Environmental Resources Section

Public Notice

SEP 19 2019

Alaska District
U.S. Army Corps of Engineers

Date _____ Identification No. ER-19-012
Please refer to the identification number when replying.

The U.S. Army Corps of Engineers (Corps) has prepared an environmental assessment (EA) and finding of no significant impact (FONSI) for the following project:

Construct New River Baling Deck

Chena River Lakes Flood Control Project, North Pole, Alaska

The Alaska District proposes to construct a new river Baling Deck at the Outlet Control Works at the Chena River Lakes Flood Control Project, near North Pole, Alaska, as part of operations and maintenance for that federally authorized project. The new Baling Deck would be constructed of cellular sheet pile and provide a working area of approximately 5,600 square feet. The Baling Deck would be constructed on the north bank of the Chena River upstream of the outlet control works. Baling operations are currently conducted from atop the outlet control works and the new deck is needed alleviate issues with baling operations and improve efficiency.

The proposed project, alternatives, and potential environmental impacts are described in the enclosed EA. The EA is available for public review and comment for 30 days from the date of this public notice. The EA and primary supporting documents may be viewed on the Alaska District's website at: www.poa.usace.army.mil. Click on the Reports and Studies button, look under Documents Available for Review, open on the Civil Works link, and click Operations and Maintenance.

To request a printed copy, email:matthew.w.ferguson@usace.army.mil or send your request to the address below:

U.S. Army Corps of Engineers, Alaska District

ATTN: CEPOA-PM-C-ER (Ferguson)

P.O. Box 6898

Joint Base Elmendorf-Richardson, Alaska 99506-0898

Comments on the EA and proposed project may be sent to the email or postal address.

Notice is hereby given that the Corps is applying for State Water Quality Certification from the Alaska Department of Environmental Conservation (ADEC).

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WDAP/401 CERTIFICATION

555 CORDOVA STREET

ANCHORAGE, ALASKA 99501-2617

PHONE: (907) 269-6285

After reviewing the application, the Department may certify there is reasonable assurance the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

Any person desiring to comment on the project with respect to Water Quality Certification, may submit written comments to the address above or via email to dec-401cert@alaska.gov by the expiration date of the Corps of Engineer's Public Notice. All comments should include the PN reference number listed above. Mailed comments must be postmarked on or before the expiration date of the public notice.

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact Theresa Zimmerman at 907-465-6171 or TDD Relay Service 1-800-770-8973/TTY or dial 711 within 5 days of the expiration date of this public notice to ensure that any necessary accommodations can be provided."

Please contact me at (907) 753-2711 or at the above email and postal addresses if you have any questions or need additional information about the proposed project.

Matt Ferguson

Biologist

Environmental Resources Section

US Army Corps of Engineers, Alaska District

US Army Corps of Engineers
Alaska District

Environmental Assessment and Finding of No Significant Impact

Construct New River Baling Deck at the Chena River Lakes Flood Control Project, near North Pole, Alaska

September 2019

DRAFT FINDING OF NO SIGNIFICANT IMPACT

In accordance with the National Environmental Policy Act of 1969, as amended, the U.S. Army Corps of Engineers, Alaska District (USACE) has assessed the environmental effects of the following action:

Construct New River Baling Deck at the Chena River Lakes Flood Control Project Outlet Control Works

The Alaska District will construct a new river Baling Deck at the Outlet Control Works at the Chena River Lakes Flood Control Project, near North Pole, Alaska, as part of operations and maintenance for that federally authorized project. The new Baling Deck will be constructed of cellular sheet pile and provide a working area of approximately 5,600 square feet. The Baling Deck will be constructed on the north bank of the Chena River upstream of the outlet control works. Baling operations are currently conducted from atop the outlet control works and the new deck is needed alleviate issues with baling operations and improve efficiency.

This action has been evaluated for its effects on environmental resources, including fish and wildlife, vegetation, wetlands, threatened or endangered species, and cultural resources. The USACE received comments during the scoping period concerning interruption of the ADF&G's annual salmon enumeration project upstream of the Control Works. In order to address these concerns, the Alaska District will coordinate with the Department to avoid disrupting the recurring study.

This USACE action complies with the National Historic Preservation Act, the Endangered Species Act, the Clean Water Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the National Environmental Policy Act. The completed environmental assessment supports the conclusion that the action does not constitute a major Federal action significantly affecting the quality of the human and natural environment. An environmental impact statement is therefore not necessary for the Alaska District's proposed alterations to the USACE project at the Chena River Lakes Flood Control Project.

_____ _____

Phillip J. Borders Date
Colonel, U.S. Army
Commanding

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Environmental Assessment for the Construction of a New River Baling Deck at the Chena River Lakes Flood Control Project Outlet Control Works

1.0 PURPOSE AND NEED

1.1 Introduction

This environmental assessment (EA) has been prepared to evaluate the potential effects of constructing a new river Baling Deck at the Chena River Lakes Flood Control Project near North Pole, Alaska, as part of the operations and maintenance of that federally authorized project. The Chena River Lakes Flood Control Project was constructed in the 1970s to prevent flood damages to the downstream area, including the cities of North Pole and Fairbanks. It is an operational flood control project and is the subject of near-constant maintenance and upgrades to improve the operation and effectiveness of the project.

The Chena River Lakes Flood Control Project, commonly referred to as "Moose Creek Dam", is located southeast of the City of North Pole, Alaska, and approximately 15 miles east-southeast of the City of Fairbanks, Alaska. The dam is approximately 40 river miles upstream of the Chena River's confluence with the Tanana River. Figure 1 shows the Dam's location in relation to major rivers and surrounding communities.

The central feature of the Chena River Lakes Flood Control Project is the Moose Creek Dam, a 7.5-mile long dam located in North Pole, Alaska. The dam consists of an earth-filled embankment and a concrete control works with four gated bays to regulate flow on the Chena River. In non-operational mode, the floodway is dry, and the Chena flows unregulated through the control structure. During operation, gates are lowered to reduce flow through the control works, pooling water upstream of the dam. When the pool reaches an elevation of 507.1 feet North American Vertical Datum of 1988 (NAVD88), excess waters flow south into the Tanana River. Diverting water reduces flood risks to the cities of Fairbanks and North Pole and adjacent downstream areas.

The primary purpose of the Chena River Lakes Flood Control Project is to provide flood risk reduction and flood damage reduction for the downstream areas, including the City of Fairbanks, North Pole, Fort Wainwright cantonment area, and unincorporated areas in the vicinity. Much of the greater Fairbanks area is in the floodplains of the Chena and Tanana rivers.

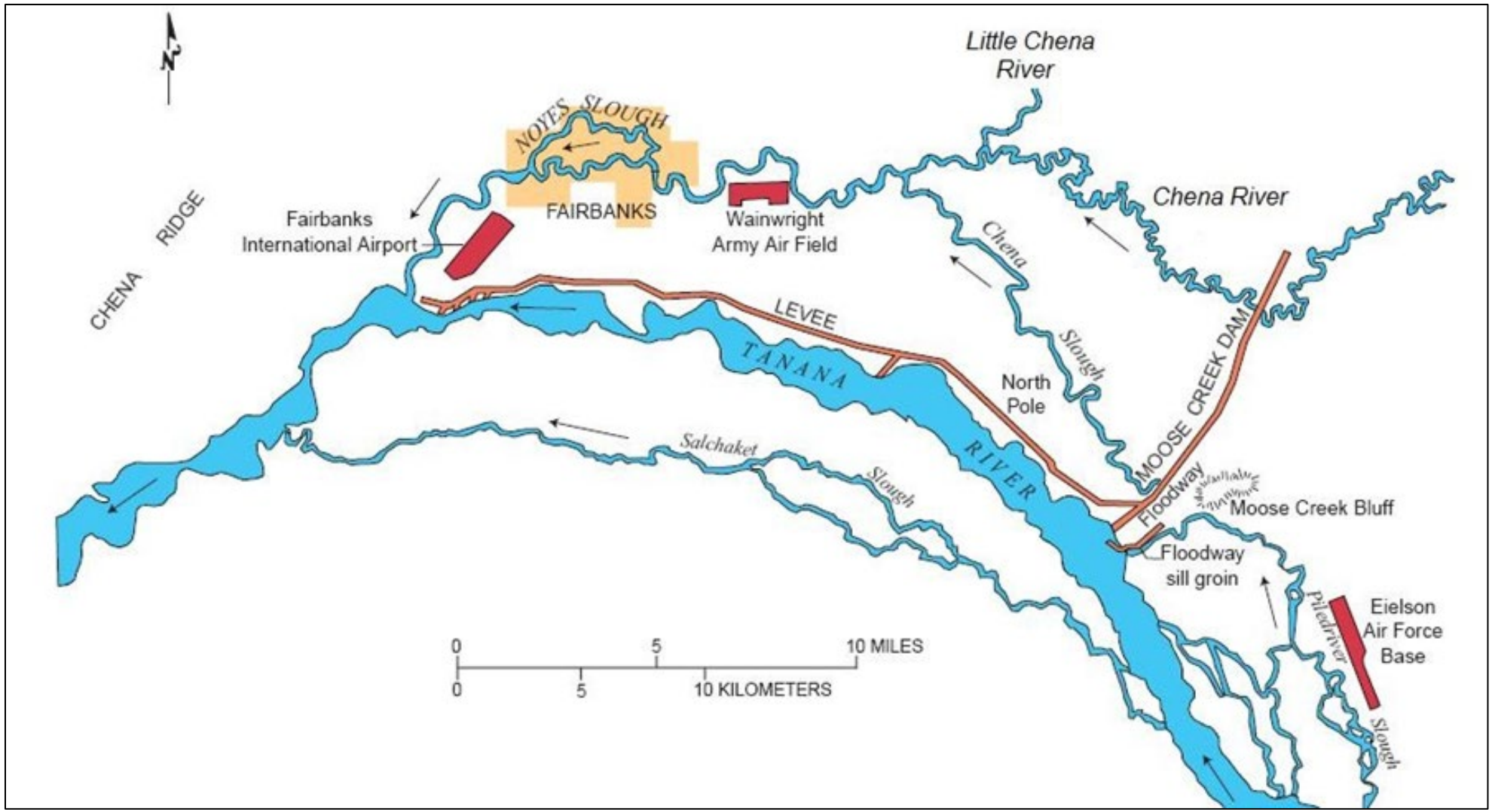

FIGURE 1. Overview of the Moose Creek Dam vicinity

1.2 Project Description

The Alaska District proposes in fiscal year 2020 to construct a new river Baling Deck at the Chena River Lakes Flood Control Project. The Baling Deck would consist of a cellular sheet pile structure with three 50 foot diameter primary cells with two 15 foot diameter cells bridging the interstitial area along the face of the bulkhead. The new river Baling Deck would have a nominal overall footprint of 157' x 50' (7,850 ft^2); which would provide a work surface of approximately 140' x 40' (5,600 ft^2). The surface elevation of the new Baling Deck would match the existing road surface elevation of 514' NAVD88. The sheet pile would be driven by vibratory hammer to the extent practicable and the cells would be backfilled with classified fill material to provide a stable work surface.

The Baling Deck would be used to provide a work surface for debris removal (baling) operations; including the operation of a crane to remove debris such as trees and limbs, front-end loaders to move the debris around, dump trucks to carry the debris, and sawyers to cut the material into manageable sized pieces. The debris must be cleared from the trash racks protecting the Outlet Control Works to enable the unrestricted flow of water through the gates and maintain navigation through the Works. The current work area presents space and visibility limitations, reduces the operational efficiency of baling operations and presents safety concerns.

The Baling Deck would be constructed within an operational US Army Corps of Engineers Flood Risk Management Project, in an area that has been previously impacted by channelization, armoring, and baling operations. A small portion of the project would be constructed below the ordinary high water mark of the Chena River, a navigable water of the United States. The Chena River supports anadromous fish (Pacific salmon). The remaining footprint of the proposed project would be constructed in the denuded uplands immediately adjacent to the Control Works. Work would begin in June and be completed by October.

1.3 Purpose and Need for the Action

The Chena River Lakes Flood Control Project requires baling debris during high water events. The debris includes logs, stumps, branches, and other materials that get trapped at the bays of the dam when the gates are lowered or collect crosswise in front of the bays during high water events. Baling is currently performed from the upstream side of the top of the Control Works deck. The deck is narrow with limited room to maneuver the crane, trucks, loader, and sawyers to cut logs and load trucks. Sight distance for the crane operator to the debris is limited from atop the Control Works.

