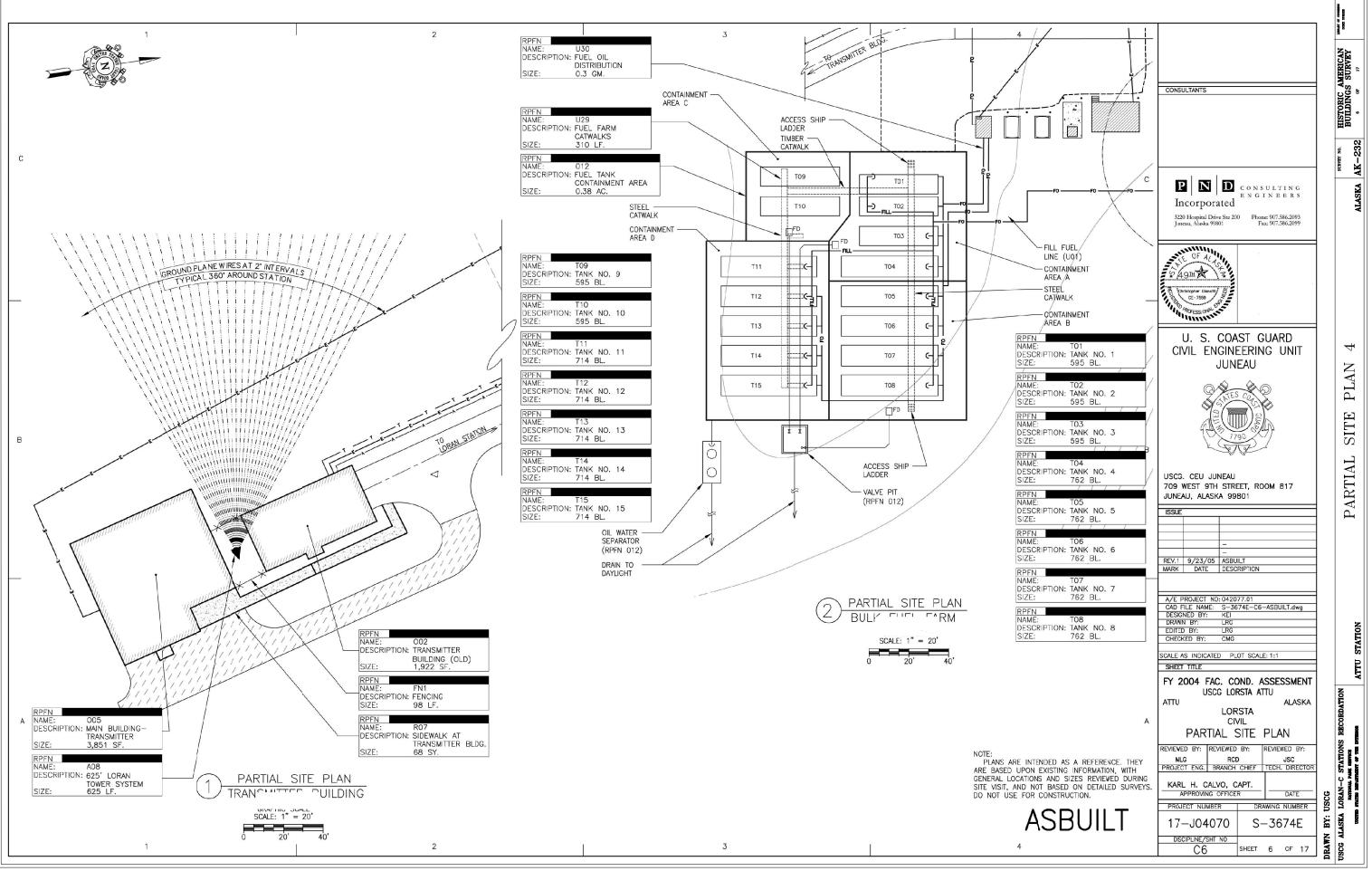
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