BUILDING 1190 (FAI-01531)
Eielson Air Force Base
Fairbanks North Star Borough
Alaska

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

State of Alaska Department of Natural Resources
Division of Parks and Outdoor Recreation
Office of History and Archaeology
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NOSE DOCK HANGAR
(Building 1190 at Eielson Air Force Base)

Location: Eielson Air Force Base, Fairbanks North Star Borough, Alaska

Present Owner: United States Air Force

Present Occupant: Hangar is currently not in use

Significance: Building 1190 (FAI-01531) is a small hangar with a wooden segmented bow arch roofline constructed in 1947 to service modified B-29 bombers. It was one of four identical hangars constructed along the flightline and the last to remain standing. By 1958, Building 1190 was used as an Air Terminal Operations Center (ATOC) to ship supplies to locations throughout the world. It continued in this capacity until 2013, when it was acquired by the Alaska Air National Guard and used for storage. Due to the deteriorated condition of the wooden structure, it is scheduled for demolition. The hangar is significant for its distinctive bow arch construction, its association with the first wave of construction that supported U.S. reconnaissance activities against the Soviet Union during the Cold War, and its later mission as an international air freight terminal.

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Part I. The Physical Setting of Building 1190

Building 1190 (built in 1947) is located along the main runway of Eielson Air Force Base, which was originally a satellite of Ladd Field (completed in October 1940). The main portion of Eielson Air Force Base is constructed along a north-south orientation on the east side of Highway 2. The 14,507-foot runway lies at the western edge of the base with the "downtown" area spreading east. The runway is divided into four sections, each marked by an east-west crossing. The northern crossing ends at Building 1140, the Strategic Air Command (SAC) hangar known as the "Thunderdome," which was constructed in 1954. It is the signature hangar on the base. An aircraft parking apron extends along the east side of the runway and connects to the east doors of all hangars along the flightline. To the north of Building 1140 are two nose dock hangars (Buildings 1120 and 1121) constructed in 1958. Buildings 1175, 1180, 1185, and 1190, four identical bowstring truss nose dock hangars constructed between 1946 and 1948, were situated just south of Building 1140. A water distribution map dated 1948 indicates a fifth nose dock hangar was planned to the north of Building 1175. Except for the concrete apron, the fifth hangar was never constructed.

The original portion of the base was constructed by the Army as an extension to Ladd Field between 1943 and 1944. It consisted of the southern half of the current flightline (two parallel runways 6,625 feet long by 150 feet wide) and was centered on a hangar known as the Birchwood Hangar, which was demolished in 1993-1994. This portion of the base was completed by December 1943 and the first plane landed in June 1944. One year later (June 1945), it was placed in caretaker status at the end of the war.

With the start of the Cold War in 1946, the base's position as an advance facility in close proximity to the Soviet Union was seen as an advantage. Both runways of the flightline were initially extended north to 10,000 feet, and a new complex of about a dozen buildings was constructed from 1946-1947 along the extended flightline, including Building 1190 and three other identical hangars (Buildings 1175, 1180, 1185). These buildings supported B-29 aircraft modified for weather observation (WB-29s) and radar surveillance (RB-29s). In late 1947 the runways were extended to their current 14,500-foot length to accommodate permanently stationed bombers. The base's importance to the mission of SAC was solidified in 1948 when it was designated a permanent installation officially named Eielson Air Force Base after famed Arctic aviation pioneer Carl Ben Eielson, who lost his life in an air crash in Siberia while attempting to evacuate furs and personnel from the cargo vessel *Nanuk*, which was trapped in the ice.

During the 1950s, in response to the start of the Korean War, there was a major base expansion and more permanent construction to support the B-29s, B-36s, and B-47s that were regularly rotated to Eielson AFB and placed on alert, ready to strike at a moment's notice. Construction in 1952-1954 consisted of a large administration/dormitory (Building 3112, Amber Hall), ten

storage warehouses (Buildings 1123-1136), an electrical power station (Building 1146), and the SAC hangar. In 1955 and 1957 S-Model quonset hut storage buildings (known as "igloos" because their shape during the winter resembled an igloo) were constructed in the extreme eastern and northern portions of the base to store munitions for Eielson's role in arctic bombing defense. In 1956, a Squadron Operations Building (Building 1138) was built just east of Building 1190. Construction that occurred in 1958-1959 included the two nose dock hangars (Buildings 1120 and 1121) and the SAC Avionics Building (Building 1138), all north of the SAC hangar.

Part II. Historical Context of Building 1190

The origins of activities related to military aviation on the property now occupied by Eielson AFB can be traced back to the years immediately following U.S. involvement in World War II. Western Defense Command (WDC) was established in March 1941 to coordinate the defense of the Pacific Coast region of the United States. Until November 1943, Alaska Defense Command was controlled through WDC. In March 1943, WDC authorized construction of an airfield at Mile 26 on the Richardson Highway, a 368-mile interior road that connects Valdez and Fairbanks.

This airfield, named 26 Mile Strip, was a satellite field to Ladd Field (now Fort Wainwright), which was constructed in 1939 to defend Alaska from possible attack by aggressive nations in Europe. The satellite field was constructed to receive excess Lend-Lease aircraft provided to allied nations during World War II. Due to proximity, the aircraft at Ladd Field were destined for the Soviet Union. When Ladd Field became too crowded with aircraft, the overflow was held at Mile 26 Satellite Field. After World War II, Ladd Field and its satellite base were placed in caretaker status.

In 1946, while the U.S. Government was demobilizing, it became apparent that the Soviet Union was not. With world tensions escalating, U.S. military planners realized that if an attack by the Soviets against the United States were to occur, it most likely would be over the polar cap and through Alaska. Pentagon planners decided a strategic bomber base was needed in the interior of Alaska. However, it also became apparent that very little was known about flying in the polar regions. There was also great concern about unknown land masses on which the Soviets may have already established land bases, possibly as close as 100 miles offshore from Alaska (White 5).

SAC had been formed in January 1946 to utilize aerial bombing to defend the United States. SAC planners formed the 46th Reconnaissance Squadron (Very Long Range) Photographic, to begin developing an accurate system of navigation for flying over the polar cap using existing equipment. "Project Nanook" would be SAC's first operational mission, operated out of Ladd Field and its satellite, Mile 26 Strip. The runway at Ladd Field was constrained by the Chena River and development from the city of Fairbanks, so another site was sought that could accommodate SAC's mission.

Planners first investigated a site 29 miles south of Nenana, southwest of Fairbanks. A series of earthquakes near Nenana convinced planners to consider modifying and reopening Mile 26 Strip to accommodate bombers instead. The runway at Mile 26 Strip was increased to 10,000 feet and structures constructed to house the planes. Plans for a permanently assigned B-36 group were dropped as the action was deemed to be too costly. Instead, B-36 bombers came to Mile 26 Strip on a rotational basis.

On March 6, 1947, the 59th Reconnaissance Squadron, with WB-29s, came to Mile 26 Strip to fly reconnaissance and weather missions (Eielson AFB 2014 2-3). The reconnaissance flights provided great detail on the Soviet radar system and airfields. The National Security Act took effect in September 1947, creating the Joint Chiefs of Staff (JCS) and the U.S. Air Force as an independent branch of the military and the one best able to carry out the goal of SAC to defend the United States, initially through strategic bombing. Developing and equipping SAC became the Air Force's highest priority (Deaile 55).

In November 1947, Mile 26 Strip lost satellite field status when the airfield was transferred to the direct control of Alaskan Air Command. Between 1946 and 1947 four identical hangars were constructed along the newly extended portion of the flightline to support the maintenance of the B-29, B-36, and B-47 aircraft that arrived on the base on a rotational basis. In 1947, SAC bombers were permanently stationed in Alaska, oriented toward Soviet targets. The 10,000-foot runway was again extended to 14,507 feet, the longest runway in North America at the time (Siedler 46).

On February 4, 1948, the Air Force changed the name of Mile 26 Strip to Eielson Air Force Base in honor of famed Arctic aviation pioneer Carl Ben Eielson. The base's primary missions were listed as support for arctic training and operations and base defense (Siedler 45). On September 1, 1949, a flight from Eielson AFB gathered data indicating the first Soviet atomic bomb explosion. After additional flights from Alaska and Guam confirmed the event, President Truman announced that the Soviets had exploded an atomic bomb on September 23, 1949.

Nine months later, Soviet-backed troops entered Korea, igniting the Korean War. Eielson AFB, situated on the great circle route to Japan and Korea, experienced a significant increase of military personnel and physical infrastructure. In the race to build an air defense, $170 million in defense spending occurred in Alaska in 1952 (Siedler 32). At Eielson AFB, the expansion included the construction of a large admin/dormitory (Building 3112, Amber Hall), the ten general storage warehouses supporting the "Seaweed" cold weather training program (Eielson AFB 2-22), and Maintenance Ops/Electrical Power Station (Building 1146), all along the expanded flightline. Other buildings constructed during this time include the gym and the 9 Army barracks.

In 1951, the Soviets continued to improve and test nuclear weapons. Three bombs were exploded in the fall, and U.S. analysis of the fallout results indicated that the Soviets had a more efficient bomb design (Peebles 28). Analysts concluded that the Soviets could launch a nuclear attack on any facility in the United States from one of three locations.

In the spring of 1952, U.S. signals intelligence data gathering indicated that the Soviets had been improving existing airfields on forward bases in Siberia (Peebles 30), originally constructed to handle the receipt of Lend Lease aircraft. These improvements seem to indicate that the Soviets were in fact preparing to launch an attack on the United States. To counter this threat, it became imperative to verify the status of Soviet air bases in Siberia.

As early as the summer of 1951, the JCS authorized a navy-air force effort to fly over radar sites and airfields in eastern Siberia. Flights took off from one of the Aleutian Islands. The recovery base (return landing base) varied according to the route. The joint effort flew nine missions in total, the last one ending in June 1952 (Peebles 31-32).

Soon afterwards, the Air Force proposed Project 52 AFR-18 to establish a formal photographic overflight program that would penetrate deep into Siberia using a northern route and a southern route. During the summer, crews at MacDill AFB in Florida modified two B-47Bs with the addition of a tail turret with a pair of .50 caliber machine guns and a bomb bay camera pod. In September, the two modified B-47Bs and their aerial refueling KC-97s left MacDill AFB and stopped in South Dakota. One of the KC-97s arrived at Eielson AFB on September 27, 1952. The two B-47Bs and the remaining KC-97 arrived the next day. Project 52 AFR-18 was officially set in motion on October 15, 1952. Both planes successfully photographed 10 targets and returned to Eielson AFB approximately 8 hours later (Peebles 36-37).

Since the late 1940s, the United States had been conducting intelligence gathering photographic flights along the borders of the Soviet bloc. In the spring of 1955, a series of border photographic missions was conducted under the designation Project Seashore. Four RB-47Es, modified to carry K-30 cameras, operated out of Eielson AFB. The mission covered the eastern and northern coastline of the USSR. On April 18, one of the RB-27Es was intercepted by a Soviet MiG and shot down--the ninth U.S. aircraft lost while on a border flight since April of 1950. The photographs collected by Project Seashore indicated a buildup of Soviet forces on the northern coast of the USSR. As a result of this information, Project "Homerun" was approved in February 1956 to conduct additional overflights using aircraft based out of Ohio and Greenland. The missions flew between March and May, with the final flights landing at Eielson AFB on their return (Peebles 124-127).