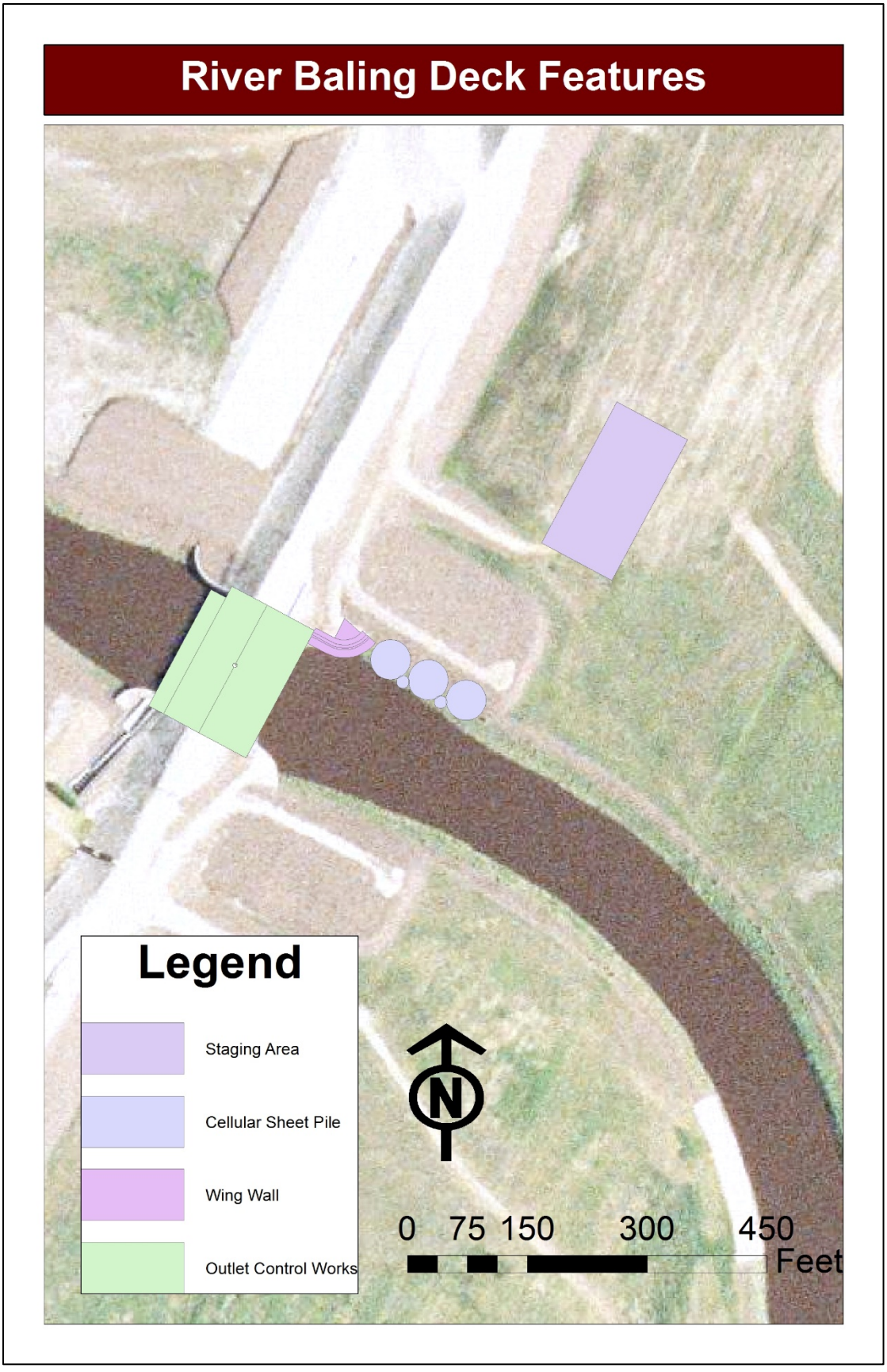

FIGURE 2. River Baling Deck Features

2.0 ALTERNATIVES

2.1 No-Action Alternative

The no-action alternative would not construct the new river Baling Deck at the Chena River Lakes Flood Control Project and baling operations would continue to be conducted from atop the Outlet Control Works.

2.2 Action Alternative

The preferred alternative is to construct a new river Baling Deck to service the Outlet Control Works.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Biological Resources

Biological resources in the Chena River Lakes Flood Control Project area are typical of Interior Alaska and include vegetation, mammals, fish, and birds.

3.1.1 Affected Environment

Vegetation

Vegetation in the general area is fairly typical of Interior Alaska and has been impacted from the construction and operation of the Chena River Lakes Flood Control Project since construction began in 1973. Land cover has been mapped to 30-meter (98.4 feet) resolution by the Alaska Center for Conservation Science, University of Alaska (Figure 3). The project area contains the following types of plant communities, as described the Alaska Vegetation Classification (Viereck et al. 1992):

- Bareground
- Deciduous Forest (Open/Closed)
- Dwarf Shrub
- Dwarf Shrub-Lichen
- Herbaceous (Mesic)
- Low Shrub
- Low Shrub/Lichen
- Tall Shrub (Open/Closed)
- White Spruce or Black Spruce (Open/Closed)
- White Spruce or Black Spruce (Woodland)
- White Spruce or Black Spruce-Deciduous Forest (Open/Closed)
- White Spruce or Black Spruce/Lichen (Woodland/Open)

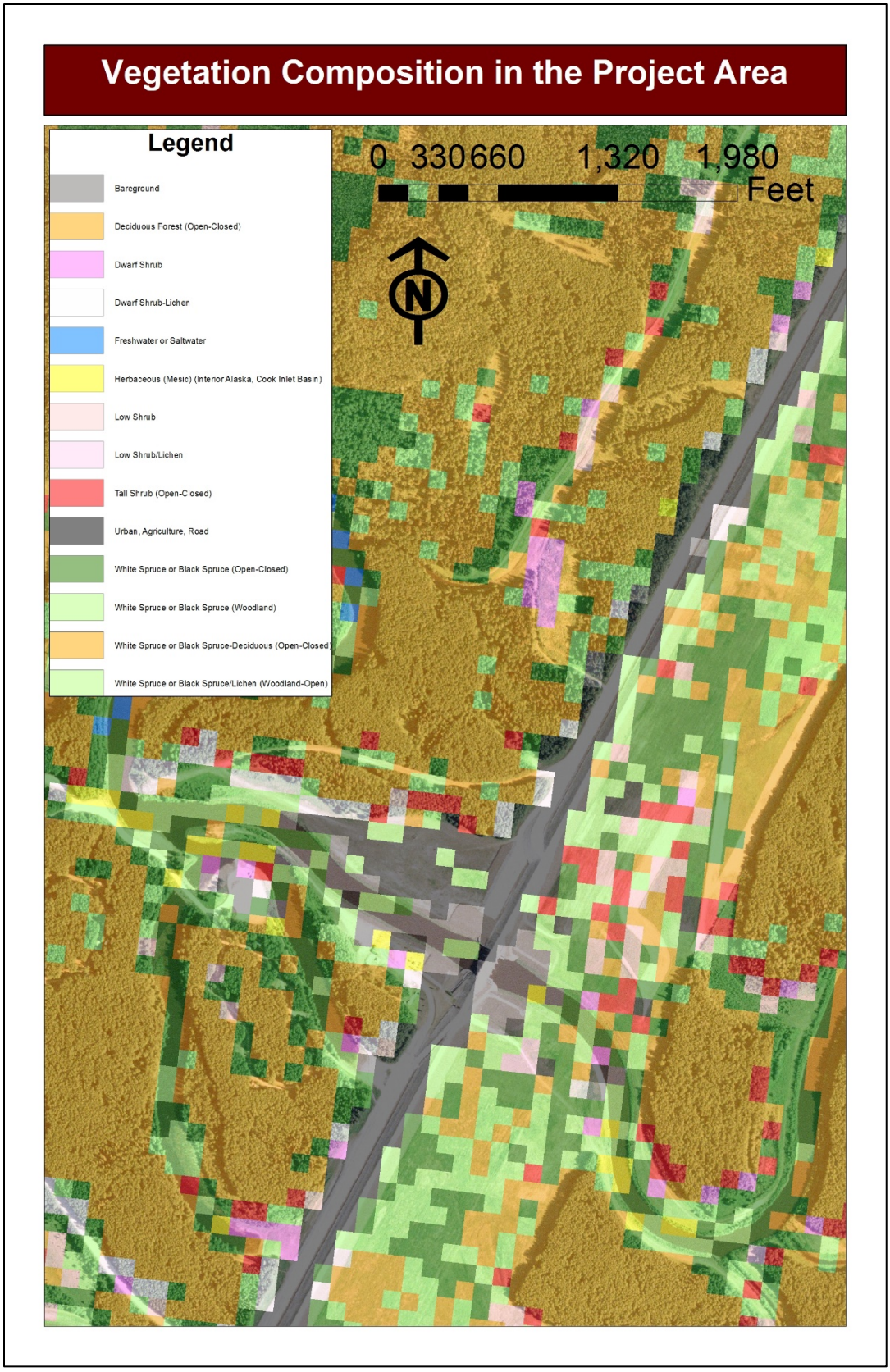

FIGURE 3. Vegetation Composition in the Project Area

The proposed project would not require clearing of any vegetation outside the existing Baling Deck area or floodway, which is normally maintained in a cleared condition to reduce hydraulic resistance and enable project condition inspections. Vegetation is dismissed from further consideration.

Fish.

Intensive fish collections from above and below the Chena River Lakes Flood Control Project (USACE 1999) and earlier collections (Van Hulle; 1968, Walker 1983, and USFWS, 1984) identified the following species:

- Chinook salmon (*Oncorhynchus tshawytscha*)
- Chum salmon (*Oncorhynchus keta*)
- Coho salmon (*Oncorhynchus kisutch*)
- Arctic lamprey (*Lethenteron camtschaticum*)
- Lake chub (*Couesius plumbeus*)
- Arctic grayling (*Thymallus arcticus*)
- Longnose sucker (*Catostomus catostomus*)
- Round whitefish (*Prosopium cylindraceum*)
- Humpback whitefish (*Coregonus oidschian*)
- Broad whitefish (*Coregonus nasus*)
- Least cisco (*Coregonus said*)
- Sheefish (*Stenodus leucicthys*)
- Northern pike (*Esox lucius*)
- Burbot (*Lota lota*)
- Slimy sculpin (*Cottus cognatus*)
- Nine spine stickleback (*Pungitius pungitius*)

Three of those species, Chinook salmon, chum salmon, and Arctic Graylings are of particular importance in the biology of the Chena River and are highly important in the Tanana River system fishery. Arctic grayling are comparatively large, are abundant in the river, are important predators, and are highly prized in the recreational fishery. Both salmon species transport important nutrient sources into the system.

The Alaska Department of Fish and Game Fish Resource Monitor indicates that Chinook and chum salmon are present in the Chena River in the vicinity of the proposed project. Virtually all Chinook salmon spawning occurs above the Dam and there is no salmon harvest allowed upstream of the Dam.

Mammals

Most vertebrate species indigenous to central Alaska can be found in the Chena River Lakes Flood Control Project area. Game species found in the area are managed by the Alaska Department of Fish and Game (ADFG). The ADFG monitors these species to determine

population status, reproductive success, harvest, and home ranges. ADFG also sets bag limits and seasons for these species.

Large mammals in the area include black bear, grizzly bear, moose, and caribou. The Chena River Lakes Flood Control Project is within Game Management Subunit 20B, which consists of most of the road system outside Fairbanks north of the Tanana River (ADFG 2011). The moose population in Subunit 20B is growing rapidly and increased from 12,000 to 20,000 moose between 2001 and 2009.

Numerous species of furbearers inhabit the Chena River Lakes Flood Control Project area. These include wolverines, coyotes, lynx, red fox, pine marten, wolves, snowshoe hare, and red squirrel. Other species include muskrat, beaver, and four species of weasel. River otter exist, but they are not common.

Known small mammals include five vole species, two lemming species, two species of mice, and four species of shrew. The little brown bat is found in wooded areas and abandoned buildings.

The following mammalian species could be present in the project area:

- Moose (*Alces alces*)
- Gray wolf (*Canis lupus*)
- Brown bear (*Ursus arctos*)
- Black bear (*Ursus americanus*)
- Beaver (*Castor canadensis*)
- Caribou (*Rangifer tarandus granti*)
- Coyote (*Canis latrans*)
- Ermine (*Mustela ermine*)
- Little brown bat (*Myotis lucifugus*)
- Red fox (*Vulpes vulpes*)
- Snowshoe hare (*Lepus americanus*)
- Lynx (*Lynx canadensis*)
- Hoary marmot (*Marmota caligata*)
- American marten (*Martes americana*)
- Mink (*Neovison vison*)
- Muskrat (*Ondrata zibethicus*)
- River otter (*Lutra canadensis*)
- Porcupine (*Erethizon dorsatum*)
- Arctic ground squirrel (*Spermophilus parryii*)
- Northern flying squirrel (*Glaucomys sabrinus yukonensis*)
- Red squirrel (*Tamiasciurus hudsonicus*)
- Meadow vole (*Microtus pennsylvanicus*)
- Red-backed vole (*Myodes rutilus*)
- Wolverine (*Gulo gulo*)

Habitat along the dam is segmented and disturbed by project features, roads, bike paths, and other structures and facilities. This is likely to diminish substantially its value as habitat for larger mammals. Moose, wolf, bear, fox, lynx, and coyote move through this habitat regularly, but its use does not appear to be of great importance or more than moderate-intensity for those species.

Birds

At least 70 different species of songbirds, possibly 19 species of raptors, 5 species of grouse, more than a dozen species of waterfowl, and many species of marsh and shorebirds are present at least seasonally in the Chena River Watershed (USACE 1997). Most of those species are present at least occasionally in the Chena River Lakes Flood Control Project area. A bird survey in 2005 by the Alaska Bird Observatory identified three species that were of particular interest: Townsend's warbler, rusty blackbird, and Hammond's flycatcher. Those three were identified in brushy habitat near ponds/sloughs on the floodway closer to Moose Creek Bluff.