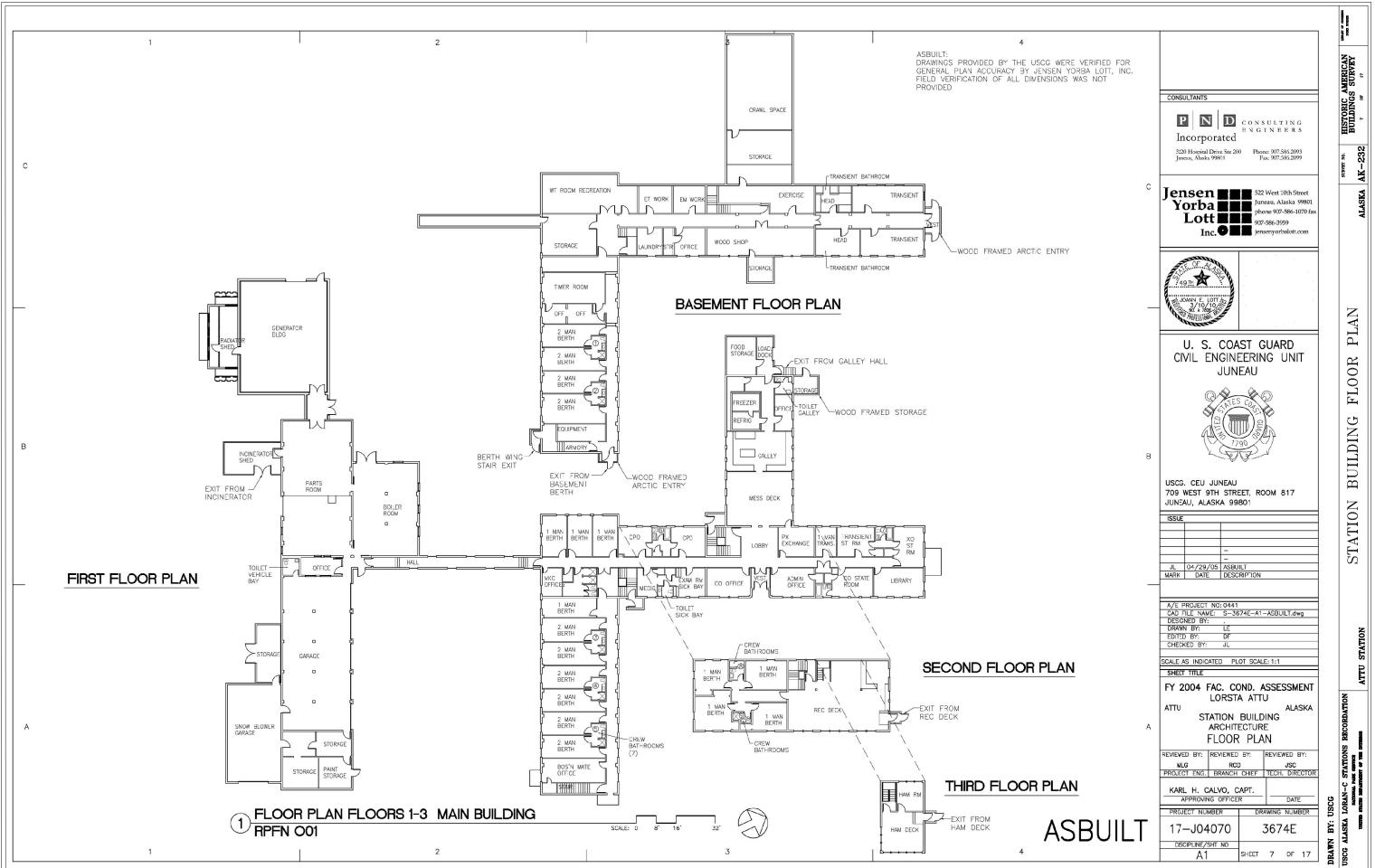


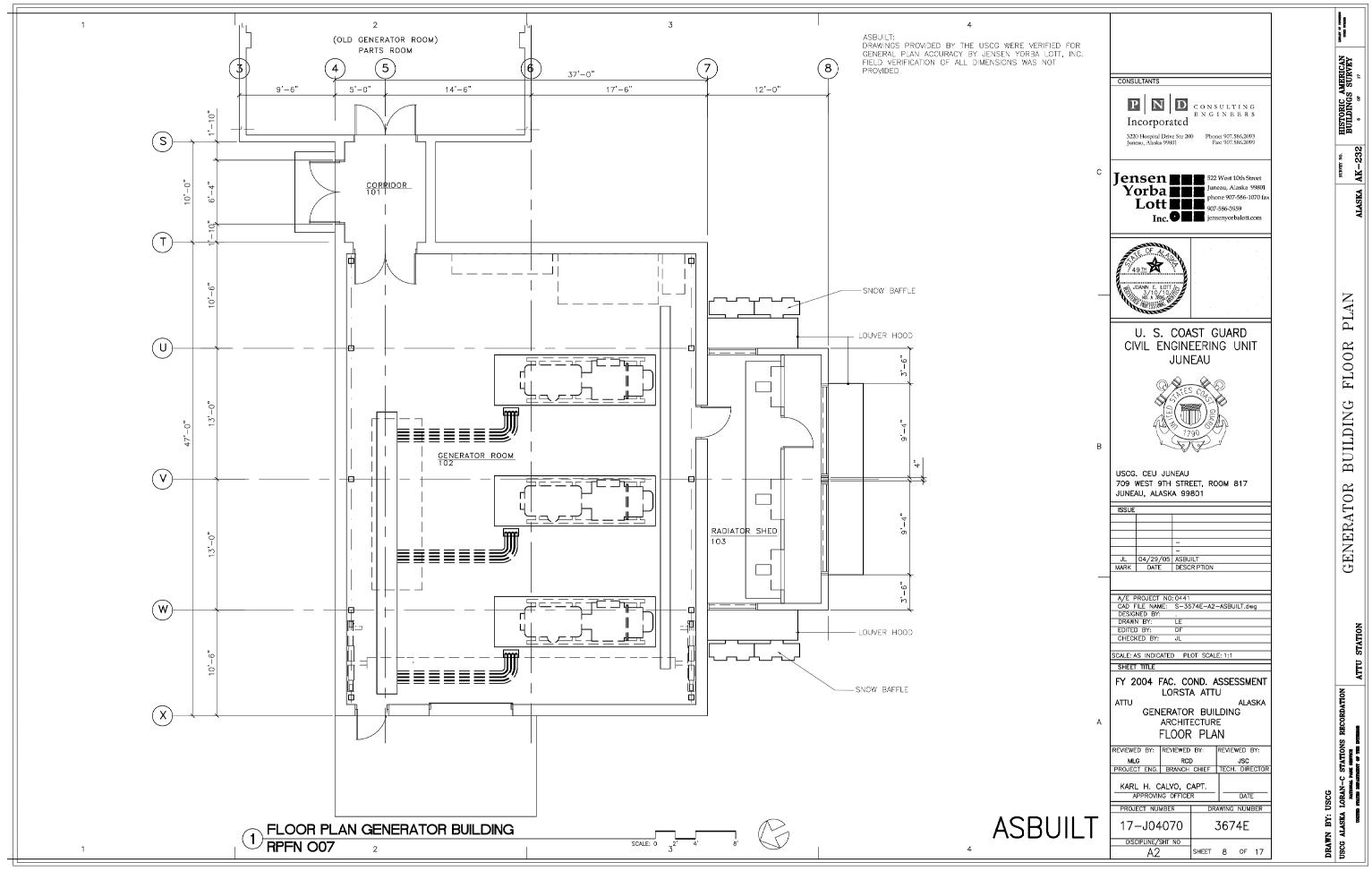