During the 1950s and early 1960s Eielson AFB was used as a forward base for B-36s, B-47s, and KC-97s. There is little information of the "ferret" reconnaissance flights of the 1950s to 1970s. These were RB-29 and then RB-47 missions to intercept, record, and analyze Soviet radar signals. Reconnaissance flights from Eielson AFB in 1957 monitored missiles launched from Tyuratum, an important Soviet missile center, on the Kamchatka Peninsula (Eielson AFB 2014 2-4).

On May 15, 1957, the Soviets made the first launch of an intercontinental ballistic missile (ICBM). Khruschev believed that an ICBM would make the U.S. bomber force obsolete. The U.S. had limited information on the first test, and planned the next U-2 mission to cover what

was believed to be the missile's intended impact point on the peninsula. The mission was assigned to Detachment C, which was based in Japan. However, due to difficulty in finding housing on the base for the pilot's families, the mission was operated out of Eielson AFB instead. The first attempt in June was aborted due to cloud cover, which would obscure any photographs. The second attempt resulted in a camera malfunction and no images.

Construction of the Lockheed U-2 began in 1953 and the air force received its first six operational planes in 1957, equipped to collect radioactive fallout samples. Training flights began in August and in October; three planes were deployed to Ramey AFB in Puerto Rico and another three to Plattsburgh AFB in New York. A subsequent deployment followed in February 1958 to Eielson AFB to collect fallout from Soviet nuclear tests at Novaya Zemlya. This was the start of a seven year program to sample more than a dozen locations (Peebles 191-192).

In October of 1962 alone, 43 U-2 missions were flown from Eielson AFB to various fixed points like the North Pole to collect radioactive samples from the ongoing Soviet nuclear tests at Novaya Zemlya as part of "Project Star Dust." The samples were collected on special filter paper located on a mechanism in the belly of the aircraft and sent to a special lab for analysis. About six samples ultimately proved to be positive. The U-2 utilized instruments to navigate until it arrived at the North Pole, at which point the pilot had to rely on celestial navigation. On one occasion, a display of the northern lights disoriented the pilot, who flew into Soviet airspace and triggered at least six Soviet interceptor jets. The plane managed to land at a primitive airfield in international waters near the Arctic Circle before running out of fuel (Dobbs 196-8,254-5,271-2).

On January 1, 1961, Eielson AFB assumed all interior Alaska Air Force duties with the transfer of Ladd AFB to the Army. The Ladd AFB cold weather training and weather flights relocated to Eielson AFB. In the early 1960s the air capability of Eielson AFB included F-84Fs and 12 B-47 Stratojets on deployed alert. The last B-47 deployments were in 1963. After this date, SAC deployed aerial tankers and RC-135s, strategic reconnaissance planes. The RC-135s were used to monitor Soviet missile testing, tap Soviet communications, and identify Soviet radar on the Kamchatka and Chukotsk peninsulas. On 10 January 1967, the 6th Strategic Wing was reassigned to Eielson AFB from Walker AFB, NM (Eielson AFB 2014 2-4).

The arrival of the U-2 aircraft and its new missions in 1957 seems to have terminated the usefulness of older and smaller nose dock hangars like Building 1190. Although Eielson AFB continued to support Cold War reconnaissance missions until the fall of the Soviet empire in 1989, Eielson AFB also acquired a secondary mission in air freight. Due to close proximity to the Arctic Circle, Eielson AFB was within an 8-hour flight from every major military location in the world.

The Air Terminal Operations Center (ATOC) at Eielson AFB was located in Building 1190 and a former ATOC employee remembered that they used the motto "air freight since 1958." It was the air terminal for "the interior" and shipped intermodal containers with weapons, explosives, and even classified material to military bases all over the world (Cover 2016, October 12). The ATOC handled food, produce, etc. and was the main supply center worldwide. The ATOC was responsible for the proper sequence for loading, and establishing the center of balance for cargo

on a variety of military aircraft. The ATOC also performed inspections and operations of aircraft loading equipment; drop zone recovery equipment, mobility/contingency function (i.e., load planning, pallet buildup, cargo courier responsibility and hazardous cargo preparation); and the preparation and rigging of loads and parachutes for aerial delivery loads.

Part III. Specific History of Building 1190

Building 1190 was one of four identical nose dock hangars constructed between 1946 and 1948 along the east side of the runway, north of the main hangar built in 1942, which was known as the Birchwood Hangar (demolished 1993-1994). The four were constructed in a row, with Building 1175 to the north and Building 1190 to the south. Historic base maps also indicate that a fifth hangar was planned north of Building 1175, but never constructed. Building 1180 was demolished before 1980, due to a fire. Building 1175 was demolished for the construction of the Alaska Air National Guard's Composite Facility in the mid-1990s. Building 1185 remained standing after completion of the Guard facility in 1997, but was subsequently demolished after consultation with the State Historic Preservation Office in 1998, leaving Building 1190 the sole remaining nose dock hangar of this type.

With a 149'-0" clear width, Building 1190 was sized to fit the 141'-0" wingspan of a B-29 aircraft. The larger B-36 aircraft, with a 230'-0" wingspan, had to be serviced out of the old Birchwood Hangar further south until the new SAC hangar, specifically designed for the B-36, was constructed in 1954. Building 1190, along with Buildings 1175, 1180, and 1185, could also handle the B-47 aircraft when they arrived in 1948 with their 116'-0" wingspans. The bowstring arch hangars were designed to only house the nose and body of the B-29 aircraft; the aircraft's tail would remain outside.

From 1946 until 1949, the 46th/72nd Reconnaissance Squadron—an organization made famous by the first extended long-range flight over the geographic North Pole and the development of modern polar navigation—served at Ladd and was supported by facilities at Eielson. Eielson also supported Ladd's reconnaissance flights for the Air Force’s early ice island operations. These missions utilized RB-29, B-36, and B-47 aircraft, but likely only the RB-29 aircraft were serviced out of Building 1190.

The hangars and personnel at Ladd and Eielson developed new techniques to maintain aircraft and ground support equipment. Ground support equipment (vehicles, fuel trucks, ground heaters, test stands, hydraulic lifts, etc.) was typically manufactured for operation in temperate climates. Extreme cold temperatures resulted in a 50 percent increase in maintenance and an overall decrease in efficiency. It was discovered that at temperatures ranging from -30°F to -57°F, carburetors froze even when idling (White 73).

Some of the lessons learned included allowing 25 percent more maintenance time and applying external heat to engines, power units, cockpit instruments, and electronic equipment when temperatures were between 32°F and 0°F. At 0°F to -30°F, crews allowed 50 percent more

maintenance time, performing all maintenance and preflight operations inside a hangar, and increasing application of external heat every 2-3 hours. At -30°F to -50°F, maintenance time increased 200 percent due to periods of ice fog, tires freezing flat to the ground, and the need to start and warm up vehicles every hour when outside (White 76).

In addition to supporting Ladd's cold weather research work, Eielson also played a primary role in SAC's vision to protect the continental U.S. from a Soviet attack. The long photographic overflights were carried out by B-47 aircraft along with supporting KV-97 tankers. Both of these aircraft could have been serviced out of Building 1190, as their wingspans allowed them to fit, but the length of the tanker meant the tail door may not have fit properly. Most likely the longer aircraft were serviced primarily out of the old Birchwood Hangar and the new SAC hangar.

The original construction drawings for the nose dock hangars were likely disposed of by the Army at Fort Wainright after Eielson was given to the Air Force, and Eielson's records on Building 1190 start in 1952. The original hangar doors were likely similar to the current ones, in that there were 12 leafs that stacked into door towers. The door towers were covered with horizontal wood siding, but the rest of the hangar was covered with what appears to be rolled asphalt roofing material. The north and south side walls had two pairs of double hung windows and the east wall had three pairs of double hung windows and a man door on each side of the nose dock extension. The nose dock extension had a pair of double hung windows on the north and south walls and a pair of outward swinging doors on the east wall. The small storage room north of the nose dock appears on 1951 drawings, but may to have been added after the original construction since it obscured one of the pairs of windows on the north wall. This storage room also featured a single double hung window on its east wall.

In 1951, plans were drawn to install new hangar doors on Building 1190 and the other similar nose dock hangars. The plans featured a 5'-9" radius opening 8'-0" above the floor that closed around the tail section of a B-29 airplane. A man-sized "pilot" door sat to one side. The doors were constructed of a steel box frame faced with plywood on both the interior and the exterior. The bottom and top halves of the circular opening were covered with canvas that zipped in the middle. New metal track, similar to the T section rail from a railroad track, was imbedded in the concrete floor to allow each new and very heavy door leaf to be manually pulled and stacked into the door towers. The new doors were installed in 1952 and allowed the main portion of the B-29 to be serviced inside with the doors closed, a definite advantage in the winter.

In addition to improving the doors, additional heat was added to Building 1190 and the other three similar nose dock hangars the same year. Building 1190 appears to have been designed with a steam radiant heat system built into the concrete floor. Steam pipes ran along the east wall in a concrete trench covered with steel plates, with an exterior access structure at each end. It appears to have never worked well in Alaskan winters and had to be replaced with more conventional equipment in 1954. The new system consisted of a large (7'-4" high) 1 million BTU down draft unit heater suspended from new cross beams bearing on the door truss, center truss, and rear

wall. The heater was powered by the existing steam system. By 1967, a Carrier steam radiant heater had been added to both the north and south walls.

Construction work continued all over the base in the 1950s to support the overflight reconnaissance missions, and improvements continued to be made to Building 1190 and the other similar nose dock hangars. In 1954, insulation was added to the hangar walls from floor to ceiling, which was already in place, between the wall studs. A new five-foot high-wainscot of horizontal 2x6 tongue and groove boards was added to the interior walls. On the exterior the original exterior wall finish, which appears to be rolled asphalt over plywood, was covered with embossed aluminum siding. The eight pairs of double-hung windows were still in place at this time, and the hangar door towers retained their original horizontal wood siding. In addition, the electrical service was upgraded with connections made to the rear (east) side of the building.

In 1958, the mission of Building 1190 and the other similar nose dock hangars changed with the arrival of U-2 spy planes to Eielson. Building 1190 became the headquarters of an aerial port/air terminal, also known as an air terminal operations center (ATOC). The ATOC also used the other three neighboring nose dock hangars, and occasionally other buildings as well. Personnel loaded and inspected equipment and goods, including classified materials, being shipped on different aircraft to locations all over the world, for all branches of the armed services.

Military Air Transport Service (MATS) was designated in 1948 as the strategic airlift branch of the new Department of Defense and played a key role in the Berlin Airlift. During the Korean War, MATS airlifted passengers and cargo to Japan for deployment in Korea as well as shipping casualties for further treatment in the U.S. In the 1950s, MATS essentially functioned as a transportation service. With John F. Kennedy’s adoption of the military strategy of flexible response in 1960, MATS became a strategic combat airlift force (AMC 2016). The increasing military importance of this work can be seen in the building's designation. From the 1940s through the 1962 base map, Buildings 1175-1190 were labeled by their temporary building numbers (T-197 through T-200). In 1966, MATS became Military Airlift Command (MAC) and by 1967, the four nose dock hangars had been assigned permanent numbers.

The volume of air terminal work eventually necessitated improvements and expansion. In 1964, a walk-in refrigerator was relocated from Building 3425 to Building 1190, presumably to assist with storing materials that had to be shipped at a proper temperature. The numbers on the east wall indicate the locations for 96" x 96" pallets holding hazardous materials, including gas cylinders. In 1967, a restroom and three offices were constructed along the south wall, each office having an interior window facing the hangar. The offices had ceiling-hung fluorescent light fixtures.