A review of the United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation website indicated ten species of migratory birds or birds protected by the Bald and Golden Eagle Protection Act (BGEPA) or Migratory Bird Treaty Act (MBTA) that could potentially be affected by the proposed activity:

- Bald eagle (*Haliaeetus leucocephalis*)
- Fox sparrow (*Passerella iliaca*)
- Lesser yellowleg (*Tringa flavipes*)
- Olive-sided flycatcher (*Contopus cooperi*)
- Rusty blackbird (*Euphagus carolinus*)
- Short-eared owl (*Asio flammeus*)
- Solitary sandpiper (*Tringa solitaria*)
- Upland sandpiper (*Bartramia longicauda*)
- Whimbrel (*Numenius phaeopus*)
- Osprey (*Pandion haliaetus*)

The proposed project lies within Bird Conservation Region 4 (BCR4), which lists the following species that may be present in the project are and warrant special attention, in addition to those on the preceding list generated by the USFWS IPaC database:

- Horned Grebe (*Podiceps auritus*)
- Peregrine Falcon (*Falco peregrinus*)

- Bristle-thighed Curlew (*Numenius tahitiensis*)
- Hudsonian Godwit (*Limosa haemastica*)
- Red Knot (*Calidris canutus*)
- Rock Sandpiper (*Calidris ptilocnemis*)
- Short-billed Dowitcher (*Limnodromus griseus*)
- Smith's Longspur (*Calcarius pictus*)

Any activity that results in a take of migratory birds is prohibited unless authorized by the U.S. Fish and Wildlife Service. On April 11, 2018, the USFWS received an opinion from the Department of the Interior's Solicitor's Office concluding that the incidental take of birds resulting from an activity for which the activity's purpose is not to cause direct harm to birds is not prohibited by the MBTA. The USFWS interprets the opinion to mean that the MBTA's prohibitions on take apply when the purpose of the action is to take migratory birds, their eggs, or their nests. Conversely, the take of birds, eggs, or nests occurring as a result of the activity, the purpose of which is not to take birds, eggs, or nests, is not prohibited by the MBTA. The USFWS supports voluntary measures for minimizing impacts to migratory birds and provides timing guidance for avoiding land-disturbing activities during the breeding season. For the Interior region of Alaska, USFWS recommends land disturbance and vegetation clearing be avoided from May 1-July 15 for most migratory birds. (USFWS 2017)

In addition to the MBTA, bald and golden eagles receive additional protection under the Bald and Golden Eagle Protection Act (BGEPA). The BGEPA prohibits anyone without a permit issued by the Secretary of the Interior from taking eagles, their nests, or their eggs. The BGEPA provides criminal penalties for persons who take, possess, sell, purchase, barter, offer to sell, purchase, or barter, transport, export or import, at any time or any manner, any bald or golden eagles, alive or dead, or any part of the nest, or egg thereof. The BGEPA defines take as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb".

3.1.2 Environmental Consequences of the Preferred Alternative

Mammals, Birds, and Vegetation

All construction would be confined to previously disturbed areas of an operational flood control project and would not cause the loss of any natural vegetation. Construction noise would cause temporary perturbations during construction from pile driving and equipment operation, but it would not constitute a significant deviation from the normal conditions. Construction and heavy equipment operation is a near-constant feature at the Chena River Lakes Flood Control project. Bird nesting habitat would not be impacted beyond the temporary construction noise since no vegetation clearing would occur.

Fish

The construction of a sheetpile bulkhead at the River Baling Deck would involve vibratory hammer pile driving in the Chena River, an anadromous stream. Construction would necessarily begin at the downstream cell due to the need to tie into the wing wall near the Outlet Control Structure. A small portion of this cell would lie within the bed of the Chena River. (Figure 5)

Delineation of the ordinary high water mark is established by the fluctuations of water and indicated by physical characteristics such as clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Due to the heavily altered nature of the riverbank in the vicinity of the Outlet Control Works and effects of anthropogenic modulation of water levels, 492' NAVD88 will be used to define the lateral limits of ordinary high water.

Sections of three cellular pile structures would lie below 492' NAVD88, which is the approximate ordinary high water mark of the Chena River upstream of the dam. Ordinary high water defined the boundaries of aquatic features for a variety of federal, state, and local regulatory purposes; including Alaska Department of Fish and Game's authority under the Fishway Act and Anadromous Fish Act.

The portions of the three cells that would be constructed in water would fill 162 ft^2, 42 ft^2, and 16 ft^2, respectively moving away from the wing wall when considering 492' NAVD88 as the ordinary high water mark. A total of 223 ft^2 of extensively modified river bed would be replaced by a vertical sheet pile wall. (Figure 5)

Construction would begin as early in the season as possible, but seasonal frost would likely delay ground breaking until around June 1st. Pile driving could last as long as eight weeks and would be conducted using a vibratory hammer to the extent practicable. The soils in the project area are such that an impact hammer is not expected to be necessary. Elevated turbidity levels and in-water noise are the primary concerns regarding impacts to fish associated with the construction of the sheet-pile bulkhead.

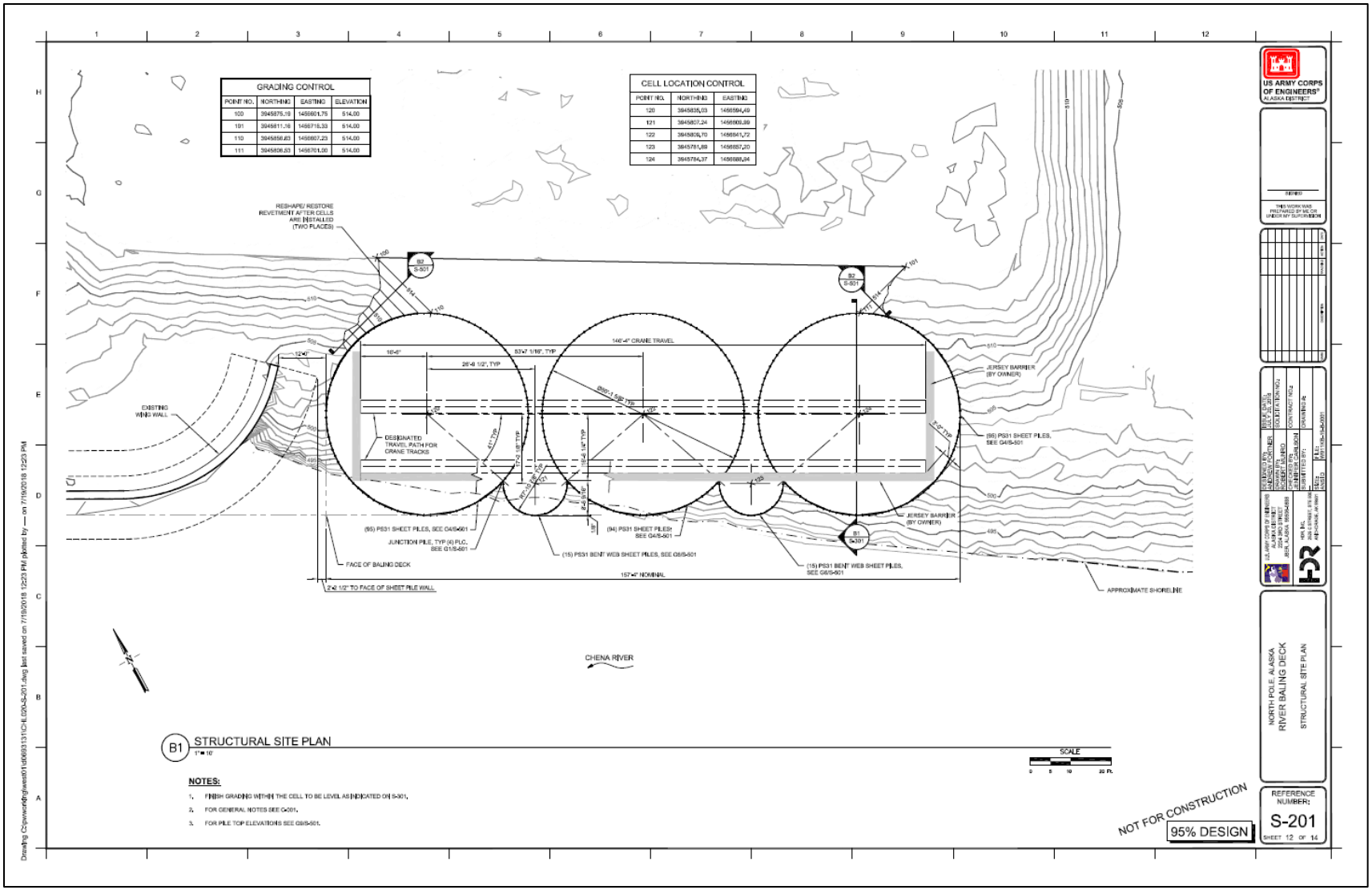

FIGURE 4. Plan view of proposed Baling Deck in relation to the approximate shoreline of the Chena River

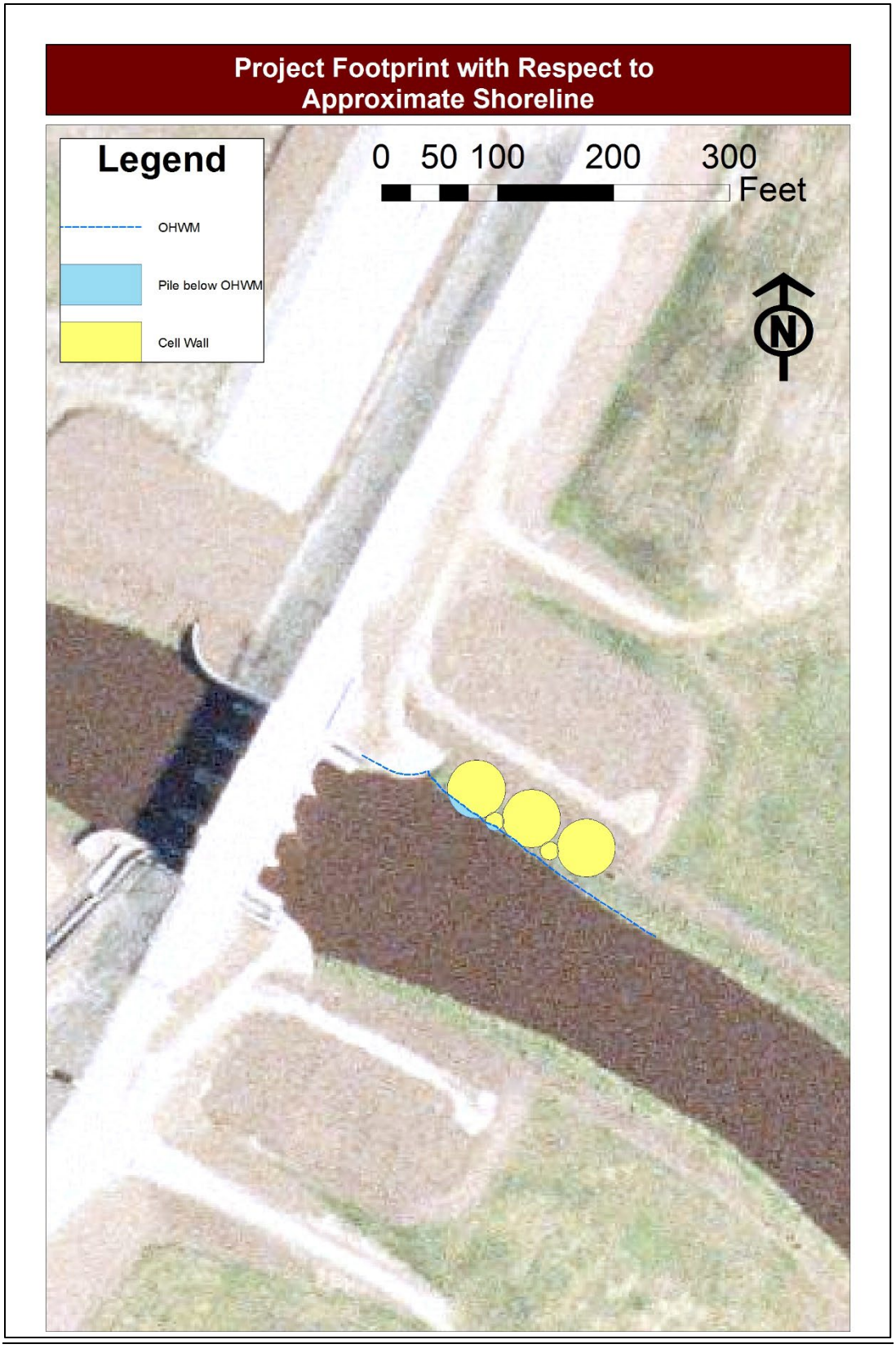

FIGURE 5. Extent of cellular pile bulkhead below the approximate shoreline (492' NAVD88)

Turbidity: High water events are common summer occurrences in the Chena River and result in natural increases in turbidity. Temporary turbidity increases from construction would not be

appreciably different from elevated sediment suspension associated with rain events. Turbidity curtains would be deployed to contain fine materials, but the Chena River often carries logs and other debris that could quickly destroy a turbidity curtain and make their use impractical. The minor increase in turbidity that could result from the construction would only have a minor impact on water quality.

In-Water Noise: Pile driving can have an impact on the distribution and behavior of fish; including leaving an area for more suitable spawning grounds or avoiding a natural migration path due to noise disturbance. Pile driving can also cause injury or death in fish depending on the species, maturity, proximity to the noise source, the amplitude of the noise, depth of water, substrate type, and other attenuation contributing factors. Small fish are generally more susceptible to injury from sound pressure than larger fish.

The amplitude of noise produced by pile driving is related to factors such as the size and type of the pile, firmness of the substrate, depth of water, and type of pile driving equipment. Larger piles, deeper water, and firmer substrate are contributing factors for more powerful noise. Impact hammers produce high frequency (100-800 hz) impulsive noise compared to the low-frequency constant noise of a vibratory hammer. Impact hammer operation can easily reach sound pressure levels capable of killing, injuring, or causing permanent auditory damage. Fish may respond to the first few strikes of an impact hammer with avoidance or a startle response, but then become habituated and may stay within the injury isopleth. Vibratory hammers produce lower frequency noise (in the range of 15-26 hertz) for a longer duration than individual impact hammer strikes.