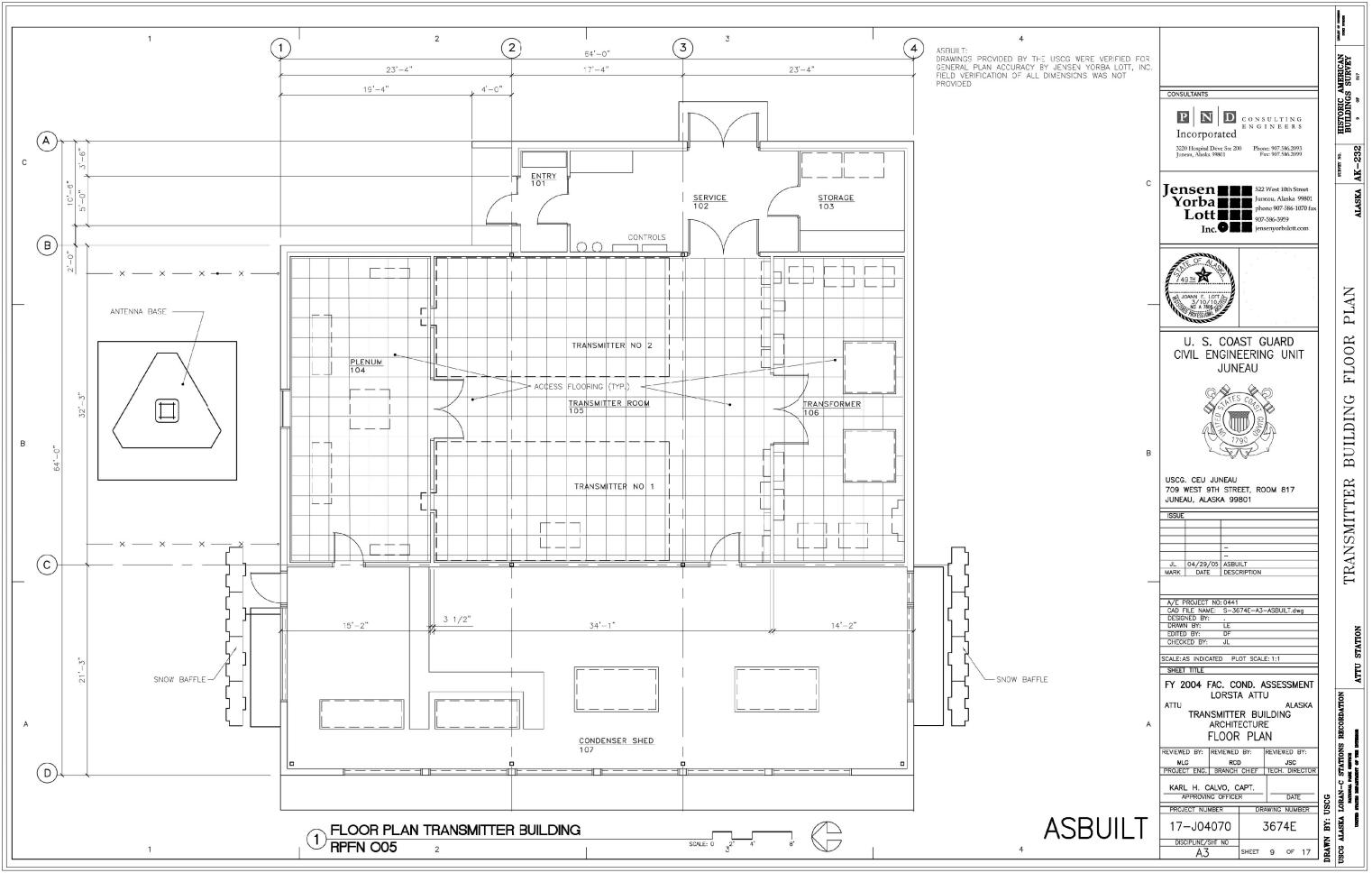


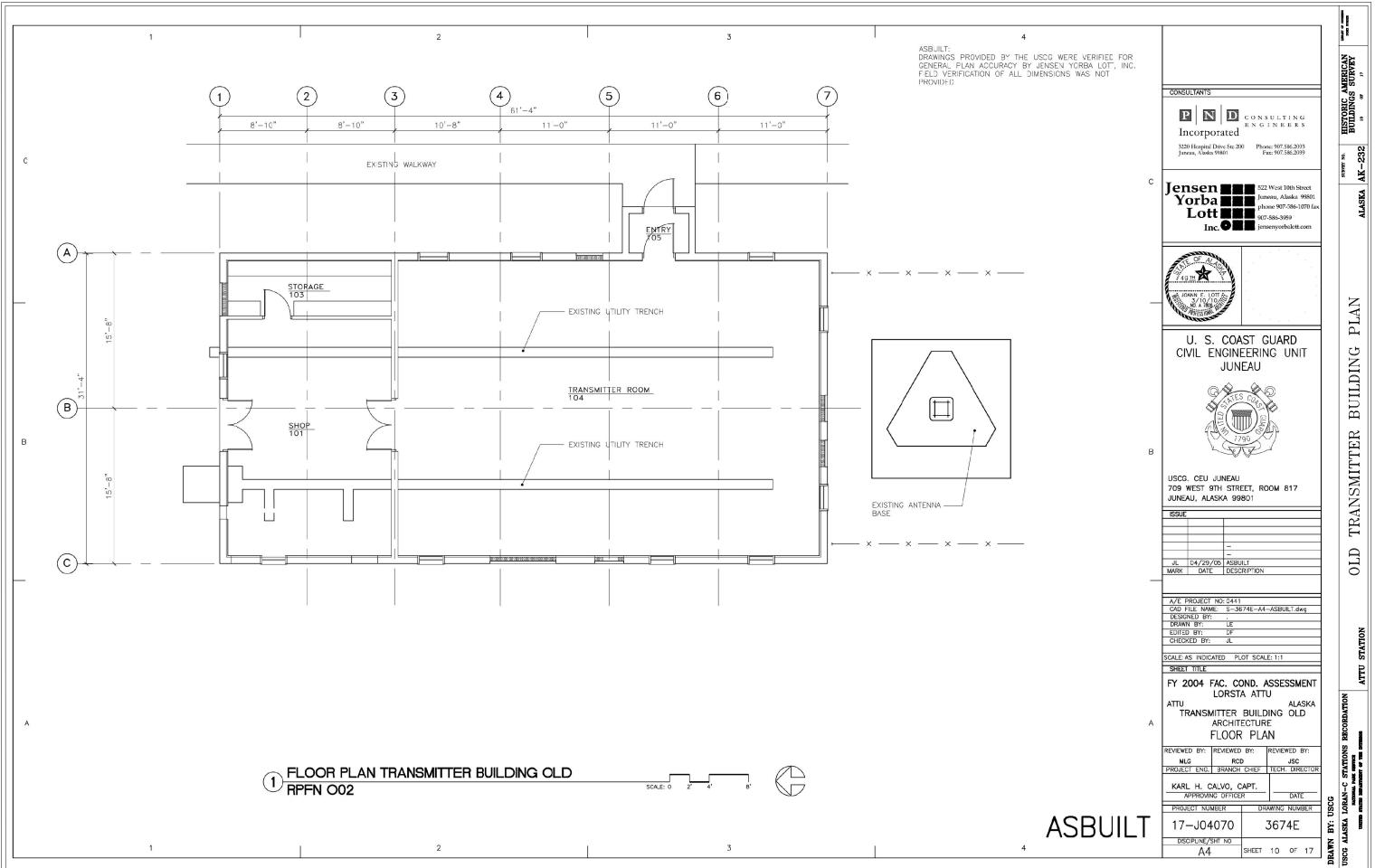