Sometime between 1967 and 1974, two large loading doors were added to the east elevation of the main hangar, on either side of the nose dock, eliminating some of the original pairs of windows. The new doors were about 10 feet wide and 14 feet tall that slid on a rail mounted to the exterior wall. During the energy crisis that began in 1973, various improvements were made to Building

1190 to make the building more energy efficient. In 1974-1975, strategic and tactical airlift was consolidated under MAC, which brought nearly all DoD transport aircraft under a single manager for the first time. As a result, Building 1190 received many improvements in the mid-1970s.

In 1974, the heating system in each of the nose dock hangars was "repaired." The repair consisted of removing the radiant heat system equipment, which consisted of a heat exchanger, expansion tank, motor, pump, and sump on an elevated wooden platform, along with the two Carrier radiant heaters on the north and south walls. Repairs were also made to the doors on the east elevation. The swinging doors on the nose dock were replaced with doors of similar size as were the man doors on either side of the nose dock, all with new weather stripping. The existing sliding "barn" doors in the main hangar were simply weather stripped. The repair work also included fixing the sliding hangar doors on the west wall in place, which meant that all oversized cargo had to be loaded through the smaller overhead doors on the east side, which did not let as much heat escape as opening the hangar doors. After fixing the hangar doors in place, draft curtains were installed at the top of doors inside the hangar. A new unit heater was added on each side of the existing downdraft heater, all of which are still present in the building. The trusses were also repaired at this time by reinforcing the existing members with a cable and turnbuckle system.

In 1981, the first A-10A “Thunderbolt II” aircraft to be assigned to Eielson AFB arrived, creating a flurry of construction. The aircraft is affectionately known as "The Warthog" and the southern portion of the flightline, where the planes were assigned, became known as "The Pigpen." The northern portion of the flightline appears to have been repurposed to specialize in freight and passenger operations. Building 1138 (the SAC Avionics Building constructed in 1959), located north of the SAC Hangar, was converted into a passenger terminal in the mid-1980s (Eielson 2014 2-24). Building 1190 continued to handle freight, along with Buildings 1175 and 1185; Building 1180 had burned down before 1980.

In 1977, MAC's profile was raised when it became responsible to the Joint Chiefs of Staff as a specified command. In 1984, crews working in Building 1190 commissioned a full color painting of the MAC emblem on the inside of the fixed hangar doors. The full color painting of the emblem features a globe, which reflects the command's worldwide reach in sustaining global power and melds the airlift and aerial refueling traditions of the Military Airlift Command and Strategic Air Command. Three crossed arrows are from the Department of Defense seal, representing the three Armed Forces served by Air Mobility Command (AMC 2016).

Also in 1984, a new ventilation system was added to Building 1190. The air handling unit and ductwork were installed in the southeast corner and extended over the office structure. The intake louver, with weather hood, was installed on the south wall and the exhaust louver on the east wall. Six ducted exhausts extended through the roof. A large duct extended across the ceiling along the east wall and dropped down the northeast corner and terminated 12 inches above the floor. Six fractional horsepower circulation fans were installed in front of the hangar doors, and remain in place today. The ventilation work also required a supporting electrical service upgrade,

and the new panel location required the removal of the window on the north wall of the nose dock extension.

Notes on the ventilation detail drawings also indicate that the current exterior corrugated steel siding was installed at this time. The work likely included siding the door towers for the first time and removal of the remaining pairs of windows and replacing them with wall studs and insulation. The interior wood wainscot may also have been replaced with a corrugated metal one at this time. A small residential style casement window was later added on the south wall to accommodate one of the offices, probably as a "self help" project.

In 1986, the 168th Air Refueling Squadron (later Wing) of the Alaska Air National Guard was activated at Eielson AFB and assigned buildings and land around Building 1190. In 1988, the Guard started construction on Building 1176, their new composite facility, which required the demolition of Building 1175, leaving just Buildings 1185 and 1190 standing as the remaining nose dock hangars. The Alaska Air National Guard demolished Building 1185 after consultation with the Alaska SHPO in 1998.

In the mid-1990s, Aerospace Ground Equipment (AGE) also worked out of Building 1190. AGE provides and maintains the ground equipment that services aircraft, such as aircraft pushback tractors, aircraft cargo loaders, aircraft refueling trucks, and de-icing rigs. Much of the equipment was stored on the apron west of the hangar doors. Improvements made in 1995 include exterior paving, fencing, and lighting. In 1997, the concrete loading dock was replaced.

In 1999, Building 1190 was noted as being the "AMC terminal" on drawings for its repair. The floor plans indicate that a second floor and stair had been added on top of the three offices along the south wall of the hangar, and this level served primarily as a platform for ductwork. The repair work consisted of removing the ductwork and adding doors, ceiling lights, and a window looking into the hangar, which basically converted this space into a fourth office. New lights were added to the south wall and the overhead door south of the nose dock extension was also replaced. Possibly at this time, the 1950s embossed aluminum siding was replaced with a more durable corrugated steel siding, which is currently on the building.

From 2010-2012, Building 1190 was used briefly by the Transient Alert (TA) contractor as warm storage. TA is responsible for all aircraft visiting Eielson AFB, whether foreign or domestic, and the work generally consists of parking, loading, reloading, and refueling aircraft. At this time, a large 18' wide x 14' high overhead door was installed through the center leaves of the hangar door, allowing large items/equipment to be loaded directly from the flightline into the hangar. By 2012, all of the air terminal work (ATOC, TA, and AGE) had moved to newer hangars further south, and Building 1190 was taken over by the Alaska Air National Guard for use as general storage. The Guard removed the offices/restroom and fenced off the remaining HVAC equipment in the southeast corner.

Part IV. Physical Description of Building 1190

The main part of Building 1190 is about 152 feet long facing the airfield and about 47 feet deep. The door towers have shallow shed roofs and extend the building an additional 14'-6" on each side facing the airfield and another 8 feet perpendicular to the airfield. The flat-roofed nose dock extends east about 20 feet and its 18' width is centered on the rear elevation. A small storage shed with a flat roof is tucked into the northern juncture of the nose dock extension and the east wall of the main hangar. The apron on the west side of the hangar is enclosed with a 6-foot high chain link fence with privacy slats.

The building currently features 12 hangar doors on the west elevation, each 11'-6" wide and 22 feet tall, which are manually pushed/pulled on metal tracks imbedded in the concrete floor slab. Six doors slide into door towers on each side of the doors with each leaf sitting in front of the other. The doors are covered with painted plywood that obscures the frame of steel angles bolted together and reinforced with diagonal bracing. Each of the 12 doors used three steel wheels, similar to a train's, that rolled along a guide rail to either open or close the doors. The doors have been fastened in place in their fully closed position with a new 18 foot wide by 14 foot high rolling overhead door installed through the center leafs.

The rear (east) elevation features a 10 foot by 10 foot rolling overhead on the nose dock extension, with identical overhead doors on the main hangar wall flanking the nose dock. A man door sits between the nose dock and the overhead door on each side. The south elevation has a small casement window that once looked into an office, now removed. The entire building is covered with corrugated steel siding. Both the arched roof and flat/shed roof portions are covered with rubber membrane.

The main hangar space is spanned by three wooden arched trusses placed 20'-0" apart. Each truss is supported by an 11.5" square column on a concrete base. The westernmost truss spans the 138' wide hangar door opening and is reinforced by a wind brace on each side. The wind brace consists of a 6x12 brace attached to the top of the 12x12 column and anchored to a concrete base by a steel saddle. Additional concrete connects the base of the brace with the base of the column. The brace is reinforced with 4" x 1/2" wooden straps on each side of the brace. Two 3x6 members extend from the steel saddle to the base of the 12x12 column. Another pair of 3x6 members connects the brace and the column at the midpoint, and a third pair extends from the base of the column to the mid-point of the brace.

The roof truss configuration is a warren truss with verticals, with an arched top chord and a straight bottom chord. The truss has a total of nine full bays, with a half bay at each of the far ends. The top and bottom chords consist of three 6x12 timber members with a pair of 4x6 vertical and diagonal members through bolted together. The through bolt connection is further reinforced at the bottom chord with a wooden plate on each side. The bottom and top chord members come together at the ends in a shaped steel saddle. A cable with turnbuckle ties each end saddle together to resist the outward thrust.

Cross beams on top of the bottom chords support 2x12 ceiling joists, on top of which was a ceiling. The original ceiling material is unclear, but drawings seem to hatch it as wood. This ceiling was removed to facilitate the installation of 12" of batt insulation between the 2x12 joists. Wire netting attached to the bottom of the joists holds the insulation in place.

The 11.5" columns on the north and south walls that support the bowstring trusses are braced with 11.5" diagonal members that connect the top of the center column to the bottom of the column supporting the west and east trusses, forming an inverted "V." Each connection point is reinforced by a shaped steel plate and saddle. The east rear wall consists of four evenly spaced bays on either side of the nose dock, and it probably originally had inverted "V" bracing similar to the north and south walls. However, numerous changes to the door openings over the years have resulted in cuts to the original diagonal framing members and the addition of scabbed members to support the new openings. In between the structural columns are 2x4 wall studs packed with batt insulation.

The bottom five feet of the walls are covered with unpainted corrugated steel siding resting on top of the concrete foundation wall with exposed studs and insulation above. The metal siding protects the wooden members from damage by aircraft and/or ground equipment. The foundation walls extend above the floor slab for about 4 inches, forming a curb around the footprint. Running the length of the east wall is a steel-plate covered trench containing steam pipes. The pipes lead to exterior concrete access structures located at the northeast and southeast corners.

A hoist beam that spans the east rear bay runs along rails installed against the east wall and under the center truss bottom chord. Remaining hoisting equipment includes "Yale Spur Geared Block" by the Yale and Towne Manufacturing Company complete with chains and hook as well as a 2-ton screw gear block by the Seattle Chain and Manufacturing Company. Small hatches at each door tower provide access to the attic.

The southeast corner of the building contains the HVAC equipment, currently enclosed behind a 6-foot high chain link fence. A large duct runs up from the floor in the northeast corner and then across the ceiling along the east wall to a large exhaust louver on the east wall. A short large duct connects the intake hood on the south wall to the air handling unit. A 40" diameter ribbed duct extends from the air handling unit to six round supply vents located between the center roof truss and the sliding hangar doors. In front of the hangar doors are six three-bladed circulation fans mounted on screw hooks attached to the bottom chord of the truss. Between the 40"-diameter duct and the center roof truss are two high level circulators manufactured by L.J. Wing. The circulators use a revolving discharge to draw in, and then redistribute to the floor, heat that normally would be wasted through the roof and upper walls. These units are mounted to the ceiling joists with steel angles. Between the unit heaters is a large down draft unit heater. A single turbine ventilator at the center top of the roof likely provided intake air for the central down draft heater.