The heavily developed banks of the Chena River in the vicinity of the proposed construction are currently covered in armor rock to prevent migration of the river bed near the control works and direct flow to enable effective dam operation. The multifaceted nature of the substrate in this area would have a baffling effect on in-water noise propagation related to the use of a vibratory hammer.

The geotechnical properties of the substrate indicate that an impact hammer is unlikely to be required to reach the target pile depth. This further suggests a soft substrate, which is an attenuating factor in sound propagation. The deepest extent of the pile wall would be constructed in water about five feet deep, reducing the amount of energy that would be transmitted from the pile to the water during pile-driving and further limiting the potential for noise impacts.

The proposed project would require authorization from the ADF&G Habitat Division before construction for work in fish-bearing waters through the Fish Habitat permitting process. The Division's authority for the issuance of permits in anadromous waters is derived from the Anadromous Fish Act (AS 16.05.871-.901), which states that an individual or government agency provide prior notification and obtain permit approval from ADF&G before altering or affecting "the natural flow or bed" of a specified waterbody, or fish stream. All activities within or across a specified anadromous waterbody require approval from Habitat, including construction; road crossings; gravel removal; mining; water withdrawals; the use of vehicles or equipment in the waterway; stream realignment or diversion; bank stabilization; blasting; and the

placement, excavation, deposition, or removal of any material. The Division is also responsible under the Fishway Act (AS 16.05.841) to evaluate and authorize as appropriate proposals for activities within or across a stream used by fish if it is determined that such uses or activities could represent an impediment to the efficient passage of resident or anadromous fish.

3.1.3 Environmental Consequences of the No-Action Alternative

The No-Action Alternative would not result in any impacts to biological resources.

3.2 Land Use

3.2.1 Affected Environment

The U.S. Army Corps of Engineers (USACE), Alaska District owns and controls the usage of all the land that would be affected by the construction of a new Baling Deck. The preeminent land use of the Chena River Lakes Flood Control Project area is flood risk management. The dam is operated to prevent flow in downtown Fairbanks from exceeding 12,000 cfs in accordance with the water control manual. The Alaska District maintains the Dam and attendant facilities to prevent flood damage to the downstream areas.

Other land uses in the Moose Creek Dam region are residential and recreational. Zoning in the Interior is generally permissive, with a variety of land uses being allowable. Construction downstream of the dam is subject to applicable floodplain permits, as most of the area is characterized as within the base flood elevation, but protected by levee. Population density is sparse and the area is characterized as rural. Residential areas would not be directly impacted by the construction of the proposed project. Recreation is a subordinate use and subject to interruption from required maintenance and construction projects at the Chena River Lakes Flood Control Project.

Recreation

The Chena River Lakes Flood Control Project is an important recreational site for residents and visitors to Interior Alaska. The site is home to a 260-acre lake formed from the borrow pit excavated during construction of the Chena River Lakes Flood Control Project and a river park meandering along 4 miles of the Chena River. Its grounds are also used for personal use hunting and fishing, and training and education functions. Using annual project visitation data obtained from the USACE's Operation and Maintenance Business Information Link (OMBIL), the average annual visitation during 2012 was approximately 171,000 visits, totaling 181,000 annual visitor days. Applying the Unit Day Value methodology (EGM15-03), the benefit annually from recreation visitation is estimated to be $1.6 million. Similar recreation benefits are expected in the future.

3.2.2 Environmental Consequences of the Preferred Alternative

The construction of the proposed project would have a beneficial impact on the primary land use of the area; flood risk management. This beneficial impact would be realized through the

improved debris baling efficiencies. Public access is restricted beyond the outlet control works, but additional construction traffic along the access road could have a temporary negative impact on recreation.

3.2.3 Environmental Consequences of the No-Action Alternative

No changes to land use would occur as a result of the selection of the No-Action Alternative.

3.3 Air Quality and Noise

3.3.1 Affected Environment

Air Quality

Fairbanks is particularly susceptible to air quality problems during the winter due to increased heating requirements combined with temperature inversions during cold weather. Surrounded by hills on three sides, temperature inversions can trap a layer of cold air close to the ground. Even relatively small amounts of pollution can accumulate to unacceptable levels over periods of days or even weeks at a time.

The United States Environmental Protection Agency (EPA) designated the urban part of Fairbanks North Star Borough (FNSB) a Clean Air Act nonattainment area (NAA) for carbon monoxide in 1991. However, FNSB has not violated the National Ambient Air Quality Standard (NAAQS) for carbon monoxide since 1999. Since that time, EPA approved the FNSB's carbon monoxide attainment plan and the area designated in 1999 became a Carbon Monoxide Maintenance Area on September 27, 2004. All of the activities proposed in the assessment are well outside the boundaries of the carbon monoxide maintenance area.

In December 2009, an expanded segment of the Fairbanks North Star Borough was designated as a nonattainment area due to violations of recently promulgated national ambient air quality standards (NAAQS) for particulate matter smaller than 2.5 micrometers in diameter (PM2.5) in the city of Fairbanks. The EPA’s air quality designations are based on the most recent three years of air quality monitoring data, recommendations by the states and tribes, and other technical information. The PM2.5 nonattainment area boundaries extend outside the city and are illustrated in Figure 6.

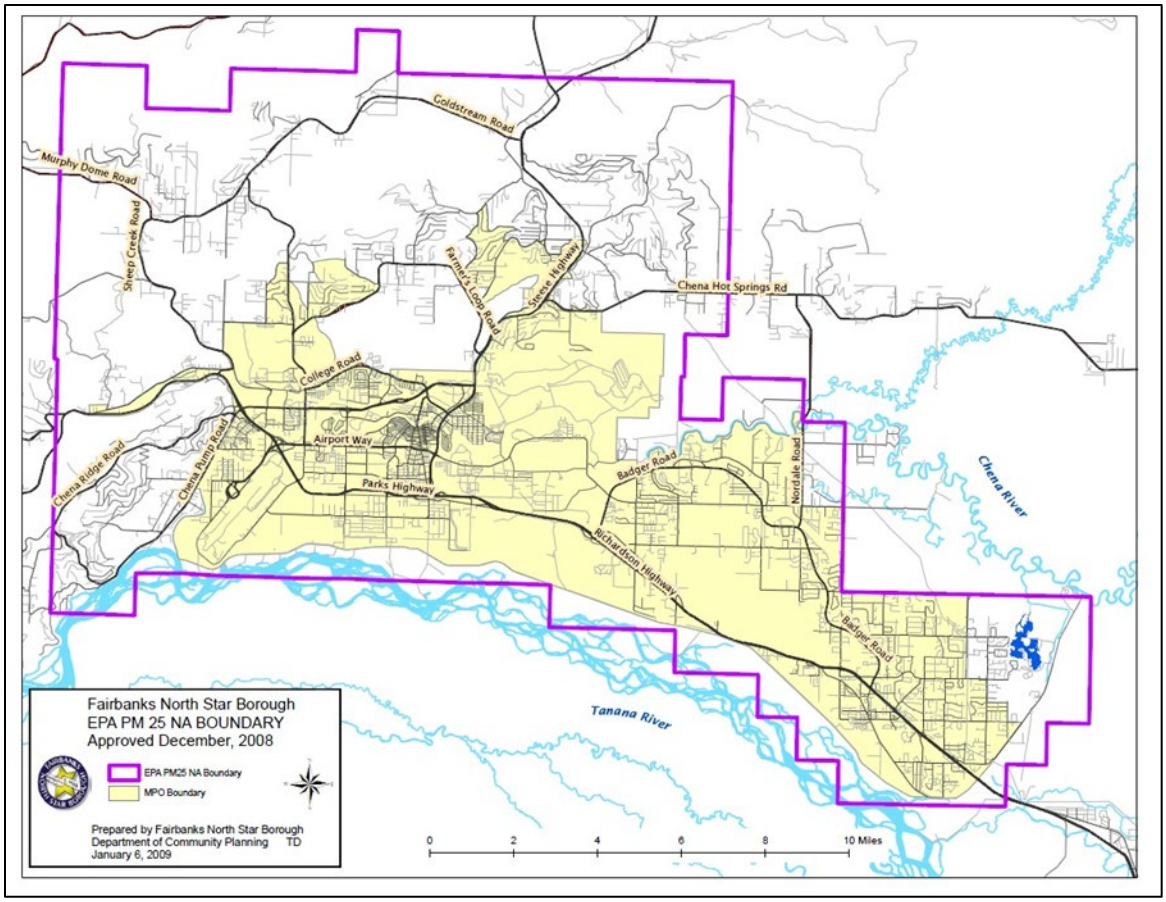

FIGURE 6. Fairbanks North Star Borough PM2.5 nonattainment boundary

In 2017, the FNSB PM2.5 NAA was reclassified from moderate nonattainment to serious nonattainment for failure to meet the mandated air quality improvements. The State of Alaska has been required to update the State Implementation Plan (SIP) by including more stringent measures to reach the target reductions in PM2.5. The annual threshold for requiring general conformity analyses was reduced from 100 tons of PM2.5 and PM2.5 precursors to 70 tons. ADEC permitting thresholds were reduced to parallel the general conformity thresholds.

The nonattainment area encompasses part of the 8.2-mile-long Moose Creek Dam and extension but does not extend to the control sill at the Tanana River. The construction of the Baling Deck would be conducted immediately outside the nonattainment area. Construction would occur during the summer monthswhen the frequency and persistence of inversions is much lower than the winter months. (Wendler and Nicpon, 1974)

Most of the PM2.5 in Fairbanks is thought to be generated by combustion of fuel and wood for heat, electricity, and transportation. Typical PM2.5 sources include power plants, vehicles, wood-burning stoves, and wildland fires. In Fairbanks, air quality problems are most prevalent during cold weather temperature inversions. In fact, during a study conducted in the winter of 1967-1968, a surface inversion was observed about 95% of the time between November and February. (Wendler and Nicpon, 1974) Figure 7 illustrates the number of days that PM2.5 concentrations exceeded the 24 hour National Ambient Air Quality Standards (NAAQS) in

downtown Fairbanks during 2017. (ADEC Air Quality 2018) The NAAQS were exceeded six days in January and five days in February, but emissions of PM2.5 fell below the 24-hour NAAQS limit of 35 µg/m3 for the rest of the year. The formation of temperature inversions was likely a contributing factor for the wintertime exceedances. Five exceptional events, likely wildland fire smoke, were documented during the summer months and are not expected to contribute to the NAAQS compliance totals.

In the period between 2000 and 2017, the number of annual exceedances has ranged between zero and ten, not including exceptional events (wildland fire smoke) that do not contribute to the compliance totals. A line graph illustrating the number of exceedances occurring at the Fairbanks State Office Building monitor in downtown Fairbanks is shown in figure 8. All of the exceedances, except for exceptional events, occurred during the winter months of October through March. The EPA strengthened the NAAQS in 2006 by lowering the PM2.5 concentration standard from 65 µg/m3 to 35 µg/m3.