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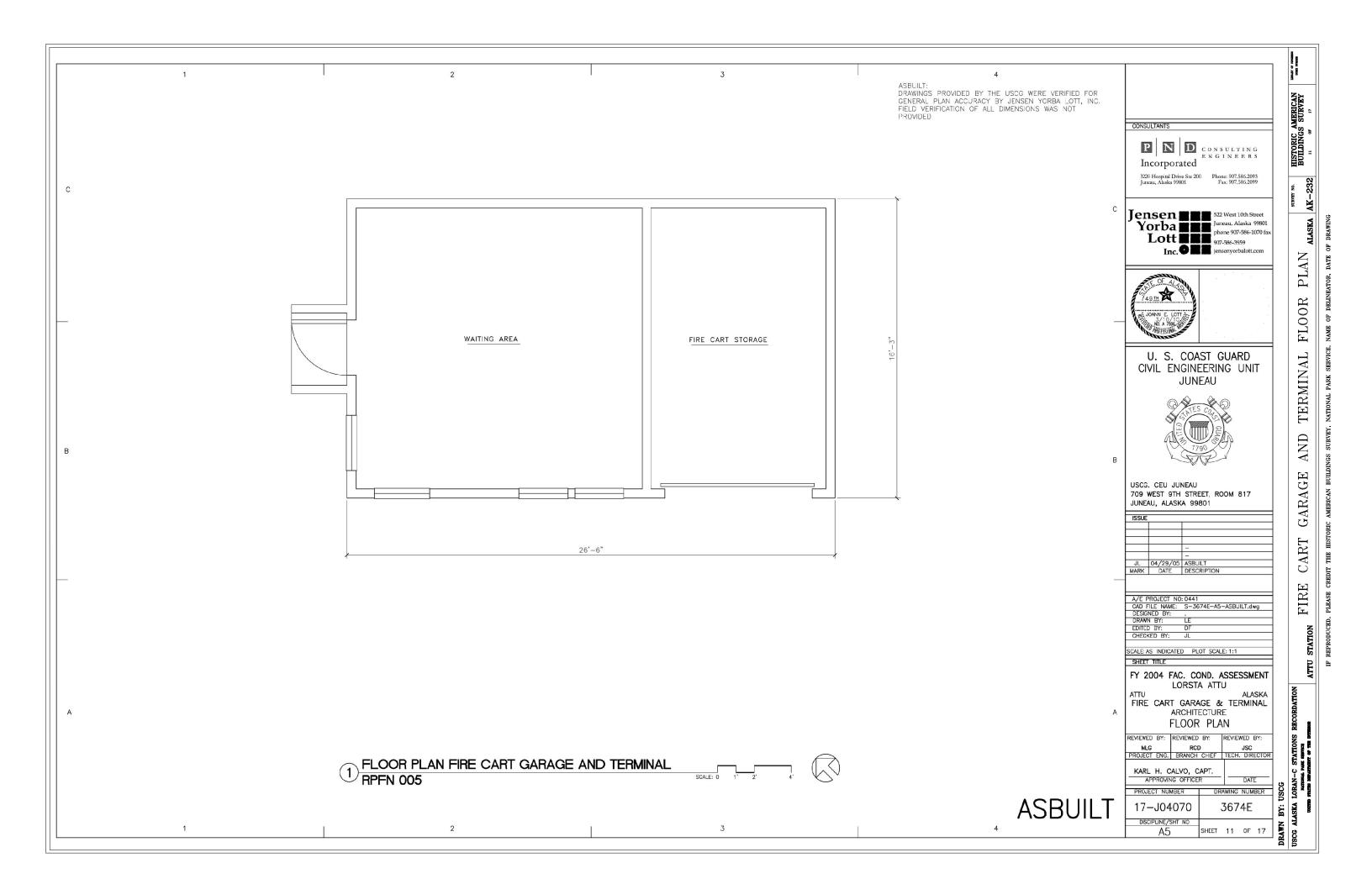