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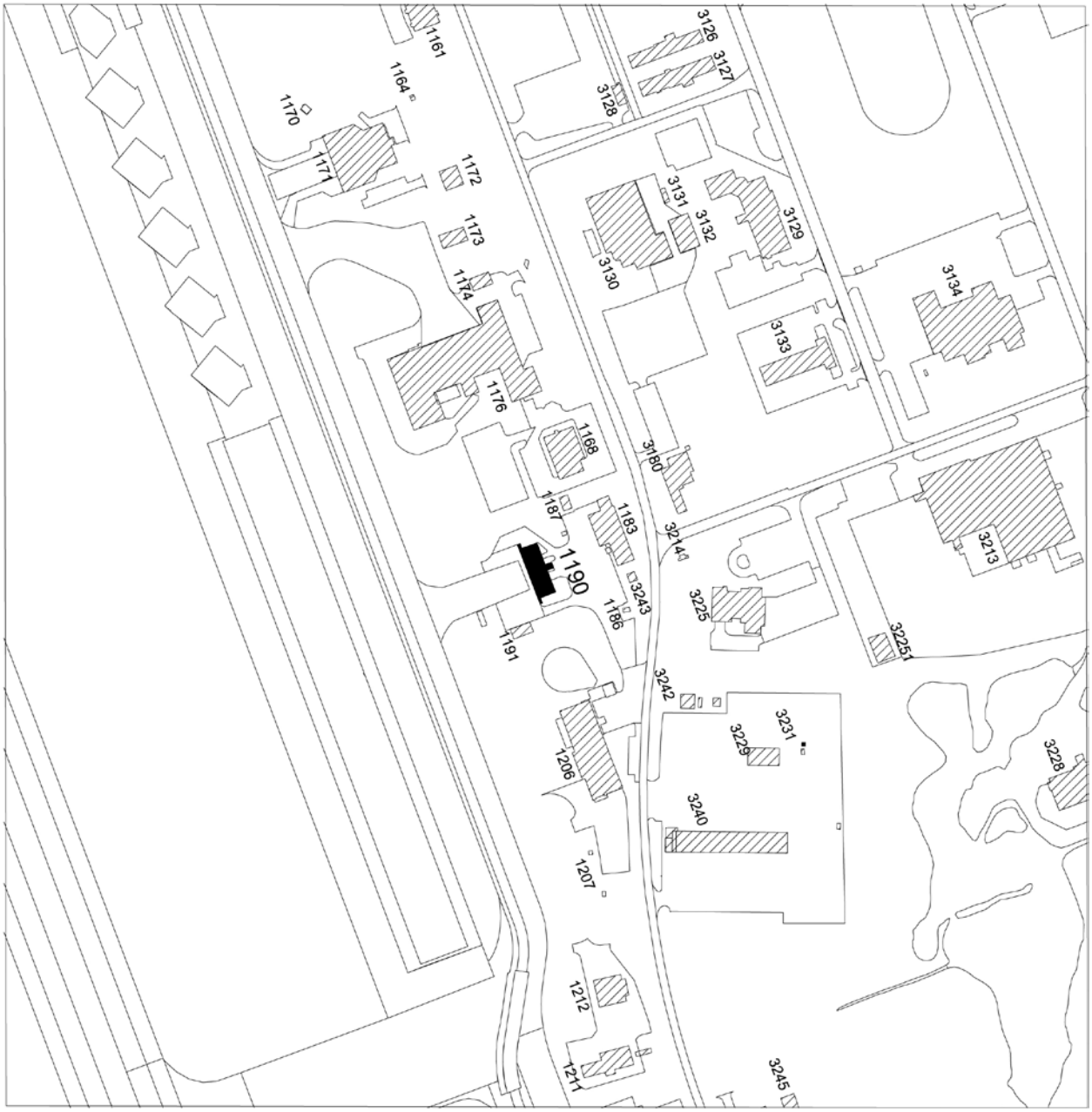

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Figure 1. Current Map Showing Building 1190 and the Surrounding Area.
Building 1190 is in the center and shaded black.

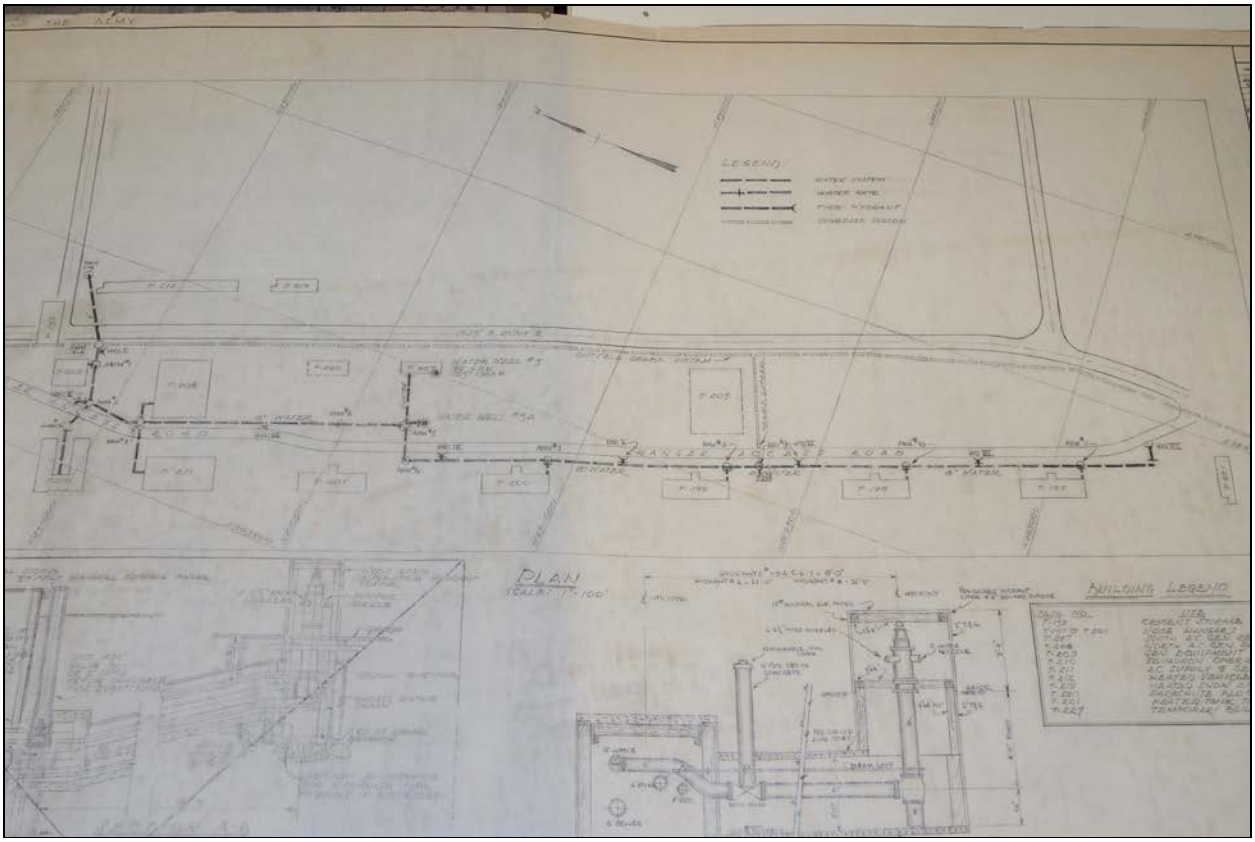

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Figure 2. Portion of 1948 Map Showing Building T-197 (1190) along with Buildings T-198 (1175), T-199 (1180), T-200 (1185), and outline of proposed Building T-201.

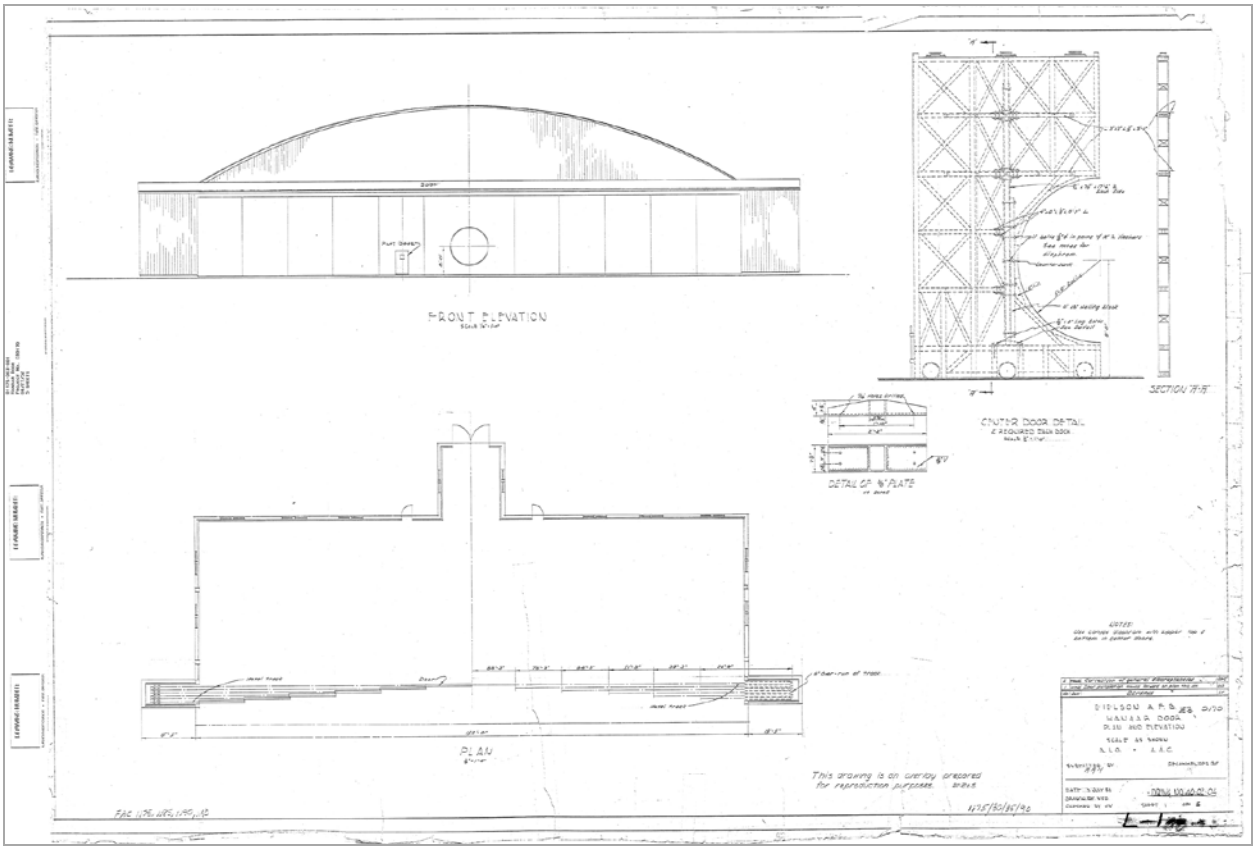

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Figure 3. Earliest Surviving Drawing of Building 1190 – Hangar Door Plan and Elevation (1952).