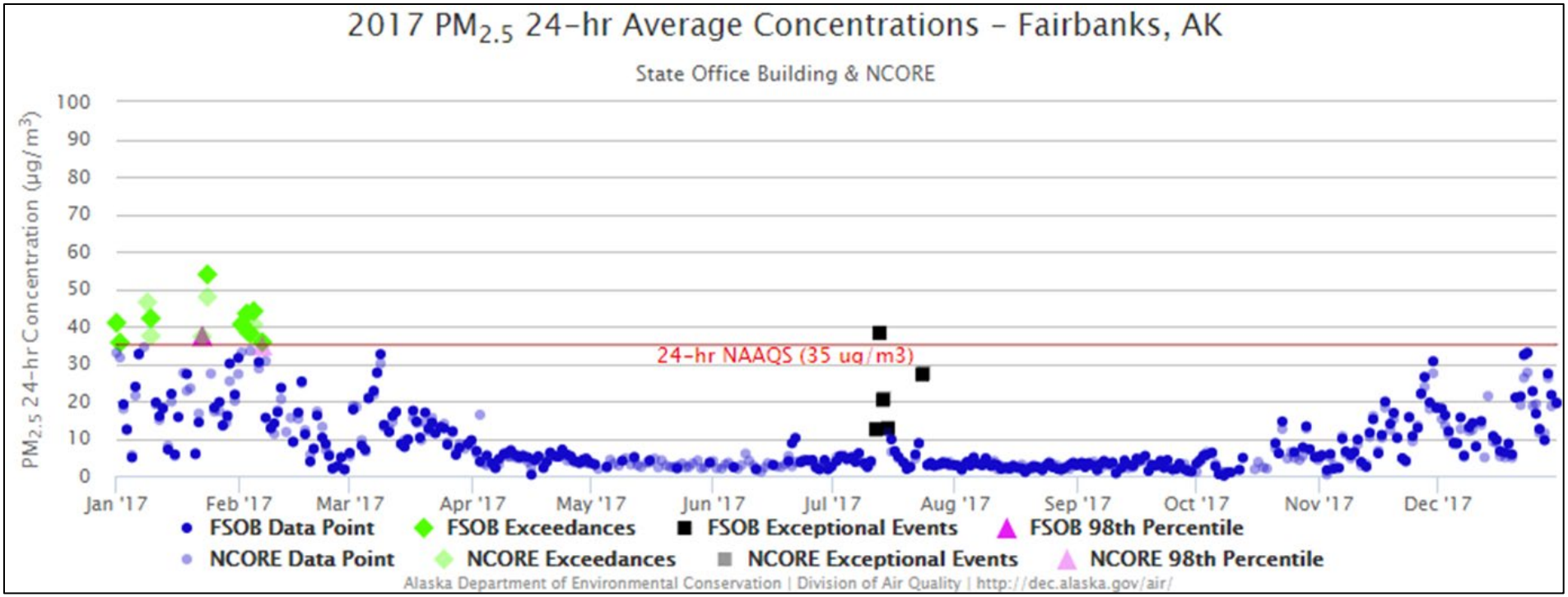

FIGURE 7. PM2.5 Exceedances of the NAAQS 24-hour standard

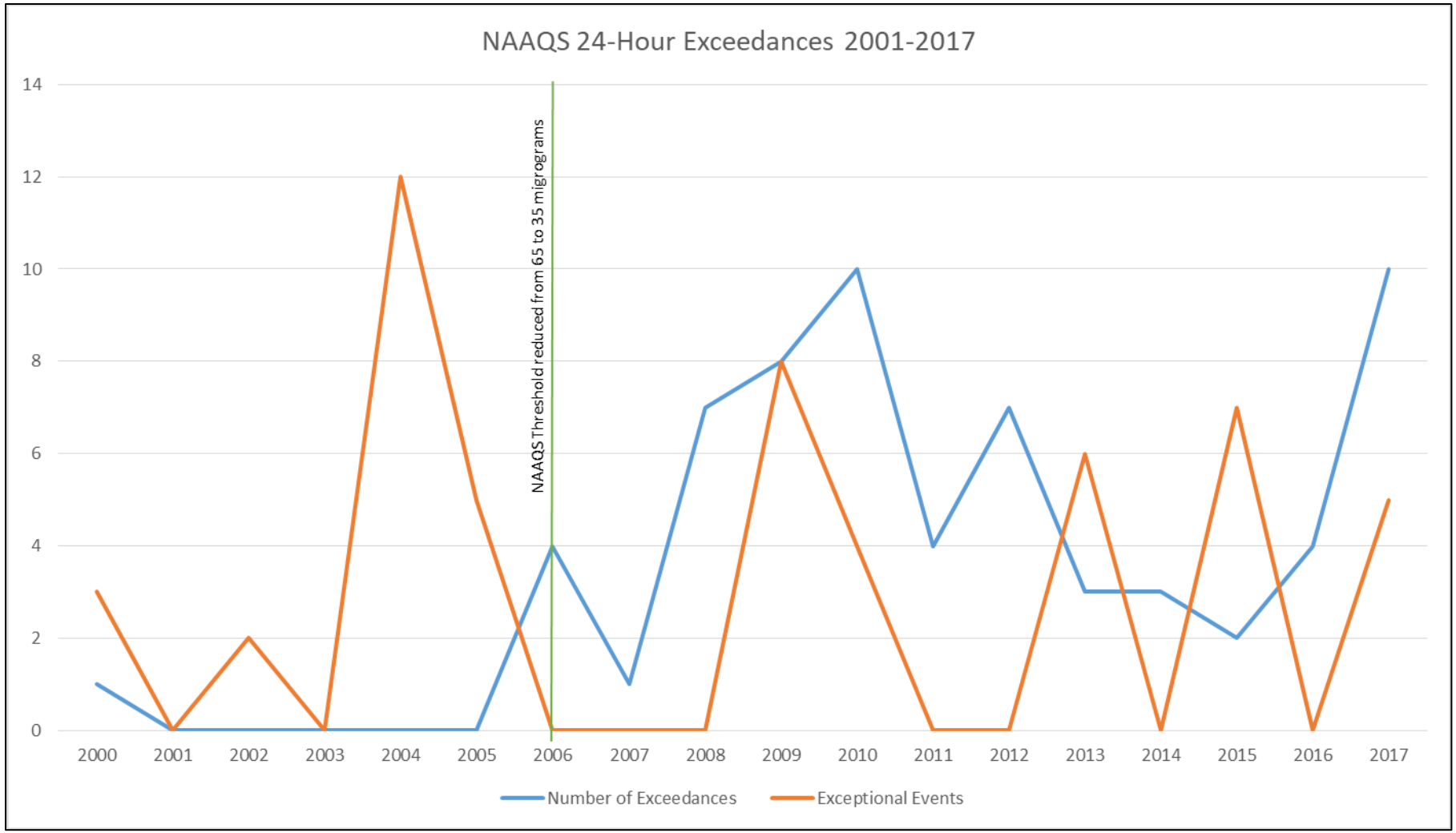

FIGURE 8. Number of PM2.5 exceedances 2000-2017

Noise

Due to the relatively low level of development in the vicinity of the dam, ambient noise levels are predicted to be fairly low. There are no significant noise-producing activities within 1/2 mile of any component of the proposed action; however, there are three small airstrips and the Richardson Highway within 6.2 miles of the outlet control structure. The Chena River Lakes Flood Control Project embankment is over 4 miles from the maximum extent of Eielson Air Force Base noise contours exceeding 65 dB, the lowest level of emanation measured by the Fairbanks North Star Borough Community Planning Department's Joint Land Use Study (JLUS). Fort Wainwright's Ladd Army Airfield 65 dB noise contour ends over 9 miles from the dam.

3.3.2 Environmental Impacts of the Preferred Alternative

Air Quality

The operation of construction equipment would result in temporary, minor increases to the volume of air pollution during the construction of the project. The improvements to operational efficiency that would be realized by the construction of the proposed project could reduce the required duration of the baling, thereby reducing the overall air emissions produced by the normal operation of the flood control project. The proposed Baling Deck project would be constructed just outside the boundary of the FNSB PM2.5 NAA, and a General Conformity under the Clean Air Act is not required.

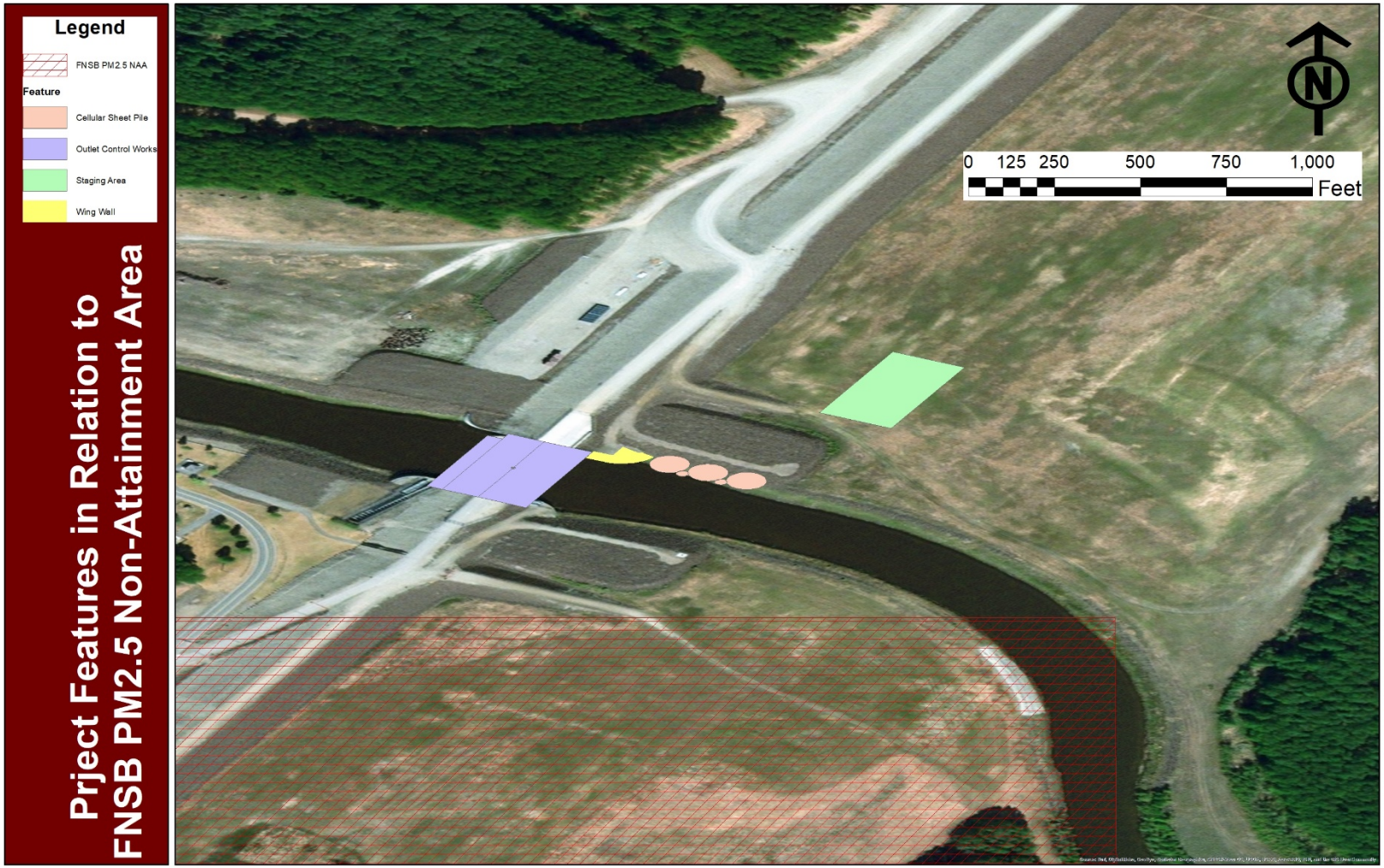

FIGURE 9 Project Features in Relation to the FNSB PM2.5 NAA

Noise

The noise produced from the construction, particularly the use of pile driving equipment, of the new Baling Deck would temporarily elevate noise levels in the immediate area. These activities would occur in areas that periodically are exposed to elevated noise levels from vehicular traffic, aircraft, and construction activities. The temporary impacts to noise would not be significant.

3.3.3 Environmental Impacts of the No-Action Alternative

The No-Action Alternative would not have any impacts on air quality or noise.

3.4 Water Quality

3.4.1 Affected Environment

The Chena River is not fed by glacial runoff, and turbidity is relatively low during normal flows. Turbidity increases in the Chena River during high water events. Principal water quality issues are associated with the natural presence of elements from mineralization. Past mining probably has made metals more available to the system. Arsenic, barium, chromium, and zinc concentrations were relatively high in sediments sampled in the lower Chena River (USACE 1998).

The Chena River Lakes Flood Control Project and operation of the project do not appreciably affect the Chena River water quality. Sediments may settle out of water impounded during flood events. Before human development in the Fairbanks area, floodwaters of the Tanana and Chena rivers coming led in their shared floodplains and periodically filled remnant channels left by meandering rivers. Silt and bedload material would have been introduced into the lower Chena River during those events. Levees, slough blocks, and drainage modifications now limit Tanana River incursions into the lower Chena River.

The Chena River in the project area does not receive water from the Tanana River except when Tanana River elevation exceeds the control sill elevation of 507.1 feet NAVD88, a 100-year flood event for the Tanana. Any nutrient benefit it may have gained from Tanana River sediment is lost, but light penetration for photosynthesis and sight feeding by fish and invertebrates is unimpeded by Tanana River suspended solids, and aquatic bottom habitat is not clogged with silt. Exclusion of Tanana River water may have benefited both salmon and grayling.

3.4.2 Environmental Consequences of the Preferred Alternative

The construction of a new river Baling Deck would take place partially below the ordinary high water mark of the Chena River and riparian area along the Chena River. The riparian area has been previously armored and does not contain any vestiges of natural flora or the inherent water quality functions provided by riparian vegetation. The construction contractor would prepare and submit a storm water pollution prevention plan to ensure water quality standards are not exceeded by storm runoff reaching the Chena River.

High water events are common summer occurrences in the Chena River and result in natural increases in turbidity. Temporary turbidity increases from construction would not be appreciably different from elevated sediment suspension associated with rain events. Silt curtains would be deployed to contain fine materials, but the Chena River often carries logs and other debris that could quickly destroy a silt curtain and the constant replacement of sediment containment devices with questionable effectiveness is not practicable.

3.4.3 Environmental Consequences of the No-Action Alternative

The No-Action Alternative would not have any impacts on water quality.

3.5 Wetlands and other Aquatic Resources

3.5.1 Affected Environment

Pockets of palustrine wetlands occur within the project area: emergent, scrub-shrub, and forested. Considering the high hydraulic conductivity of the soils in the area, it is likely that all the wetlands in the area share a shallow subsurface connection with the Chena River and are waters of the United States. Palustrine wetlands provide many important values for people and wildlife, including flood flow alteration, wildlife habitat, production of organic material, biogeochemical cycling, and water purification.

Palustrine wetlands in the project area are typically seasonally saturated due to the effects of seasonal frost on drainage, have relatively low vegetation diversity, and feature an appropriate geomorphic position. Resin birch, various willow species, and black spruce are common in the tree and scrub stratum. Herbaceous cover is often low, except in sedge meadows, and bryophytes are abundant. Soils are usually overlain by a robust partially decomposed organic layer, and the soil profile is often mottled with reduced iron concentrations due to the water table fluctuating with seasonal frost.

3.5.2 Environmental Consequences of the Preferred Alternative

The construction footprint of the new river Baling Deck would be confined to the previously disturbed site of the existing Baling Deck, a small area below the ordinary high water mark of the Chena River, and the staging area north of the construction site. These areas are heavily disturbed or modified and none of them contain wetlands. (Figure 10) A detailed analysis of the proposed project's impacts on waters of the United States is included in the 404(b)(1) analysis contained in Appendix B. The operation of the dam during construction could inundate the construction site and suspend sediments, potentially precipitating from suspension in the floodway wetlands as flood waters recede. The Chena River would be carrying higher than normal concentrations of sediment during a flood and the additional construction sediment would present an imperceptible increase.