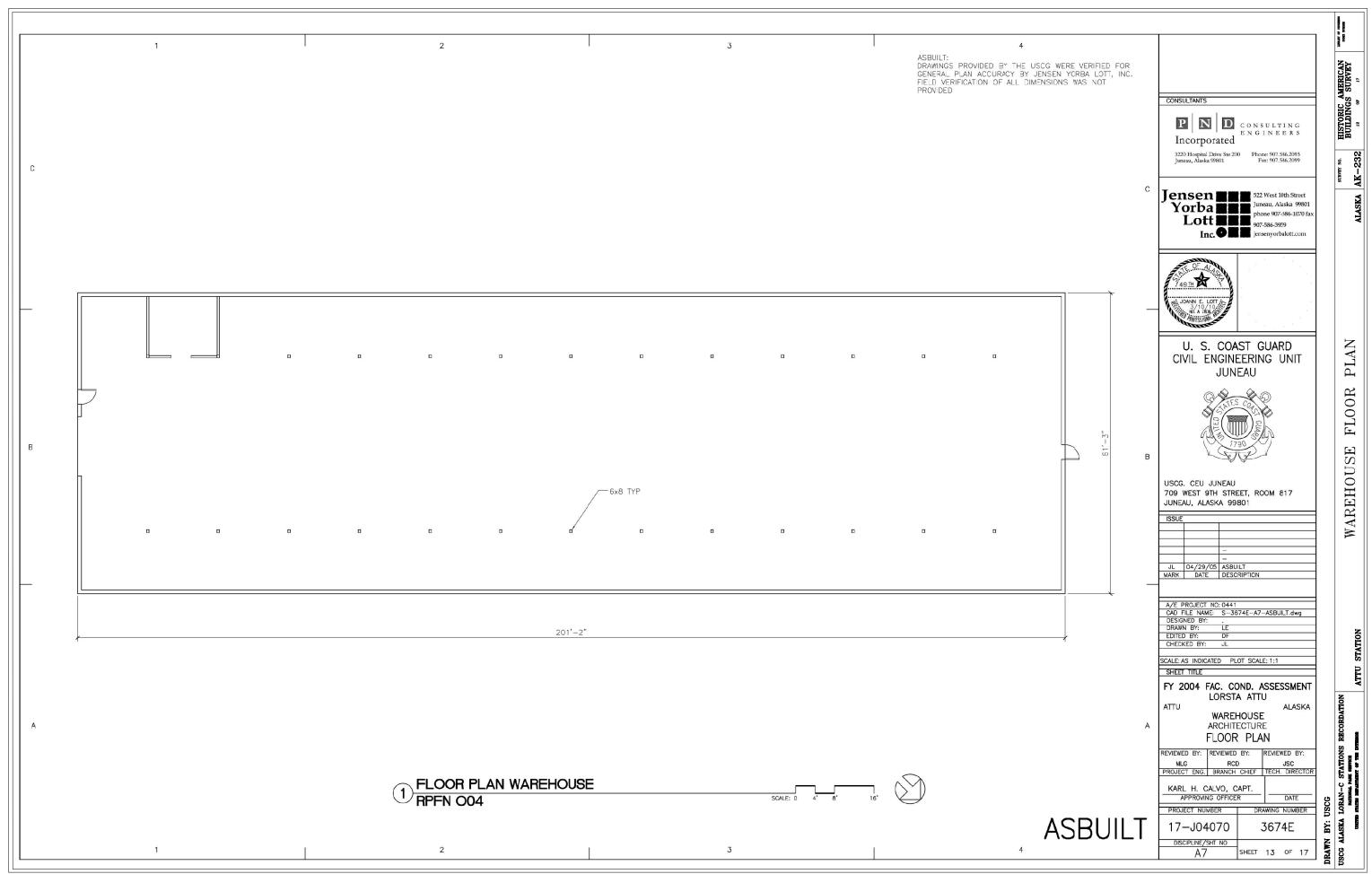




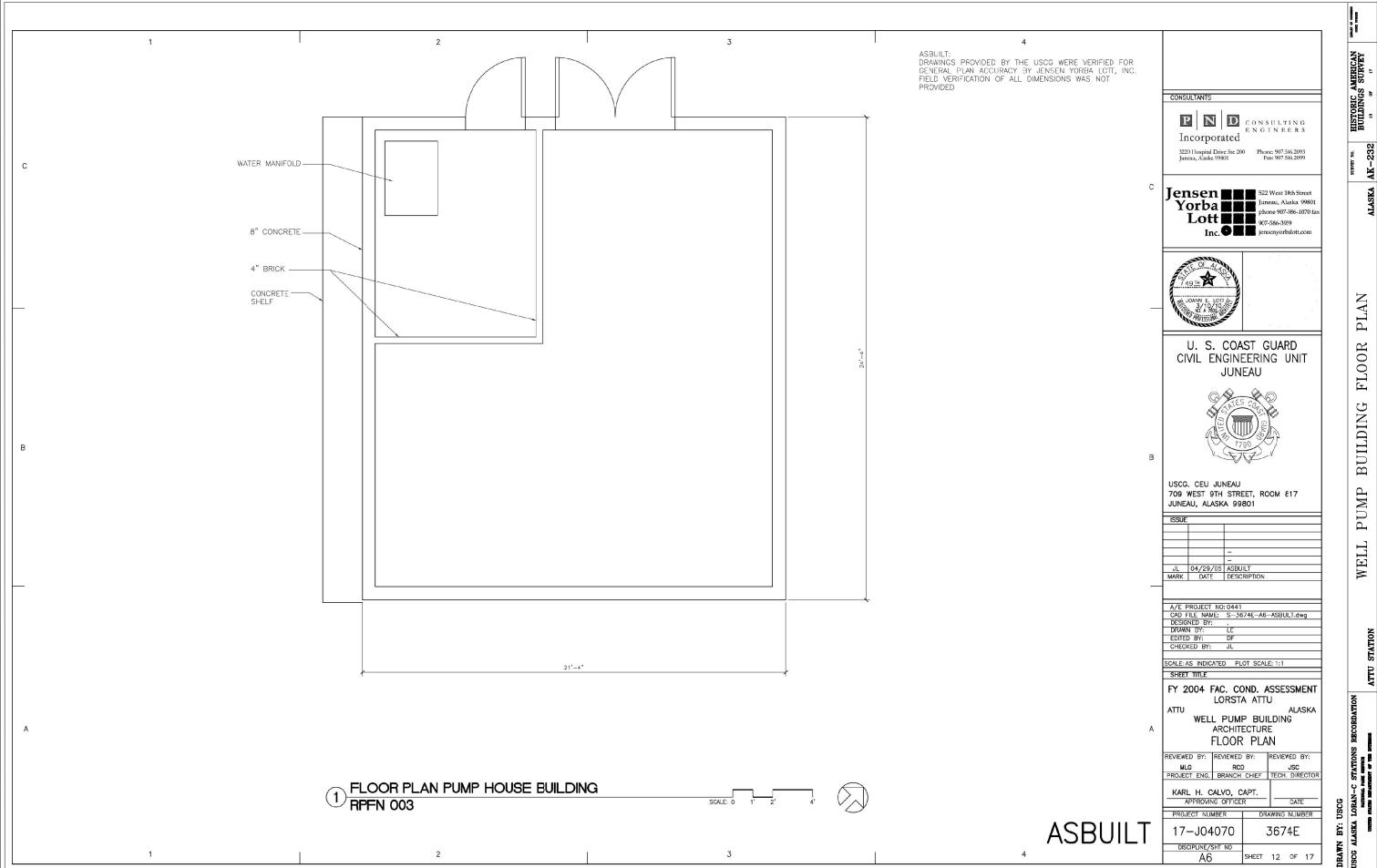