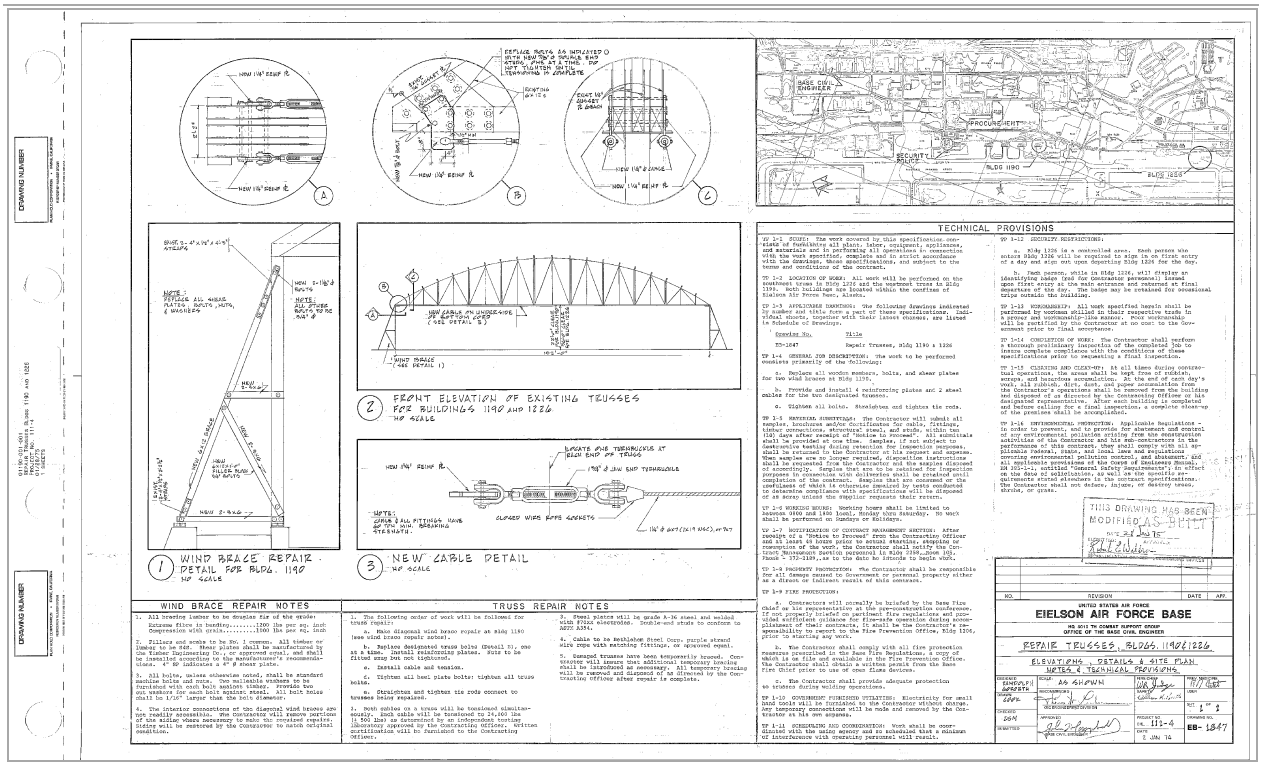

Figure 4. Construction drawing of Truss Repair (1974).

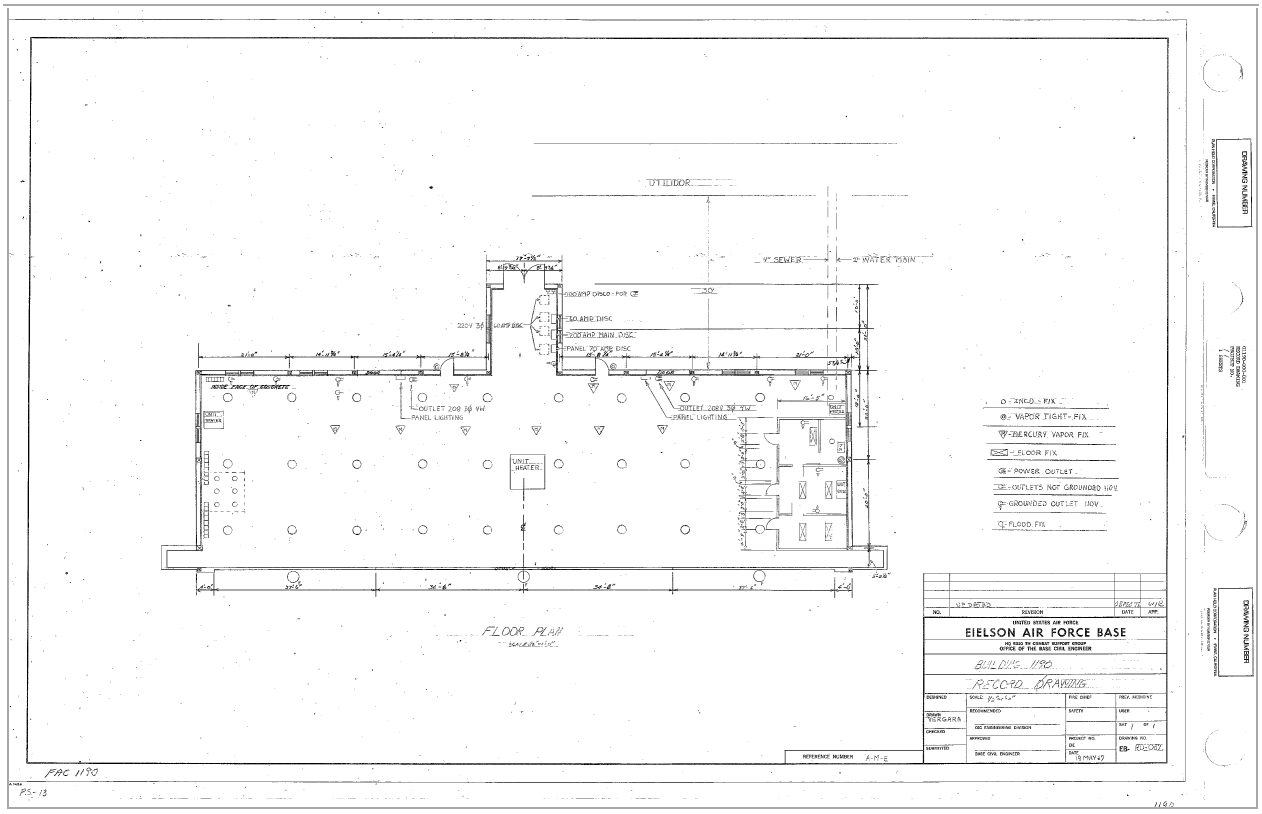

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Figure 5. Record Drawing of Building 1190 as of May 19, 1967, and updated February 28, 1978.

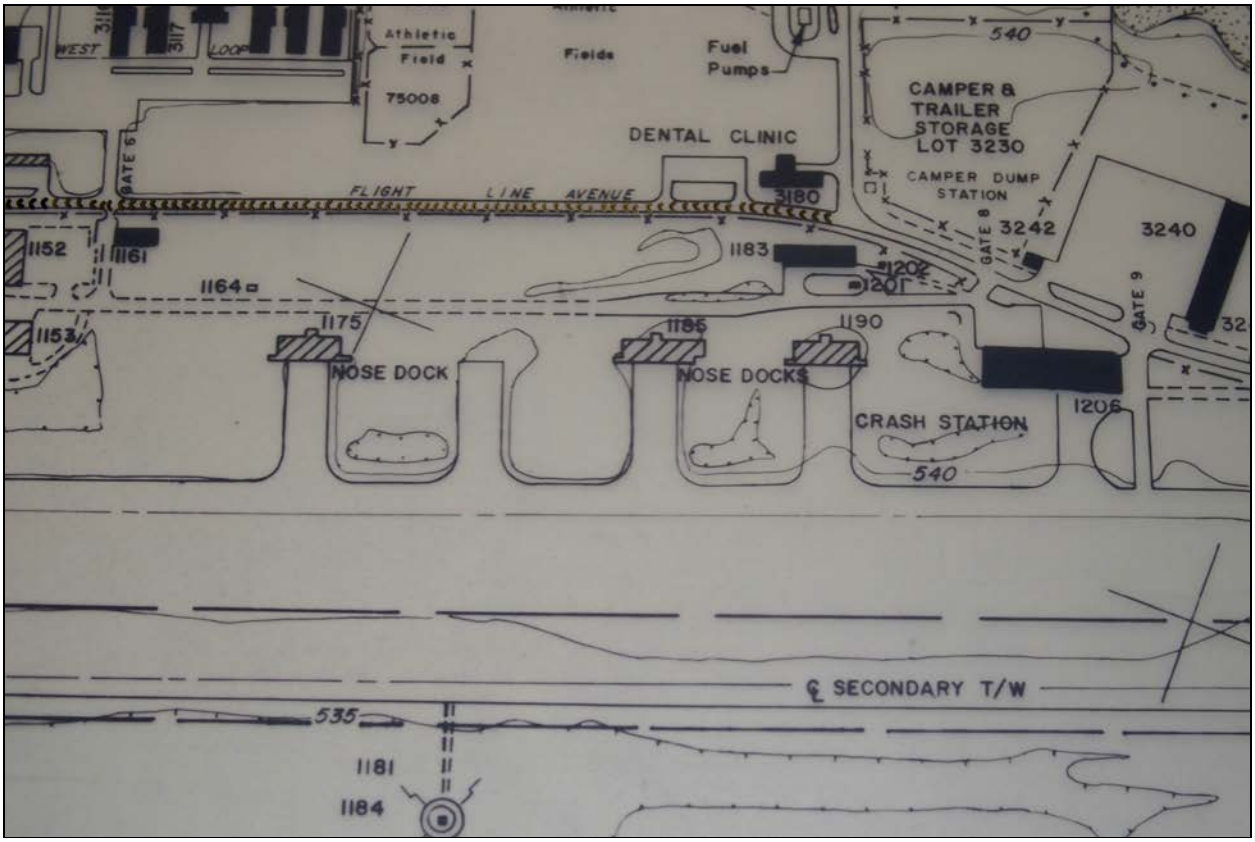

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Figure 6. Portion of 1984 base map showing that Building 1180 has been demolished.

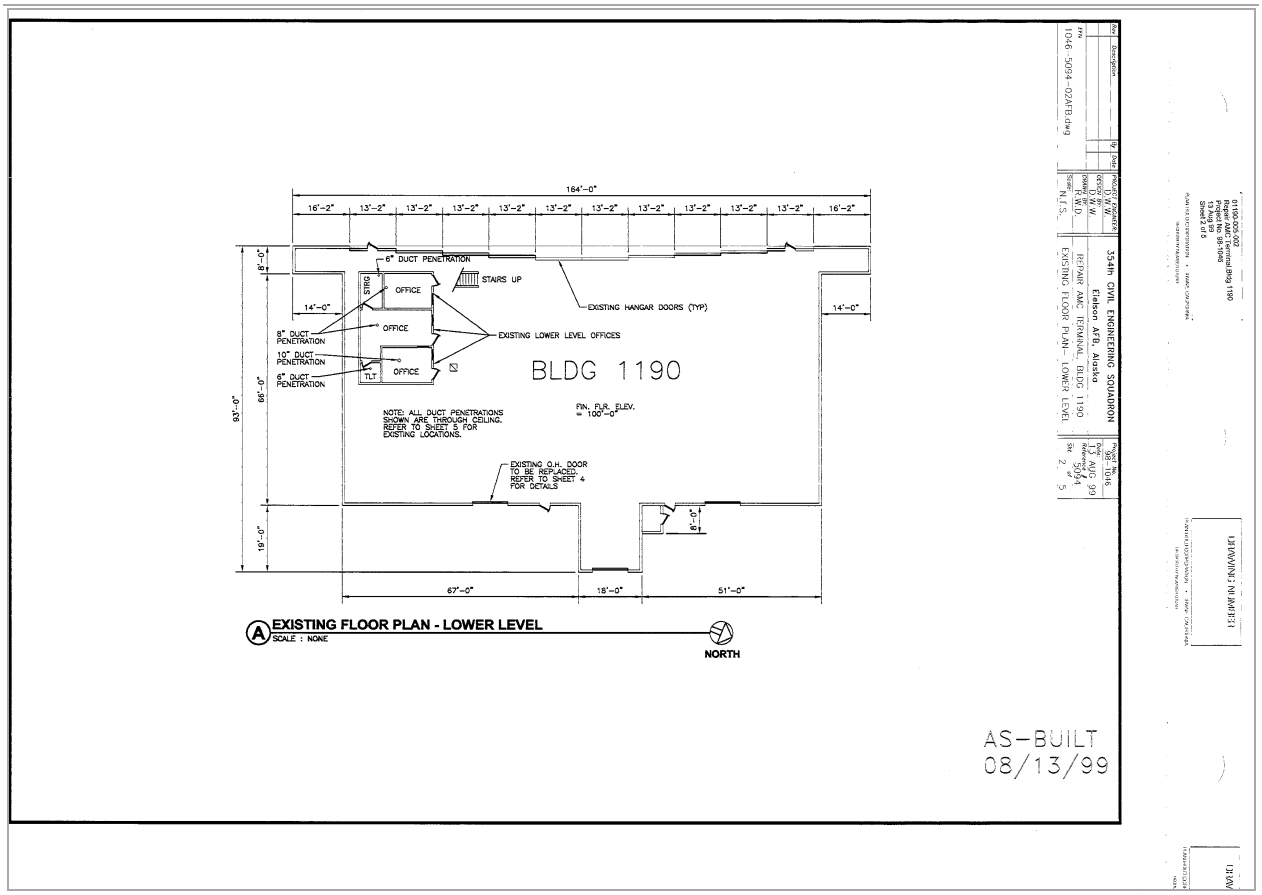

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Figure 7. Record Drawing of Building 1190 as of August 13, 1999.