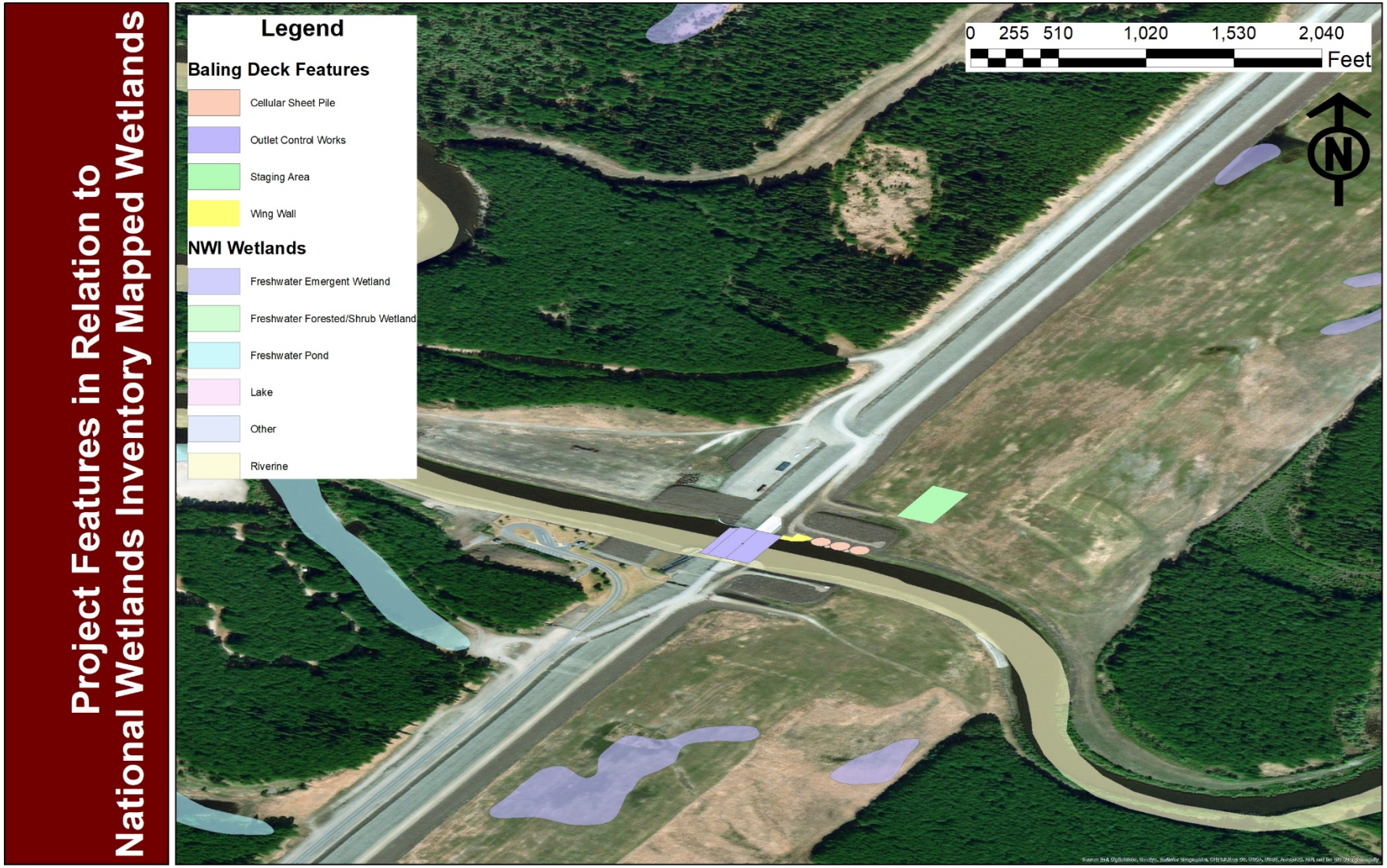

FIGURE 10. Project Features in Relation to National Wetland Inventory Mapped Wetlands

3.5.3 Environmental Consequences of the No-Action Alternative

The No-Action Alternative would not have any new impacts on wetlands.

3.6 Protected Species.

No threatened, endangered, or candidate species are known to occur in the project area based on a review of the USFWS provided species list. (Appendix A)

3.7 Cultural and Historic Resources

3.7.1 Affected Environment

A search of the Alaska Heritage Resources Survey (AHRS) indicates there are 13 cultural resources with the general vicinity of the project area, but none lie directly within the affected environment (Table 1). Site FAI-1752 (Alaska Military Highway Telephone and Telegraph Line) traces the historic route of the communications line built by the U.S. Army 255th Signal Corps connecting Edmonton, Alberta, Canada with Fairbanks along the Alaska Highway corridor. FAI-1752 was built between 1942 and 1943. The corridor runs east to west and is cut by the Chena floodway. The second resource directly within the project area is FAI-2328 (Richardson Highway). FAI-2328 was completed in 1910 and currently runs over the Chena floodway on a bridge. No sites identified within the affected environment would be affected by this project. The Richardson Highway (FAI-2328) may be used for transportation to and from the site; however, its use as a modern roadway is consistent with its historical use and will not be negatively affected by this project.

The majority of the area encompassing the Chena River Lakes Flood Control Project is previously disturbed from the initial construction of the dam itself, indicating the likelihood of unknown cultural resources in the area is low. It is not expected that any cultural resources will be impacted by this project.

Should any previously unknown historic or prehistoric property be encountered during current or future undertakings within the project area, all work that might affect the property shall cease until the property's eligibility for the NRHP in consultation within the State Historic Preservation Officer (SHPO) and other interested parties can be determined as per 36 CFR 800.13(b). The potential effect of the undertaking will be assessed with the SHPO and other interested parties. If the undertaking will adversely affect the newly discovered property, mitigation measures will be developed in consultation with the SHPO and other interested parties and will be completed before the adverse effect. Consultation with the SHPO and other interested parties will be carried out expeditiously to avoid unnecessary delays to the undertaking. Additionally, the ACHP will be notified of any newly discovered NRHP eligible properties and mitigation measures. Mitigation measures will be determined in consultation with the SHPO and any interested parties.

TABLE 1. Considered Cultural Resources (AHRS 2018)

AHRS No.	Site Name	NRHP Status	In AE
FAI-0035	Chugwater Site	Listed as NHR	
FAI-0072	Moose Creek Bluff Pictograph Site	None	
FAI-0165	Chena Bluff Site	None	
FAI-0212	Chena River Cabin	None	
FAI-0339	FAI-00339 (abandoned cabin)	None	`
FAI-1670	Nike Site Tare	None	
FAI-1747	3128 Tobacco Rd. North Pole (long cabin)	Not Eligible	
FAI-1750	FAI-01750 (cabin)	Not Eligible	
FAI-1752	Alaska Military Hwy. Telephone and Telegraph Line	None	
FAI-2124	3463 Plack Road	Not Eligible	
FAI-2125	FAI-02125 (Historic wood-frame structure)	Not Eligible	
FAI-2194	Moose Creek Dike	Not Eligible	
FAI-2328	Richardson Highway (Mile point 329.2-362)	None	

* AE- Affected Environment
* NRHP- National Register of Historic Places
* NHR- National Historic Resources

Should there be an inadvertent discovery of human remains and/or grave goods during current or future undertakings within in the project area, standard operating procedures (Alaska Statute (AS) 12.65.005(a)(1) and AS 18.50.250) and a memorandum of understanding will be drawn up among the Alaska Office of History and Archaeology, the State Medical Examiner, and the Alaska State Troopers. Upon discovery, all activity in the vicinity of the human remains and/or grave goods must cease and the site must be secured against further disturbance. The project archaeologist will be immediately notified by phone, followed by written notification. As per AS 12.65.005(a)(1), the project archaeologist or project manager will immediately notify a peace officer (State Trooper, Village Police Safety Officer, Law Enforcement Officer, or Borough Officer), the State Medical Examiner, and the SHPO by phone. A qualified person with the appropriate level of expertise as decided by the project archaeologist and the State Medical Examiner or SHPO must examine the remains to determine postmortem interval. Should remains need to be removed, relocated, transported, or reburied, the Alaska Bureau of Vital Statistics, Alaska Department of Health and Social Services, would be contacted to obtain a disinterment-reinternment permit and/or burial-transit permit as per AS 18.50.250.

3.7.2 Environmental Consequences of the Preferred Alternative

Review of the Alaska Heritage Resources Survey and an archaeological survey conducted for the initial construction of the Moose Creek Dam published on December 18, 1979, indicated no historic properties would be affected by work in any of the project areas (Yarborough, 1978). Coordination with the SHPO would be conducted before any ground-disturbing activities to gain concurrence on the Alaska District's determination that no historic properties would be affected by the proposed construction project.

3.7.3 Environmental Consequences of the No-Action Alternative

The No-Action Alternative would not have any impacts on cultural resources.

3.8 Cumulative Effects

Federal law (40 CFR 1508.7) requires that NEPA documents assess cumulative effects, which are the impact on the environment resulting from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions. The proposed project would not directly contribute to cumulative impacts because the impacts would be confined to the previously disturbed area near the Control Works. The Baling Deck would not encourage additional projects in the area or contribute to additional impacts.

The proposed activity would occur in an active flood control project and similar projects with similar impacts will undoubtedly be proposed in the future. The Chena River Lakes Flood Control Project has been operational since the late 1970s, with many various maintenance and upgrades being undertaken in the interim. The Alaska District is committed to environmental stewardship and every proposed project at the Chena River Lakes Flood Control Project undergoes a mitigation process in which attempts to avoid and minimize the environmental impacts of projects are undertaken in accordance with NEPA.

When considered with the Alaska District's environmental review process, the proposed action's cumulative effects are less than significant.

4.0 CONCLUSION

The proposed construction of a new river Baling Deck at the Chena River Lakes Flood Control Project would result in a very minor amount of fill in waters of the United States (Chena River). This assessment supports the conclusion that construction of the proposed Baling Deck does not constitute a major Federal action significantly affecting the quality of the human environment; therefore, preparation of an environmental impact statement (EIS) is not warranted, and a finding of no significant impact (FONSI) may be signed.

5.0 AGENCY AND PUBLIC INVOLVEMENT

The following list of agencies were contacted during the February 13, 2018 through March 15, 2018, scoping period to solicit input on the scope of the impacts and resources affected by the proposed project. The Alaska Department of Fish and Game (ADFG) Habitat Division provided comments regarding their annual salmon counting operation at the Chena Dam. Coordination has been ongoing with the Department to minimize the impact of the proposed project on the salmon enumeration project.

- Alaska Department of Environmental Quality, Water Quality Division
- Alaska Department of Fish and Game, Habitat Division
- U.S. Army Corps of Engineers, Regulatory Division

- Alaska Department of Natural Resources, Division of Land, Mining and Water
- Alaska State Historic Preservation Office
- U.S. Environmental Protection Agency, Region 10 Aquatic Resources Unit
- National Marine Fisheries Service, Habitat Conservation Division
- U.S. Fish and Wildlife Service, Planning Assistance Unit
- Alaska Department of Transportation, Environmental Program Manager
- Bureau of Land Management, Eastern Interior Field Office
- U.S. Department of Agriculture, Natural Resource Conservation Service

Due to funding constraints, the project was delayed for over a year. The Alaska District conducted a second scoping period from August 12, 2019 through September 1, 2019. Scoping comments received during the August 2019 scoping are displayed in Table 2.

TABLE 2. Scoping Comment Matrix

Agency	Comment/Concern	Mitigation
FNSB Community Planning	A Floodplain Permit will be required for this project.	Obtain floodplain permit
ADFG	The Division of Sport Fish operates a salmon counting project just upstream from the flood control works from late June to early August. If constructed in the spring, the proposed Baling Deck construction should not interfere with their access or operations.	Coordinate with ADFG Sport Fish to minimize impacts to the salmon counting tower
ADFG	The timing of any in-river work should be scheduled around sensitive migration periods for salmon. Adults are migrating upriver from June to September, and juvenile salmon out-migrate in the springtime, starting ~April.	Construct in-water portion in advance of adult salmon migration to the extent practicable
ADFG	The ADF&G has no objection to the proposed River Baling Deck Improvements at the Chena River Flood Control Project. A Fish Habitat Permit will be required for this work.	Obtain fish habitat permit
ADEC Air Quality	ADEC agrees with USACE-Alaska District that the proposed project is not located within an air quality non-attainment or maintenance area. Therefore, projects receiving federal funds or approvals do not require a conformity analysis under General Conformity regulations.	None required
ADEC Air Quality	Particular attention should be given during construction activities to take reasonable precaution per 18 AAC 50.045(d) to prevent particulate matter from being emitted into the ambient air. Also, if the preferred method for disposal of any organic debris is by open burning, the project implementation team must use "reasonable procedures to minimize adverse environmental effects and limit the amount of smoke generated" as well as get any applicable permits. A complete description of the open burn guidance policy can be found at http://dec.alaska.gov/air/air-permit/open-burn-info/	Manage woody debris in an existing manner; permit members of the public to collect all woody debris greater than 6" diameter for personal use

The Environmental Assessment and Draft Finding of No Significant Impact were placed on public notice for 30 days between 15 September 2019 and 15 October 2019. The public notice and comments received are included in Appendix C.

6.0 PREPARERS OF THIS DOCUMENT

This environmental assessment was prepared by Matt Ferguson of the Environmental Resources Section, Alaska District, U.S Army Corps of Engineers. The Corps of Engineers Project Manager is Jeremy Allen.