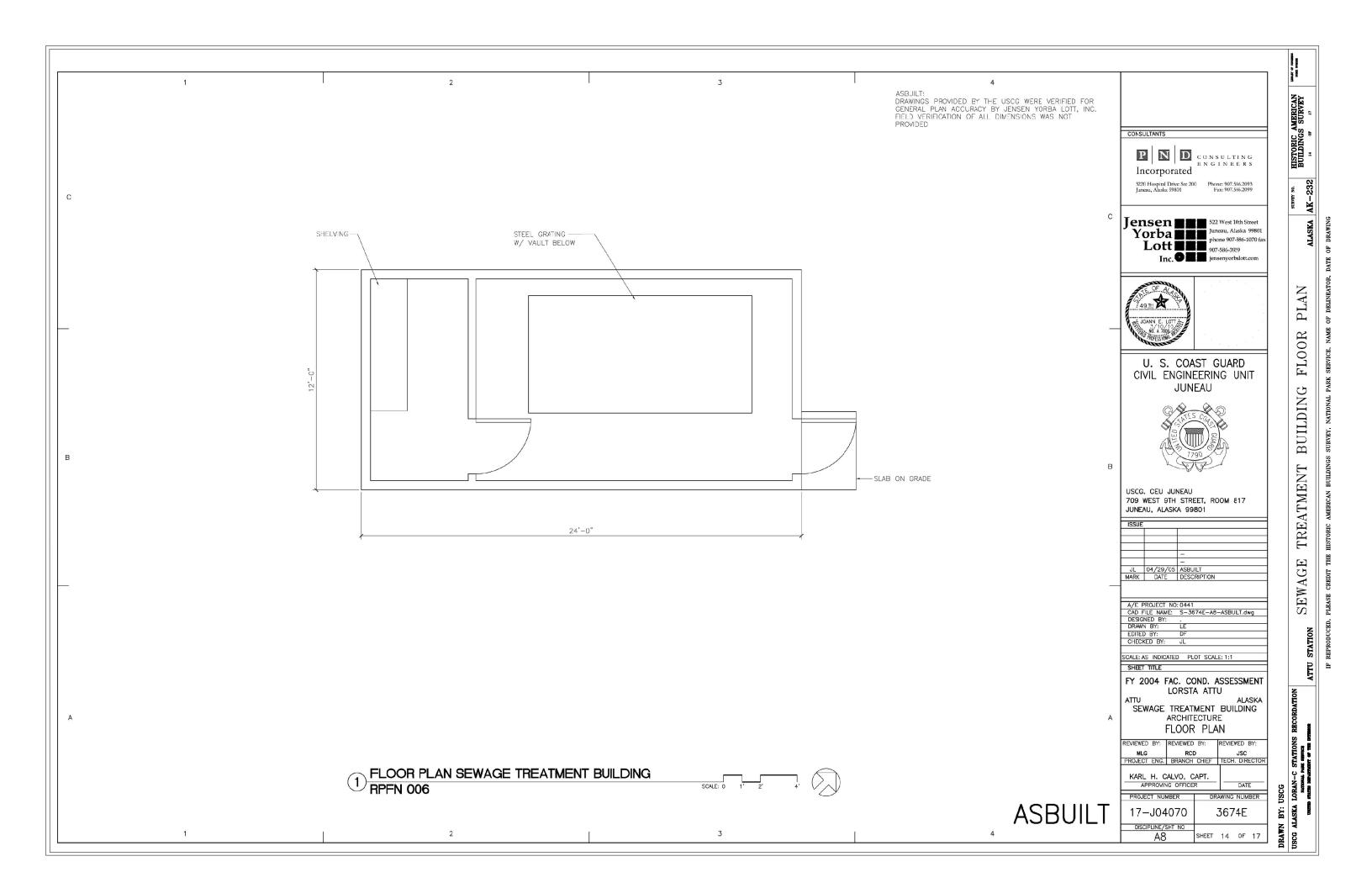
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