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EIELSON AIR FORCE BASE
Fairbanks North Star Borough
Alaska

Jeff Bates, Photographer, October 2016.

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AK-MOA-2 BUILDING 1190, NOSE DOCK HANGAR, SOUTHEAST CORNER LOOKING NORTHWEST.

AK-MOA-3 BUILDING 1190, NOSE DOCK HANGAR, WEST ELEVATION LOOKING EAST AT HANGAR DOORS.

AK-MOA-4 BUILDING 1190, NOSE DOCK HANGAR, EAST ELEVATION LOOKING WEST.

AK-MOA-5 BUILDING 1190, NOSE DOCK HANGAR, NORTH ELEVATION LOOKING SOUTH WITH AIRFIELD AT RIGHT SIDE.

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AK-MOA-9 BUILDING 1190, NOSE DOCK HANGAR, INTERIOR DETAIL OF NORTH WALL SHOWING TIMBER BRACING, LOOKING NORTH.

AK-MOA-10 BUILDING 1190, NOSE DOCK HANGAR, INTERIOR DETAIL OF CEILING AND TOP OF EAST WALL, LOOKING EAST.

BUILDING 1190, NOSE DOCK HANGAR, EIELSON AIR FORCE BASE
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AK-MOA-12 BUILDING 1190, NOSE DOCK HANGAR, DETAIL OF DOOR PULL ON HANGAR DOOR LEAF, LOOKING SOUTHEAST.

AK-MOA-13 BUILDING 1190, NOSE DOCK HANGAR, DETAIL OF HANGAR DOOR WHEEL AND RAILS, LOOKING SOUTHWEST.

AK-MOA-14 BUILDING 1190, NOSE DOCK HANGAR, DETAIL OF BOTTOM CHORD OF MAIN TRUSS ALONG WEST ELEVATION, LOOKING NORTHWEST.

AK-MOA-15 BUILDING 1190, NOSE DOCK HANGAR, DETAIL OF AIR MOBILITY COMMAND EMBLEM PAINTING ON HANGAR DOOR, LOOKING WEST.

BUILDING 1190, NOSE DOCK HANGAR, EIELSON AIR FORCE BASE
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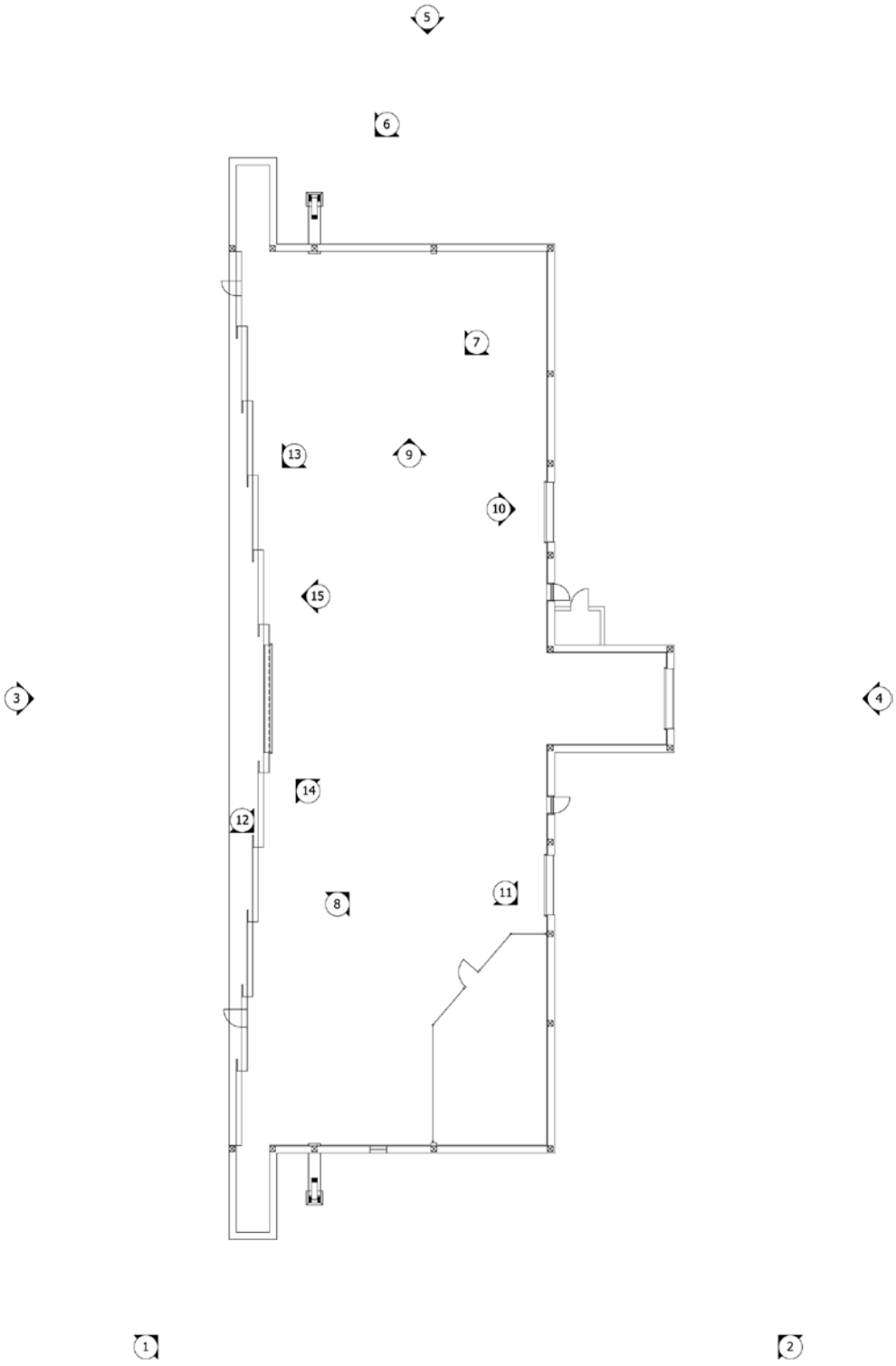

N ↑ Photo Key

Building 1190, Nose Dock Hangar, Eielson Air Force Base
Fairbanks, North Star Borough, Alaska
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Building 1190, Nose Dock Hangar, Eielson Air Force Base
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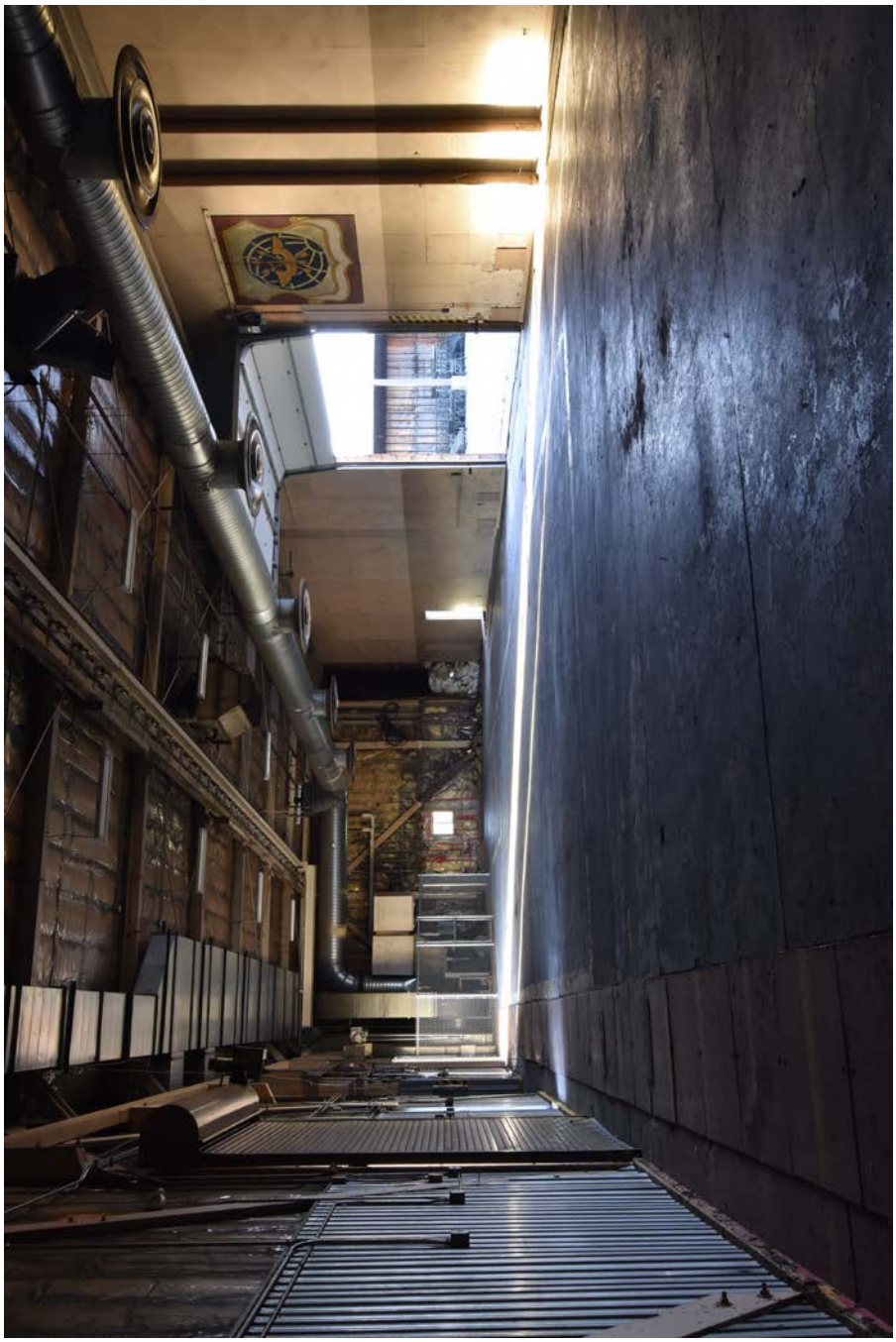