7.0 REFERENCES

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Fairbanks Fish And Wildlife Conservation Office
101 12th Avenue
Room 110
Fairbanks, AK 99701-6237
Phone: (907) 456-0203 Fax: (907) 456-0208

In Reply Refer To:
Consultation Code: 07CAFB00-2019-SLI-0159
Event Code: 07CAFB00-2019-E-00429
Project Name: Chena River Baling Deck

September 03, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Fairbanks Fish And Wildlife Conservation Office
101 12th Avenue
Room 110
Fairbanks, AK 99701-6237
(907) 456-0203

Project Summary

Consultation Code: 07CAFB00-2019-SLI-0159

Event Code: 07CAFB00-2019-E-00429

Project Name: Chena River Baling Deck

Project Type: STREAM / WATERBODY / CANALS / LEVEES / DIKES

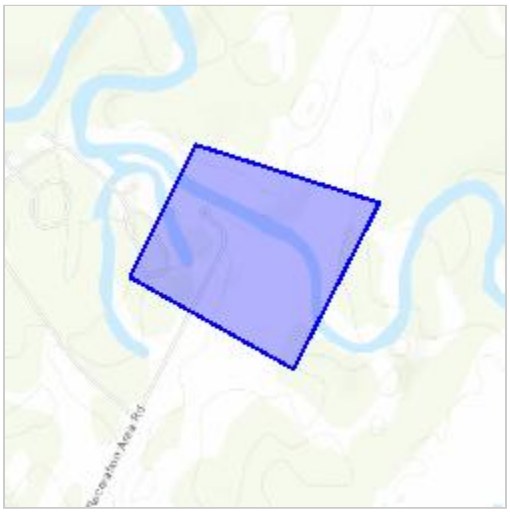
Project Description: The Alaska District proposes in fiscal year 2020 to construct a new river baling deck as the Chena River Lakes Flood Control Project. The baling deck would consist of a cellular sheet pile structure with three 50 foot diameter primary cells with two 15 foot diameter cells bridging the interstitial area along the face of the bulkhead. The new river baling deck would have a nominal overall footprint of 157’ x 50’ (7,850 ft2) ; which would provide a work surface of approximately 140’ x 40’ (5,600 ft2). The surface elevation of the new baling deck would match the existing road surface elevation of 514’ NAVD88. The sheet pile would be driven by vibratory hammer to the extent practicable and the cells would be backfilled with classified fill material to provide a stable work surface.

The baling deck would be used to provide a work surface for debris removal (baling) operations; including the operation of a crane to remove debris such as trees and limbs, front-end loaders to move the debris around, dump trucks to carry the debris, and sawyers to cut the material into manageable sized pieces. The debris must be cleared from the trash racks protecting the Outlet Control Works to enable the unrestricted flow of water through the gates and maintain navigation through the Works. The current work area presents space and visibility limitations, reducing the operational efficiency of baling operations and presenting safety concerns..

The Baling Deck would be constructed inside of an operational US Army Corps of Engineers Flood Risk Management Project, in an area that has been previously impacted by channelization, armoring, and baling operations. A small portion of the project would be constructed below the ordinary high water mark of the Chena River, a navigable water of the United States. The Chena River supports anadromous fish (Pacific salmon). The remaining footprint of the proposed project would be constructed in the denuded uplands immediately adjacent to the Control Works.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/64.79122665388216N147.1803171643277W



Counties: Fairbanks North Star, AK

Endangered Species Act Species

There is a total of 0 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

EVALUATION UNDER
SECTION 404(b)(1) CLEAN WATER ACT 40 CFR PART 230
River Baling Deck at Chena River Lakes Flood Control Project

1.0 Project Description and Background

1.1 Location: Section 32, Township 1S, Range 3E, Fairbanks Meridian, in the Chena River Lakes Flood Control Project, near North Pole, AK, in vicinity of Latitude 64.792548°N, Longitude -147.178500°W. (Figure 1)

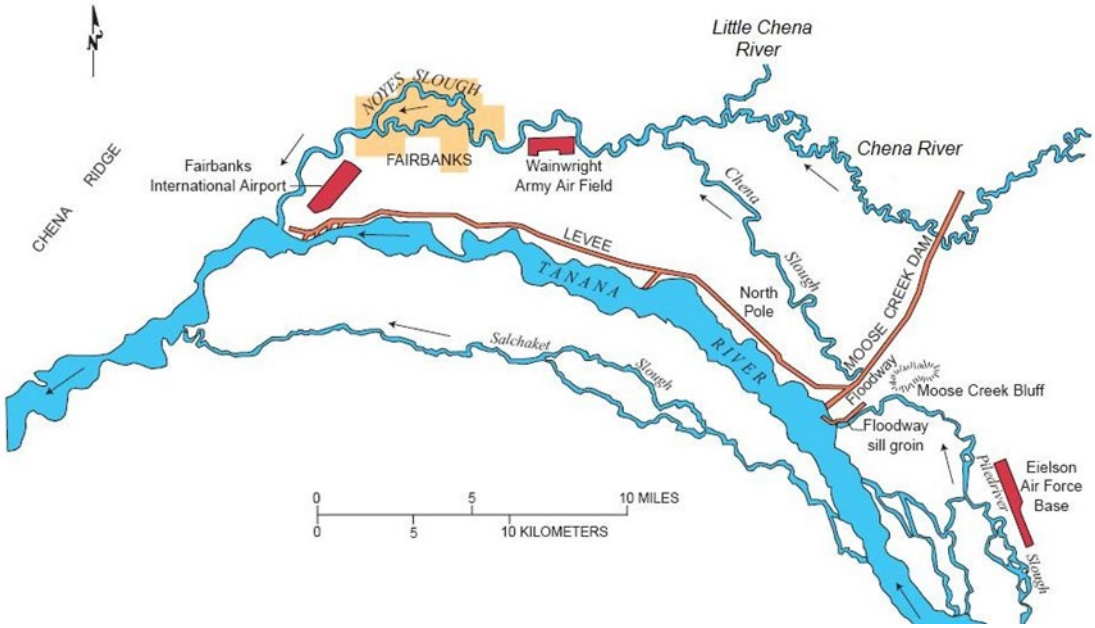


Figure 1. Map depicting the location of the Chena River Lakes Flood Control Project in relationship to major rivers and surrounding communities

1.2 Project Description: The project includes the construction of a new river baling deck on the upstream north bank of the Chena River to alleviate issues with baling operations. The proposed improvements include a baling deck that would allow the crane operator to see the work area. Future improvements could include an access road and working pad area to provide maneuvering room to set the debris in piles, room for sawyers to cut debris, and space for sorting and loading debris with a medium sized excavator into 26 cubic yard side dump trucks to haul the debris to the staging area on the downstream side of the dam.

The baling deck is proposed to be a cellular sheet pile structure and will have a nominal overall footprint of 157’ x 50’, with a working area of approximately 140’ x 40’. The working surface fill match the existing road elevation of approximately 514’ NGVD 88. The preliminary design concept was a continuous sheet pile bulkhead with tie back anchors. After the concept design

was complete, concerns with regard to the detailed construction requirements and cost risk concerns led the USACE to direct the design contractor to change the design to the currently proposed cellular sheet pile structure.1.3 Purpose and need: The Alaska District proposes to upgrade in fiscal year 2019 the electrical supply infrastructure of the Outlet Control Structure at the Chena River Lakes Flood Control Project (Moose Creek Dam) by constructing a 2.6-mile-long aerial electrical feeder to replace the outdated underground electrical line in order to improve reliability and relieve maintenance concerns.

1.3 Authority: Flood Control Act of 13 August 1968, Public Law 90-483 as adopted, provides for the construction of a dam and floodway for the Chena River.

1.4 General Description of Dredged or Fill Material: Sections of three cellular pile structures would lie below 492’ NAVD88, which is the approximate ordinary high water mark of the Chena River upstream of the dam. Ordinary high water defined the boundaries of aquatic features for a variety of federal, state, and local regulatory purposes; including Alaska Department of Fish and Game’s authority under the Fishway Act and Anadromous Fish Act and the US Army Corps of Engineers’ authority under the Clean Water Act (CWA).

The portions of the three cells that would be constructed in water would fill 162 ft2, 42 ft2, and 16 ft2, respectively moving away from the wing wall when considering 492’ NAVD88 as the ordinary high water mark. A total of 223 ft2 of extensively modified river bed would be replaced by vertical sheet pile wall. (Figure 2)

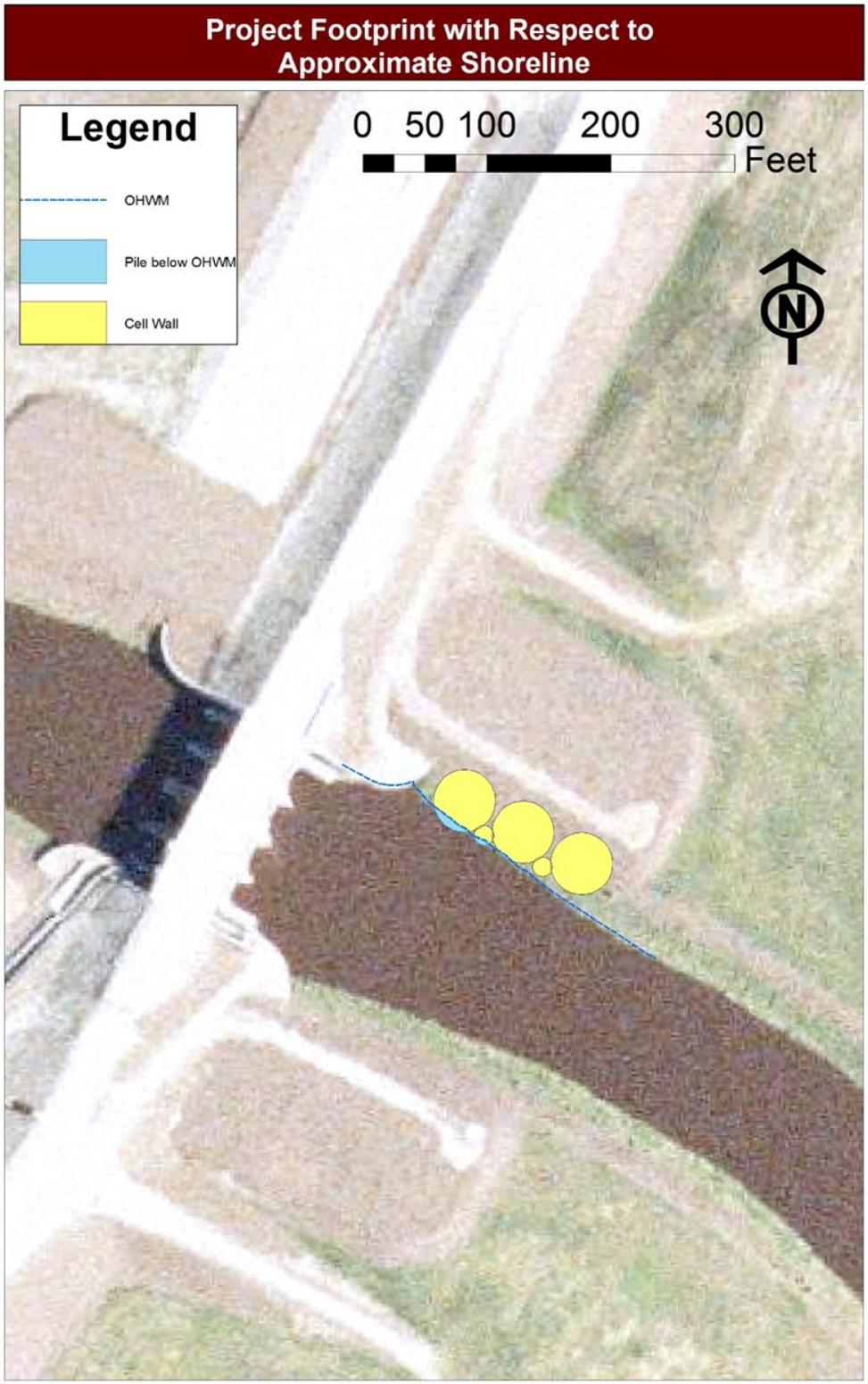


Figure 2. Extent of the Cellular Pile Bulkhead Below the Approximate Shoreline. (492' NAVD88)

1.5 Description of the proposed discharge site: The Chena River Lakes Flood Control Project, commonly referred to as "Moose Creek Dam", is located southeast of the City of North Pole, Alaska, and approximately 15 miles east-southeast of the City of Fairbanks, Alaska. The dam is approximately 40 river miles upstream of the Chena River's confluence with the Tanana River. Figure 1 shows the Dam's location in relation to major rivers and surrounding communities.

The project is less than 150 miles south of the Arctic Circle. Climate is typical of interior locations in the far north. Average January temperatures range from -19 to -2 °F; average July temperatures range from 49 to 71 °F. Extreme temperatures range from as low as -60 °F to almost 100 °F. Annual precipitation is 11.5 inches, with 67.8 inches of snowfall. Heaviest precipitation generally is in August and September.

The Chena River Lakes Flood Control Project is situated on the historical Chena River floodplain, within the central Tanana valley. The elevation slowly increases from about 500 feet NAVD88 at the Chena River bank to about 533 feet NAVD88 near the perimeter of the floodplain. The floodplain is interspersed with patches of wetlands, streams, ponds, and lakes. The north end of the dam terminates at the base of a fairly steep hill with a peak elevation of about 1040 feet NAVD88. The southern end of the project is bounded by the Tanana River; a broad, silty, braided river. Bedrock is estimated to be more than 600 feet below Moose Creek Dam in some areas, decreasing in depth until it reaches the surface at the north abutment. Discontinuous permafrost often forms hydrologically impermeable barriers in the far north, but groundwater moves readily through thawed gravelly strata that dominates the conditions found beneath Moose Creek Dam.