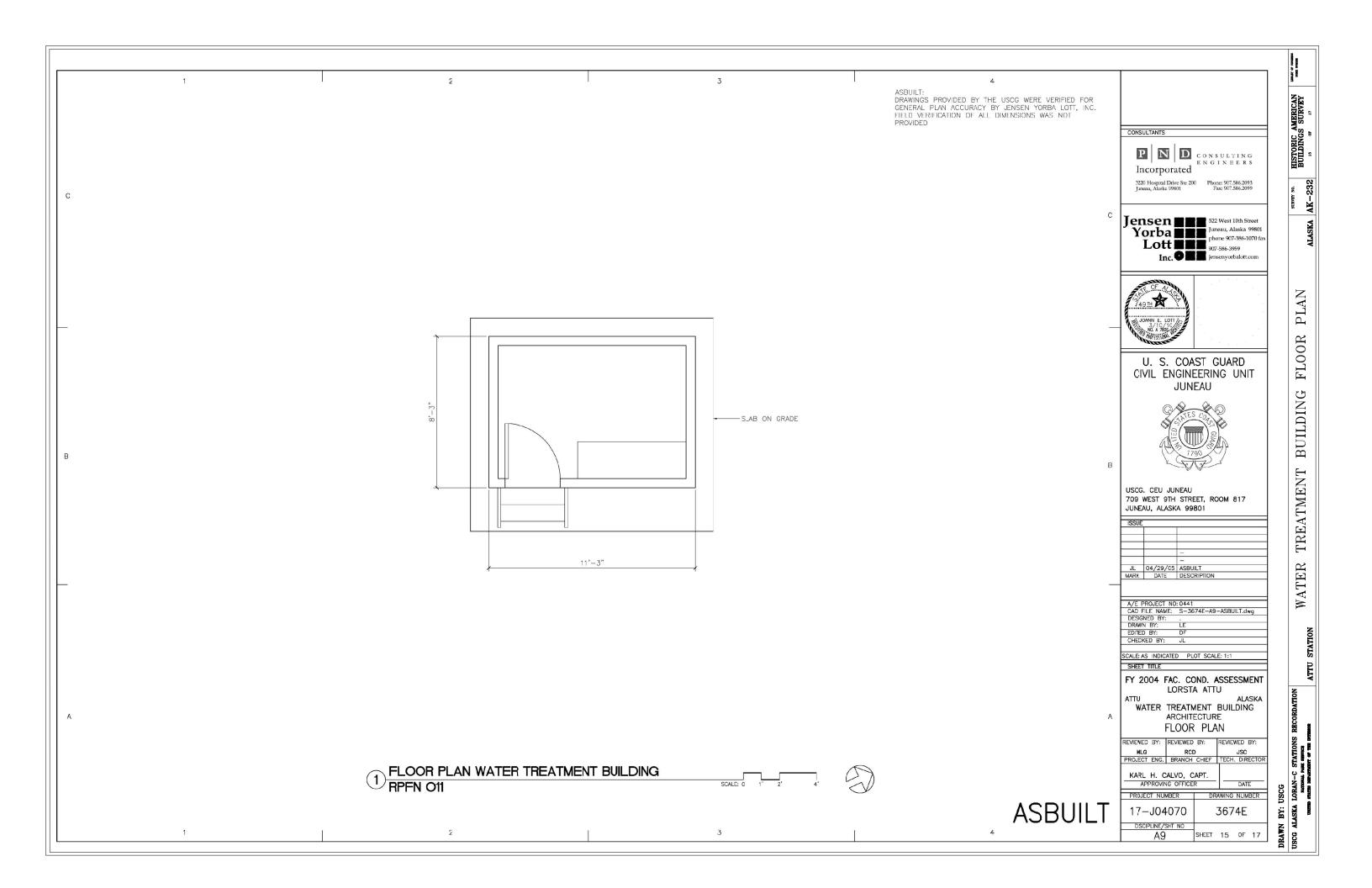


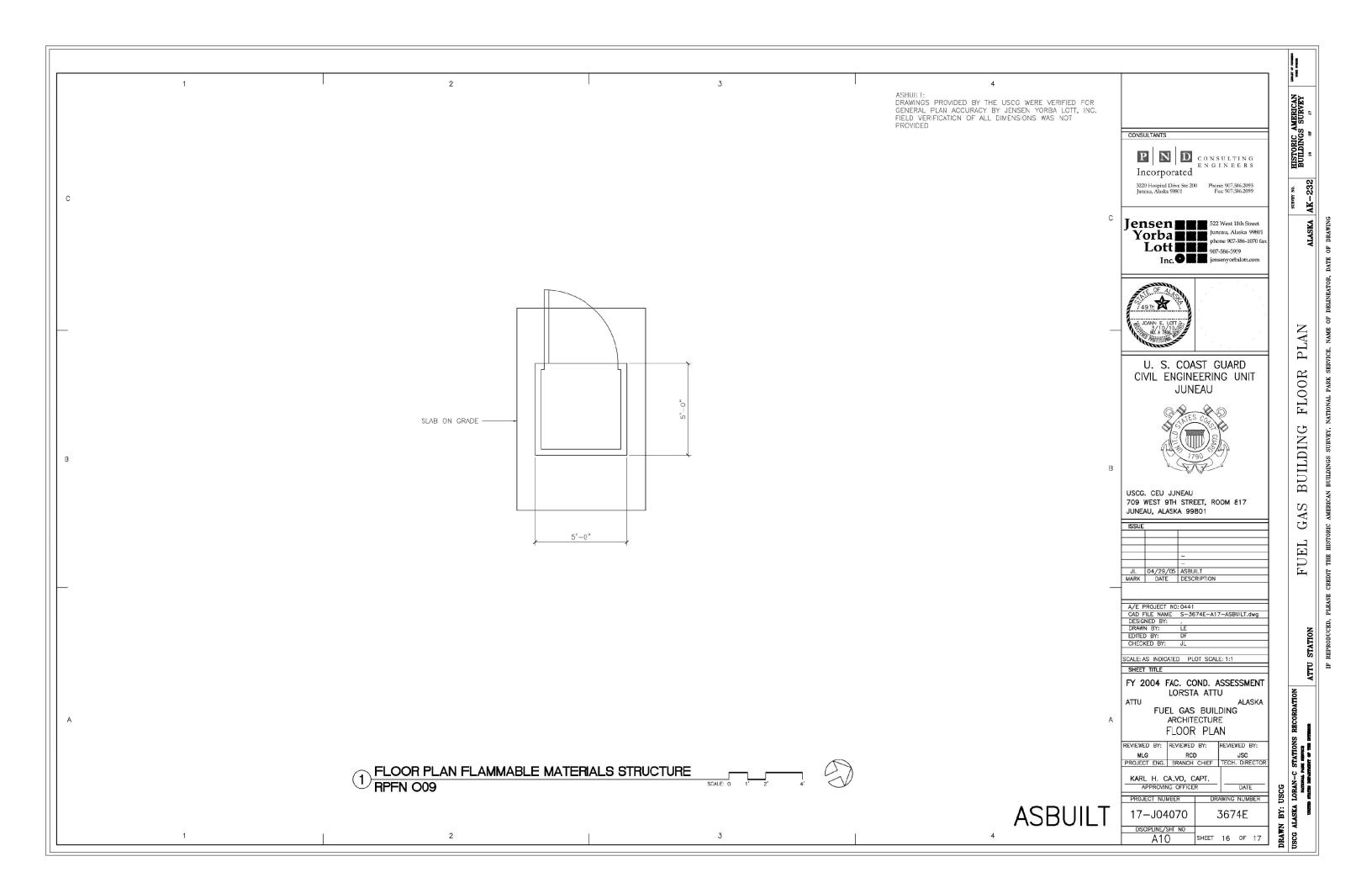