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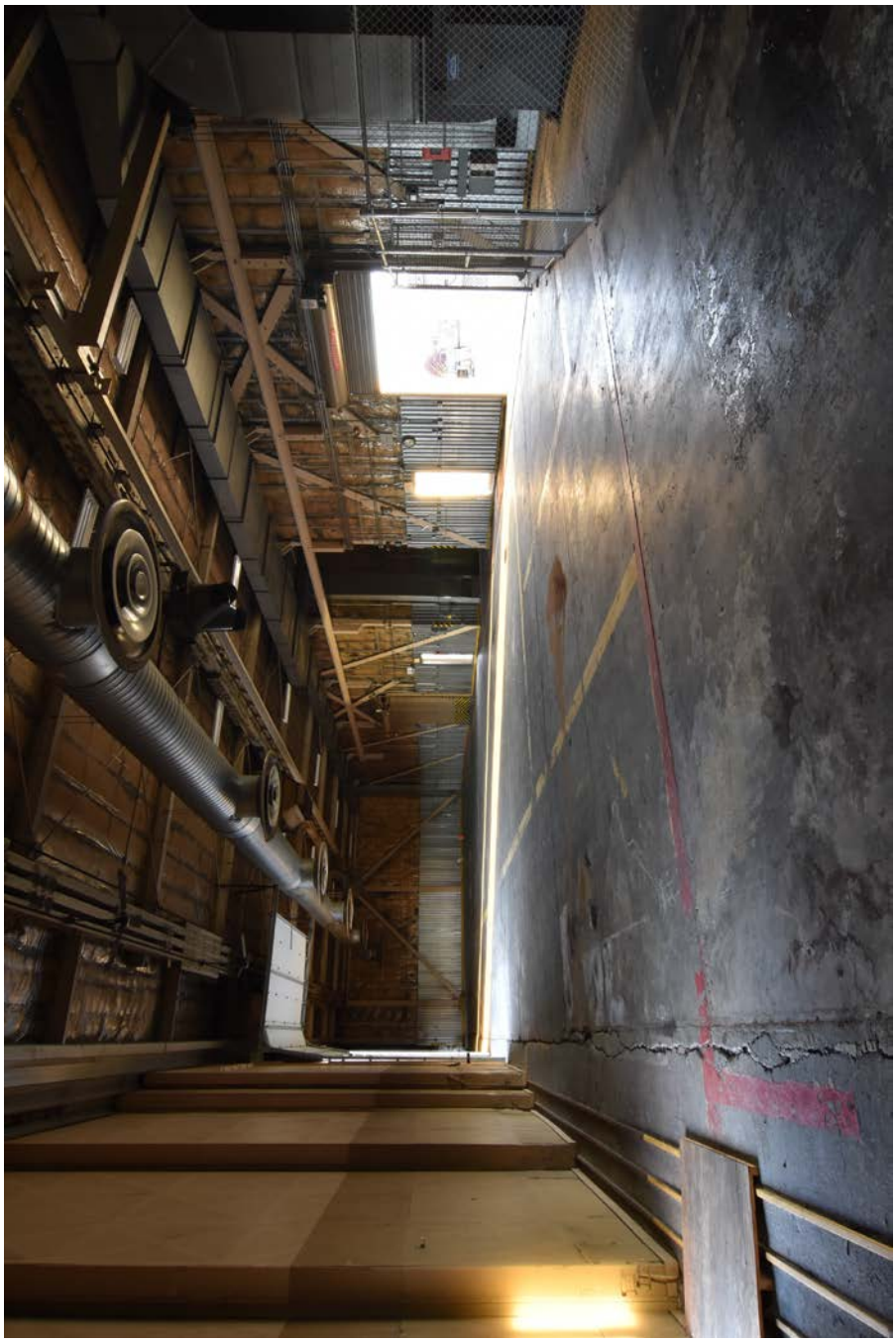

Building 1190, Nose Dock Hangar, Eielson Air Force Base
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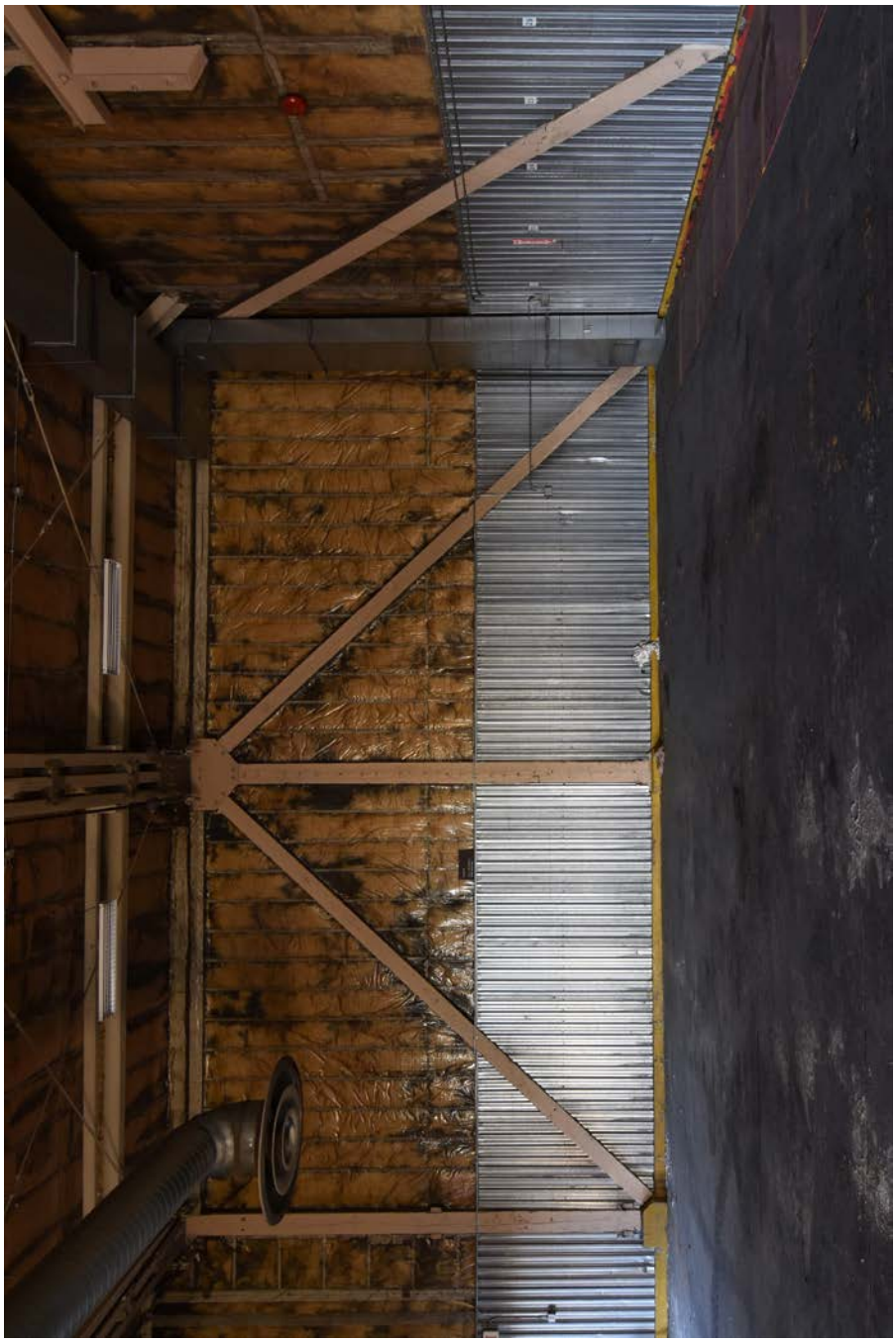

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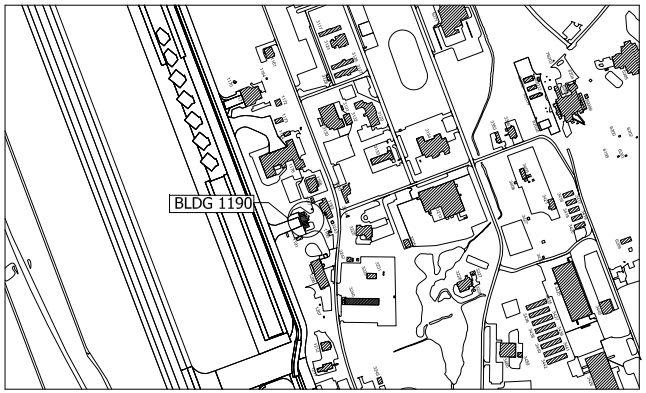
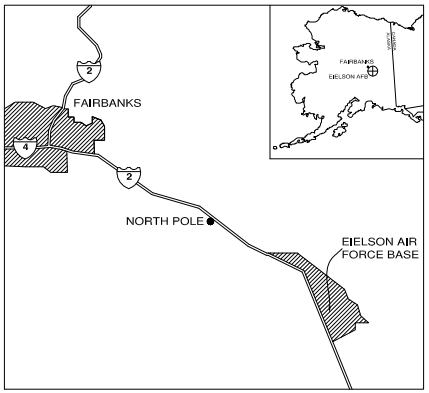
BUILDING 1190 - NOSE DOCK HANGAR
1946 - 1948



SITE PLAN

1" = 50' - 0" | 0 | 50 ft | 100 ft | SCALE | 1cm : 15.24m | 0 | 45.72m

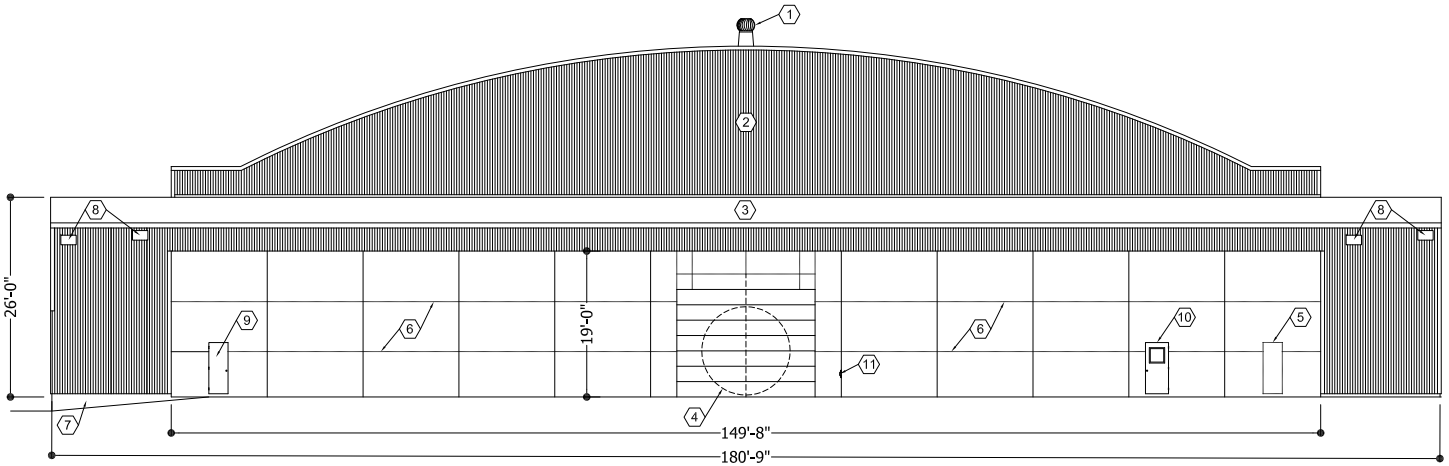


AREA MAP

1" : 1/2 MILE | 0 | 1/2 mi | 1 mi | SCALE | 1cm : 0.62km | 0 | 1.86

Eielson Air Force Base was originally established in 1943 as Mile 26 Strip, a remote field supporting activities at Ladd Field. During World War II, Mile 26 Strip was used to fly Lend Lease aircraft to the Soviet Union. After the war, Ladd Field and the satellite base were placed on caretaker status. In the mid- to late-1940s, relations between the United States and the Soviet Union deteriorated as it became increasingly obvious that the Soviet military did not intend to demobilize. The U.S. used Ladd Field, the installation closest to the Soviet Union, to fly aerial reconnaissance missions to investigate and photograph Soviet activities in the arctic. Since the runway at Ladd Field could not be extended, planners looked to Mile 26 Strip instead. Building 1190 was one of four identical nose dock hangars constructed in 1946-1948 to support the modified B-29 aircraft used for these missions. During the 1950s, activities were gradually moved to Mile 26 Strip (renamed Eielson Air Force Base in 1948), since its longer airfield better accommodated cold weather landings and takeoffs. As larger aircraft replaced the B-29, Building 1190 became an air freight terminal that deployed supplies all over the globe ranging from food to weapons for all branches of the military.