The baling deck would be constructed immediately upstream of the Control Works, on the north bank of the Chena River. The existing baling deck currently occupies the site and the channel has been modified and stabilized in order to improve the operation of the dam. The Chena River is an anadrous stream and a navigable water of the United States.

Intensive fish collections from above and below the Chena River Lakes Flood Control Project (USACE 1999) and earlier collections (Van Hulle; 1968, Walker 1983, and USFWS, 1984) identified the following species:

- Chinook salmon (*Oncorhynchus tshawytscha*)
- Chum salmon (*Oncorhynchus keta*)
- Coho salmon (*Oncorhynchus kisutch*)
- Arctic lamprey (*Lethenteron camtschaticum*)
- Lake chub (*Couesius plumbeus*)

- Arctic grayling (*Thymallus arcticus*)
- Longnose sucker (*Catostomus catostomus*)
- Round whitefish (*Prosopium cylindraceum*)
- Humpback whitefish (*Coregonus oidschian*)
- Broad whitefish (*Coregonus nasus*)
- Least cisco (*Coregonus said*)
- Sheefish (*Stenodus leucicthys*)
- Northern pike (*Esox lucius*)
- Burbot (*Lota lota*)
- Slimy sculpin (*Cottus cognatus*)
- Nine spine stickleback (*Pungitius pungitius*)

Three of those species, Chinook salmon, chum salmon, and Arctic Grayling are of particular importance in the biology of the Chena River and are highly important in the Tanana River system fishery. Arctic grayling are comparatively large, are abundant in the river, are important predators, and are highly prized in the recreational fishery. Both salmon species transport important nutrient sources into the system.

The Alaska Department of Fish and Game Fish Resource Monitor indicates that Chinook and chum salmon are present in the Chena River in the vicinity of the proposed project. Virtually all Chinook salmon spawning occurs above the Dam and there is no salmon harvest allowed upstream of the Dam.

The portion of the Chena River that would be impacted by the placement of fill has already been impacted through the construction of the Dam, the operation of the Dam, and modifications implemented to improve the effectiveness of the flood control mission. The results of these influences have resulted in a stabilized and armored channel designed by engineers to flow water through the control works in a predictable manner whenever the water control manual dictates the dam be operated. The bed and banks of the Chena River are armored on both sides of the river for over 1,000’ preceding the outlet control works, presenting an essentially man-made channel.

1.6 Description of disposal method: Pile driving equipment would be used to start the installation of the sheet piles at the west side of the western-most cell (cell #1) and proceed around the circumference of the cell in a northerly direction. The subsequent cells would be tied in and competed in this manner. After the completion of the cell walls, the cells would be

backfilled, compacted, and topped with two feet of gravel to provide a working surface. (Figure 3)

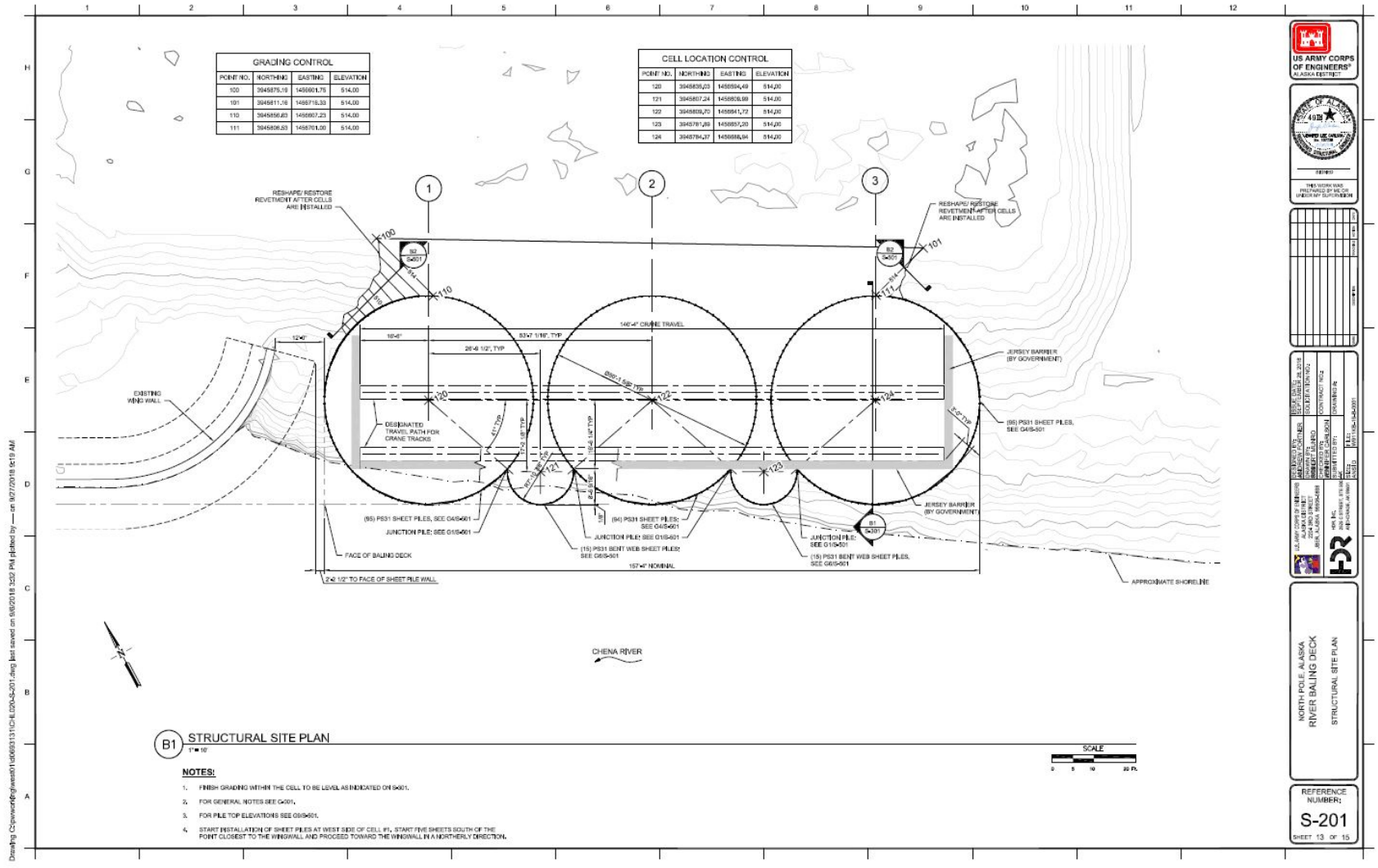


Figure 3. River baling deck structural site plan

2.0 Factual Determinations

2.1 Physical Substrate Determination: In general, the Chena River Lakes Flood Control project area is underlain by soils of order Entisol, suborder Fluvent. Entisols are those soils that do not show any profile development other than an A horizon. Fluvents are typical of valleys and deltas of rivers, particularly rivers with high sediment load. Soils in the group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded. The cool climate accelerates accumulation of organic materials, which has the effect of relatively thick organic horizon development and could create acidic soils. The Chena River meander and low velocity support little suspended sediment under normal flow conditions.

The soils in the project footprint are non-native, consisting of an approximately two foot thick layer of two foot diameter rip-rap overlying an approximately two foot thick layer of 1.5 foot diameter lift rock fill. The rock within the footprint of the cells would be removed prior to pile installation and replaced at the toe of the cells after construction has been constructed.

2.2 Water circulation, fluctuations, and salinity determinations: Water velocity would increase in the area impacted by the construction of the sheet-pile cells as a result of decreasing hydraulic resistance. The over-riding function of the flood control project is best served by predictable and efficient water flow through the project, so the construction of a structure that expedites hydraulic conductivity serves the aver-arching project purpose. The construction of the new baling deck would improve the efficiency of baling operations, further reducing hydraulic resistance by the removal of debris from the trash racks. This would have a corresponding impact on water fluctuations during the operation of the dam by allowing floodwaters to recede in the most efficient manner.

2.3 Suspended particulate/turbidity determination: The construction of a sheet-pile baling deck could temporarily elevate turbidity levels through substrate disturbance from pile-driving and the removal and replacement of armor rock. Turbidity would be confined to the extent practicable through the use of turbidity curtains. Periodic turbidity elevations are part of the normal regime in the Chena River in the form of high flow events and floods, so the any suspended sediment that escapes the turbidity curtain would not create an unprecedented situation in the reaches of the Chena River immediately surrounding the proposed project.

2.4 Contaminant determinations: The rock and gravel placed for the backfill will be clean material free of contaminants. The finished project will not introduce new contaminants. There is no known source of contamination at or near the project site that would be mobilized or exacerbated by this project.

2.5 Aquatic ecosystems and organism determination: The total area of impacts to aquatic ecosystems is about 233 square feet. The area below the ordinary high water mark is already denuded and armored, and it would be returned to the existing condition after the cells are completed. The area is not valuable habitat for any aquatic species; the flows through the outlet

control works and surrounding reaches are intended to exceed those of the River as a whole, which would have the effect of discouraging aquatic organisms like fish from staying in the area for any longer than necessary for transit.

The loss of 233 square feet of armored streambed would not have a quantifiable impact on aquatic organisms or their habitat. The noise generated from construction would temporary drive animals from the immediate area, but that impact would be temporary and abundant surrogate habitat exists in the surrounding areas. The impact to ecosystems and organisms would be minor.

2.5 Proposed disposal site determination: No dredging is associated with the proposed project. Construction operations associated with installing the project would have no effect on the water column. The proposed action would comply with applicable water quality standards and would have no appreciable detrimental effects on municipal and private water supplies, recreational and commercial fisheries, water-related recreation, or aesthetics.

2.6 Determination of cumulative and secondary effects on the aquatic ecosystem: The completed project will have negligible cumulative effects because it would not increase development in the project area or otherwise contribute to cumulative effects.

3.0 Findings of Compliance or Non-Compliance with Restrictions on Discharge

3.1 Adaptation of the Section 404(b)(1) Guidelines to this evaluation: The proposed activity complies with the requirements set forth in the Environmental Protection Agency's Guidelines for the Specification of Disposal Sites for Dredged or Fill Material.

3.2 Evaluation of availability of practicable alternatives to the proposed discharge site which would have less adverse impact on the aquatic ecosystem: The principle discharge to waters of the U.S. proposed in this project is the placement of fill material for a new river baling deck to support debris removal at a critical flood control project protecting multiple downstream communities. The selection of a new baling deck overlapping the existing baling deck is the least environmentally damaging practicable alternative.

3.3 Compliance with applicable state water quality standards: The proposed construction project would not be expected to have an appreciable adverse effect on water supplies, recreation, growth and propagation of fish, shellfish and other aquatic life, or wildlife. It would not be expected to introduce petroleum hydrocarbons, radioactive materials, residues, or other pollutants into the waters of the Chena River. The Alaska District will obtain a Certificate of Reasonable Assurance from the Alaska Department of Environmental Conservation Water Quality Division prior to contract award.

3.4 Compliance with applicable toxic effluent standards or prohibition under Section 307 of the Clean Water Act: No toxic effluents that would affect water quality are associated with the proposed project. Therefore, the project complies with the toxic effluent standards of Section 307 of the Clean Water Act.

3.5 Compliance with the Endangered Species Act of 1973: There are not threatened, endangered, or candidate species in the project area.

3.6 Compliance with specified protection measures for marine sanctuaries designated by the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972: Not applicable, no marine sanctuaries are present near the project site.

3.7 Evaluation of extent of degradation of the waters of the United States: The proposed activity could result in the loss of 233 square feet of armored river bed and bank. The reach of the river impacted is heavily altered and the minor nature of the discharge does not have the potential to create more than minor degradation to waters of the United States in the immediate vicinity of the bulkhead. There would be no significant adverse impacts to plankton, fish, shellfish, or wildlife.

3.8 Appropriate and practicable steps taken to minimize potential adverse impacts of the discharge on the aquatic environment: Incorporating the following avoidance, minimization, and conservation measures into the proposed project would help ensure that no significant impacts occur:

- Coordination with the ADF&G will continue in order to minimize the project's impacts on the annual salmon enumeration project at the Dam
- In-water work will be scheduled, to the extent practicable given the inherent constructability concerns associated with the project, to avoid the peak of the salmon run

3.9 Public interest determination: On the basis of the guidelines the proposed site of the discharge of fill material is specified as complying with the requirements of these guidelines, with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects on the aquatic ecosystem.

FINDING OF COMPLIANCE

For the Construction of a New River Baling Deck at the Outlet Control Works at the Chena River Lakes Flood Control Project, North Pole, Alaska

1. No significant adaptations of the guidelines were made relative to this evaluation.

2. The principle discharge to waters of the U.S. proposed in this project is the construction of cellular sheet-pile and the placement of fill material for the construction of a new River Baling Deck.

3. The planned discharge would not violate any applicable State water quality standards, or violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.

4. Use of the selected discharge site will not harm any endangered species or their critical habitat.

5. The proposed discharge will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife will not be adversely affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values will not occur.

- Coordination with the ADF&G will continue in order to minimize the project's impacts on the annual salmon enumeration project at the Dam
- In-water work will be scheduled, to the extent practicable given the inherent constructability concerns associated with the project, to avoid the peak of the salmon run

6. The proposed site of construction and discharge is specified as complying with the 40 CFR 230 Guidelines for the Specification of Disposal Sites for Dredged or Fill Material, when considered with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

Appendix C
Public Notice Comments