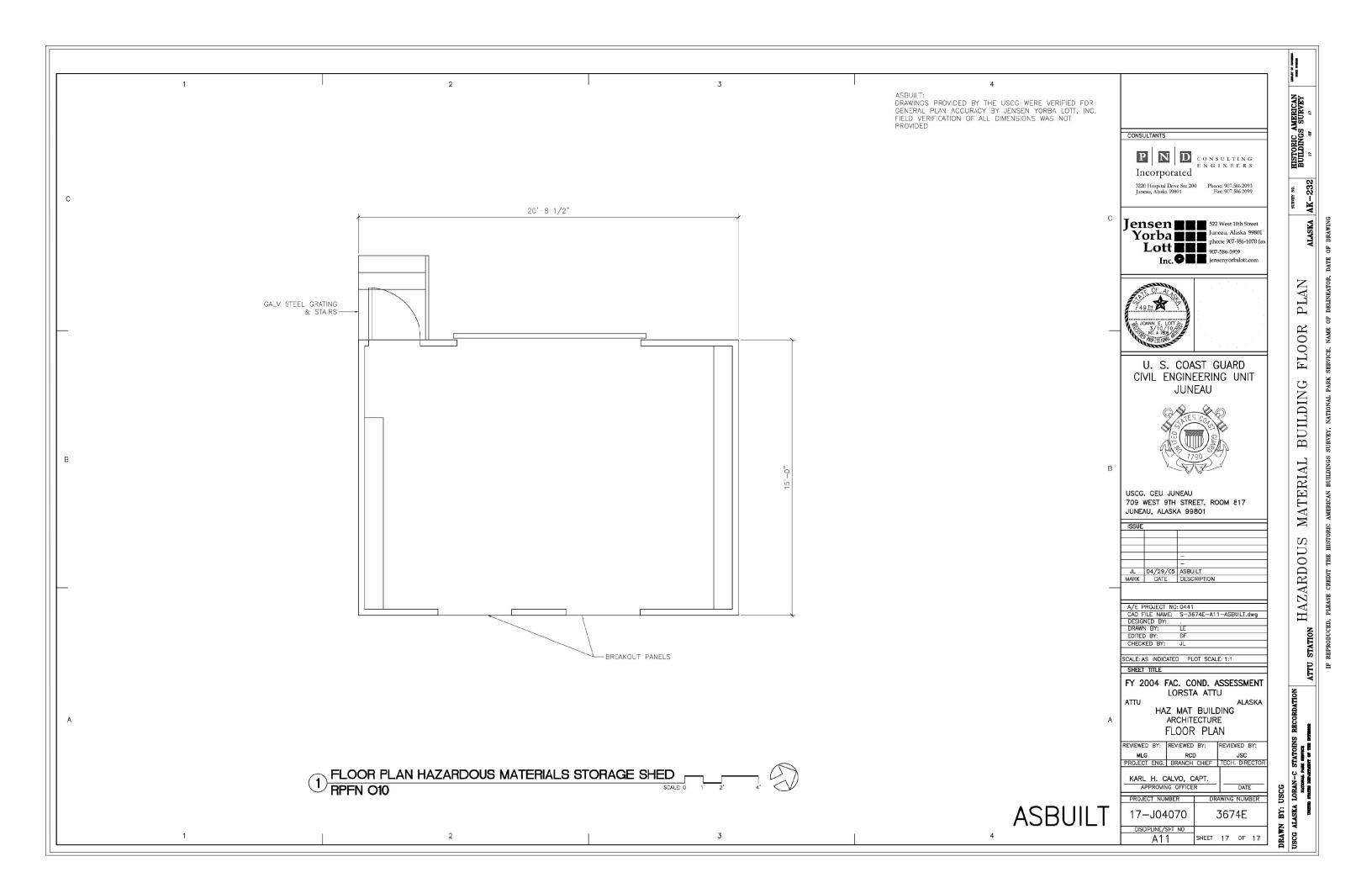
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