This recordation project was sponsored by and funded in 2016 by the Office of Environmental Management of the Alaska Air National Guard 168 Wing at Eielson Air Force Base, Major Jennifer Coolidge, Environmental Engineer. All drawings are based on the results of Hardlines Design Company's field inspection and field measurements, and on historic base maps and construction drawings. The recording team consisted of Charissa W. Durst, AIA, LEED AP, Project Historic Architect and Architectural Historian. Jeffrey G. Bates shot the large-format photographs.



WEST (HANGAR DOOR) ELEVATION

1/8" = 1' - 0" | 0 | 8 ft | 16 ft | SCALE | 1cm : 9.6m | 0 | 28.8m

CODED NOTES:

1. Turbine ventilator for down draft unit heater installed in 1952.
2. Corrugated steel siding installed in the 1990s.
3. Membrane roofing on shed roof.
4. Outline of B-29 tail door installed in 1952 and removed with the installation of an 14 x 18 overhead door in the 2000s.
5. Former pilot door opening.
6. Painted plywood over 12-leaf steel frame hangar doors installed in 1952.
7. Concrete foundation.
8. Exterior lights installed in 1995.
9. Pilot door installed before 1984.
10. Pilot door installed after 1984.
11. Original door pull/handle.

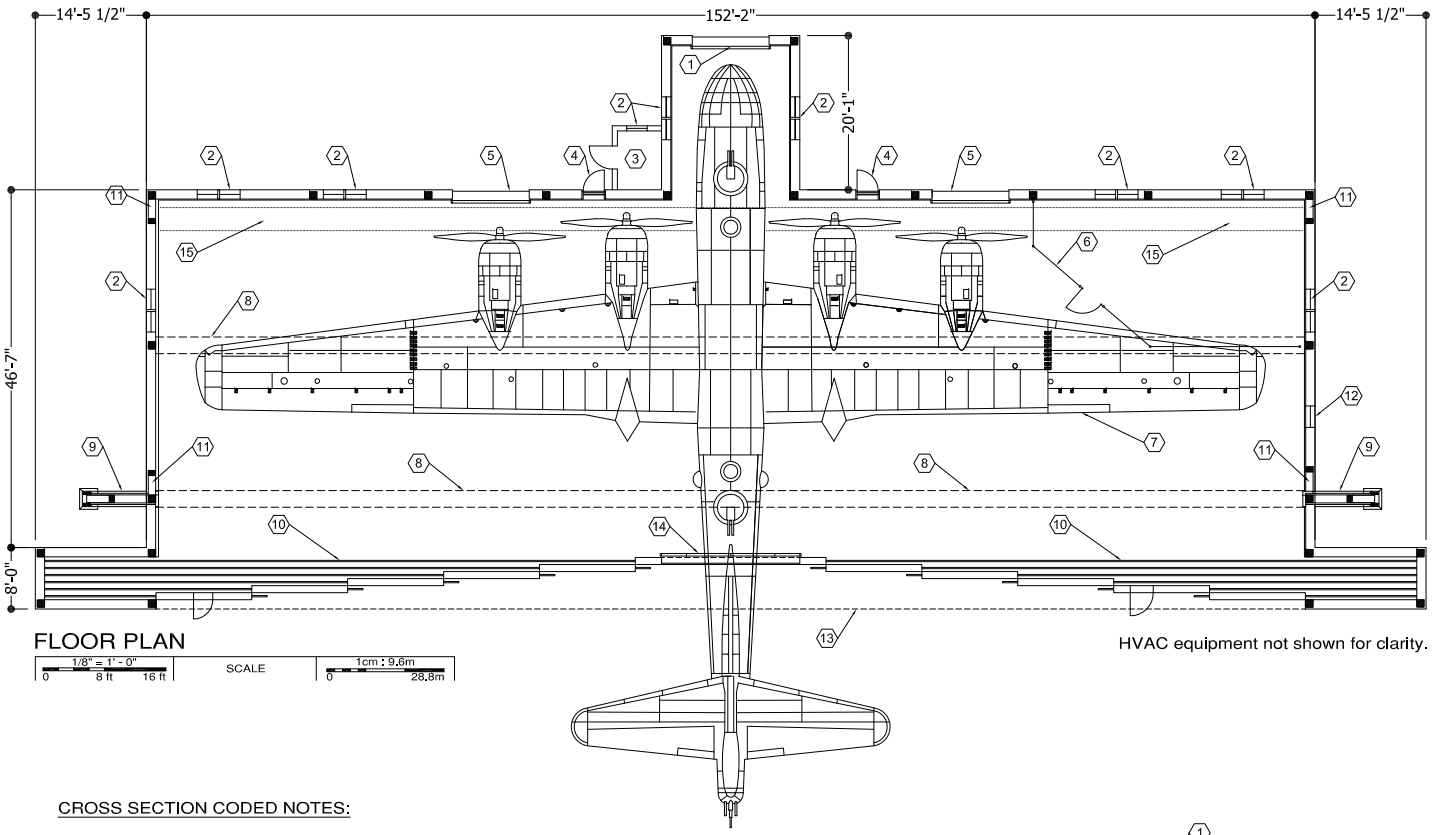
Delineated By: HARDLINES DESIGN COMPANY, 2016

ALASKA DEPT. OF NATURAL RESOURCES
OFFICE OF HISTORY AND ARCHAEOLOGY
550 W 7TH AVE, SUITE 1310
ANCHORAGE, AK 99501

BUILDING 1190 - NOSE DOCK HANGAR
FLIGHT LINE HISTORIC DISTRICT | EIELSON AIR FORCE BASE | FAIRBANKS, NORTH STAR BOROUGH | ALASKA

SHEET 1 OF 2

ALASKA HERITAGE RESOURCES SURVEY
FAI-01531



FLOOR PLAN

1/8" = 1' - 0" | SCALE | 1cm : 9.6m

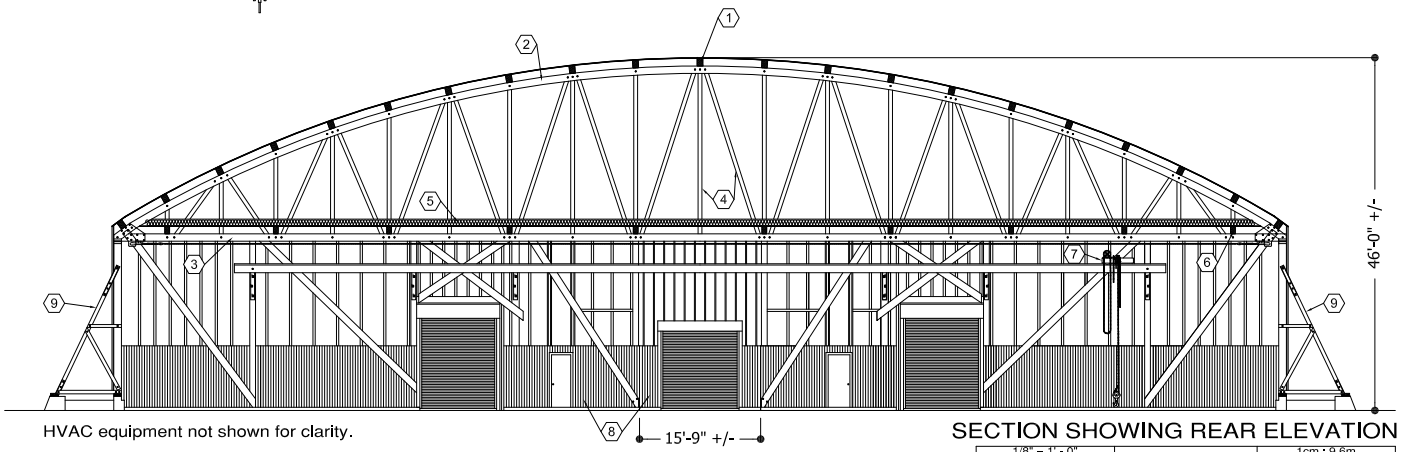
HVAC equipment not shown for clarity.

PLAN CODED NOTES:

1. Overhead door installed in 1997-1999 that replaced original outward swinging doors.
2. Original pair of windows removed when current metal siding was installed in 1984.
3. Storage shed added before 1952.
4. Man door in original location.
5. Overhead door installed between 1974 and 1984 that replaced an original sliding door, which was added in 1954 in place of a pair of windows.
6. Chain link fence around HVAC equipment, added in the 2000s.
7. Plan of B-29 aircraft.
8. Bottom chord of bowstring truss above.
9. Wind brace.
10. Floor guide rails for hangar doors.
11. 12x12 column with diagonal bracing.
12. Modern casement window added in the 1970s.
13. Roof overhang above.
14. Overhead door installed in the 2000s in place of 11'-6" diameter tail door installed in 1952.
15. Utility trench under floor.

CROSS SECTION CODED NOTES:

1. 8x12 roof cross beams.
2. Arched top chord of truss consists of three (3) 6x12 members with two (2) 4x6 spacers.
3. Bottom chord of truss consists of three (3) 6x12 members with two (2) 4x6 spacers and reinforcing cable with turnbuckles.
4. Truss posts and diagonals consist of two (2) 4x6 members each.
5. Batt insulation added between 2x12 ceiling joists.
6. 8x12 cross beams.
7. Yale and Towne Manufacturing Company block and tackle on traveling rail.
8. Corrugated steel siding installed in the 1980s replaced horizontal siding wainscot added in 1954.
9. Wind brace.



HVAC equipment not shown for clarity.

SECTION SHOWING REAR ELEVATION

1/8" = 1' - 0" | SCALE | 1cm : 9.6m

BUILDING 1190 - NOSE DOCK HANGAR

FLIGHT LINE HISTORIC DISTRICT | EIELSON AIR FORCE BASE | FAIRBANKS, NORTH STAR BOROUGH | ALASKA

ALASKA HERITAGE RESOURCES SURVEY FAI-01531

SHEET 2 OF 2

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