DEIS-APPENDIX 1

SECTION 404(B)(1) GUIDELINES EVALUATION,

NAVIGATION IMPROVEMENTS,

DELONG MOUNTAIN TERMINAL, ALASKA

Section 404(b)(1) Guidelines Evaluation
For
Navigation Improvements, DeLong Mountain Terminal, Alaska
Trestle-Channel Alternative

I. TENTATIVELY RECOMMENDED PLAN

The Alaska District is studying the feasibility of constructing improved navigation facilities at the DeLong Mountain Terminal (DMT) on the northwestern coast of Alaska to load ore concentrate directly onto ocean-going ships, and to unload petroleum products from ocean-going tankers. Four alternatives including a no-action alternative and the tentatively recommended plan (trestle-channel alternative) are considered in the DeLong Mountain Terminal Navigation Improvements draft Environmental Impact Statement (DEIS). Information presented in the DEIS is referenced frequently in this Section 404(b)(1) evaluation.

The DMT project is water dependent and depends on its proximity to the existing terminal facilities at Portsite. Other locations mentioned in the draft Interim Feasibility Report (ACOE) were considered, but found not to be practicable. The tentatively recommended alternative avoids, minimizes, and compensates for unavoidable effects as much as practicable.

The tentatively recommended Trestle-Channel Alternative would construct a 1,450 foot-long, pile-supported trestle from shore to a 300-foot-long, pile-supported loading platform offshore. Figures showing plan and side views of the trestle and additional information about this alternative are in Section 2.3 of the DEIS. The pile-supported trestle would support a conveyor system to load ore concentrate onto ships, a roadway for access to the loading platform, fuel lines, and utilities. The eastern section of the trestle would be built on land, as would an approach segment that would connect the trestle with onshore ore concentrate transportation systems, fuel lines, and roads. A seventh fuel storage tank to store gasoline for regional distribution would also be constructed on land near the six existing fuel tanks.

The approach segment of the trestle and the new fuel storage tank would be constructed on gravel pads placed partially on wetlands. The pads would also provide working areas for maintenance of the trestle and fuel tank. Initial gravel placement for the trestle approach also would serve as a construction staging and systems assembly area during the trestle construction.

A channel and turning basin would be dredged so fuel tankers and bulk ore carriers could reach the loading platform. The channel and turning basin would extend from the platform about 3.5 miles offshore to a depth of -53 feet. Both the channel and the turning basin would be periodically dredged to maintain navigability. A plan view figure of the areas that would be dredged and information about dredging quantities, depth, scheduling, and other project features are presented in Section 2.3 of the DEIS. Dredging

for construction and maintenance of the channel and turning basin and disposal of dredged material produced by that dredging is not addressed by this 404(b)(1) evaluation. Ocean disposal of dredged material is evaluated under the criteria of Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972. That evaluation is presented in Appendix 2 of the DEIS.

The turning basin and in-water structures at Portsite would affect waves and currents, causing south-migrating sediments to accumulate along the shore north of the tentatively recommended trestle sheet-pile cells. Accumulated sediment would be dredged annually and placed near the water line down current from the DMT facilities where it would be available for beach nourishment.

Three elements of the trestle-channel alternative would be subject to Section 404 of the Clean Water Act for placement of fill in waters of the United States. They are: (1) Sheet pile cells containing ballast fill placed in the Chukchi Sea; (2) Fill material placed in wetlands for construction and operation of new project features; and (3) Discharge of dredged by-pass materials into near-shore waters of the Chukchi Sea to minimize interruption of near-shore sediment transport processes.

Fill for Sheet-Pile Cells.
Sheet-pile cells filled with ballast rock would support the trestle on and near shore while clustered steel pilings would support the offshore portion of the trestle and the loading platform. The two western-most cells (Figure A-1A) would be constructed in waters of the United States and are subject to evaluation under Clean Water Act criteria. The sheet-pile cells would be circular, 72 feet in diameter, and together would cover about 0.2 acre of near-shore sea bottom. Sheet piles would be driven to bedrock. Existing material inside the cells would be vibro compacted before the cells were filled with clean rock ballast to improve their structural characteristics. The rock ballast would be quarried from an existing quarry. The two in-water cells would likely be constructed from ice pads during winter. Cluster piles were considered as an alternative to the sheet-pile cells, but construction of filled sheet-pile cells is the most practical, cost effective, and environmentally sound method of supporting the trestle in near-shore waters that are subject to high-energy waves, ice, and currents. An armor-rock causeway was also considered as an alternative to support some or the entire trestle, but a causeway would result in severe disruption of alongshore currents and cause a significant buildup of sediments on the north side and significant beach starvation on the south side of the causeway.

Fill for On-Land Construction.
Construction of the trestle approach would fill about 1.5 acres of wetland subject to Section 404 and 1 acre of non-wetland gravel beach berm. The fuel tank pad would fill about 1 acre of wetland subject to Section 404. Approximately 83,000 cubic yards of fill from existing quarries would be used to fill these sites. Figure 1 shows the areas that would be filled for those project elements. Figure 2 delineates wetlands that would be impacted by the tentatively recommended alternative.

Fill from Bypass Discharge.

Bypass dredging for the Trestle-Channel Alternative would result in annual discharge of up to 26,000 cubic yards of beach material near the water line south of the existing dock so waves can drag the material into the water and natural longshore drift can move it south along the beach. The areas where bypass sediment would be dredged and placed are shown in Figure A1-1.

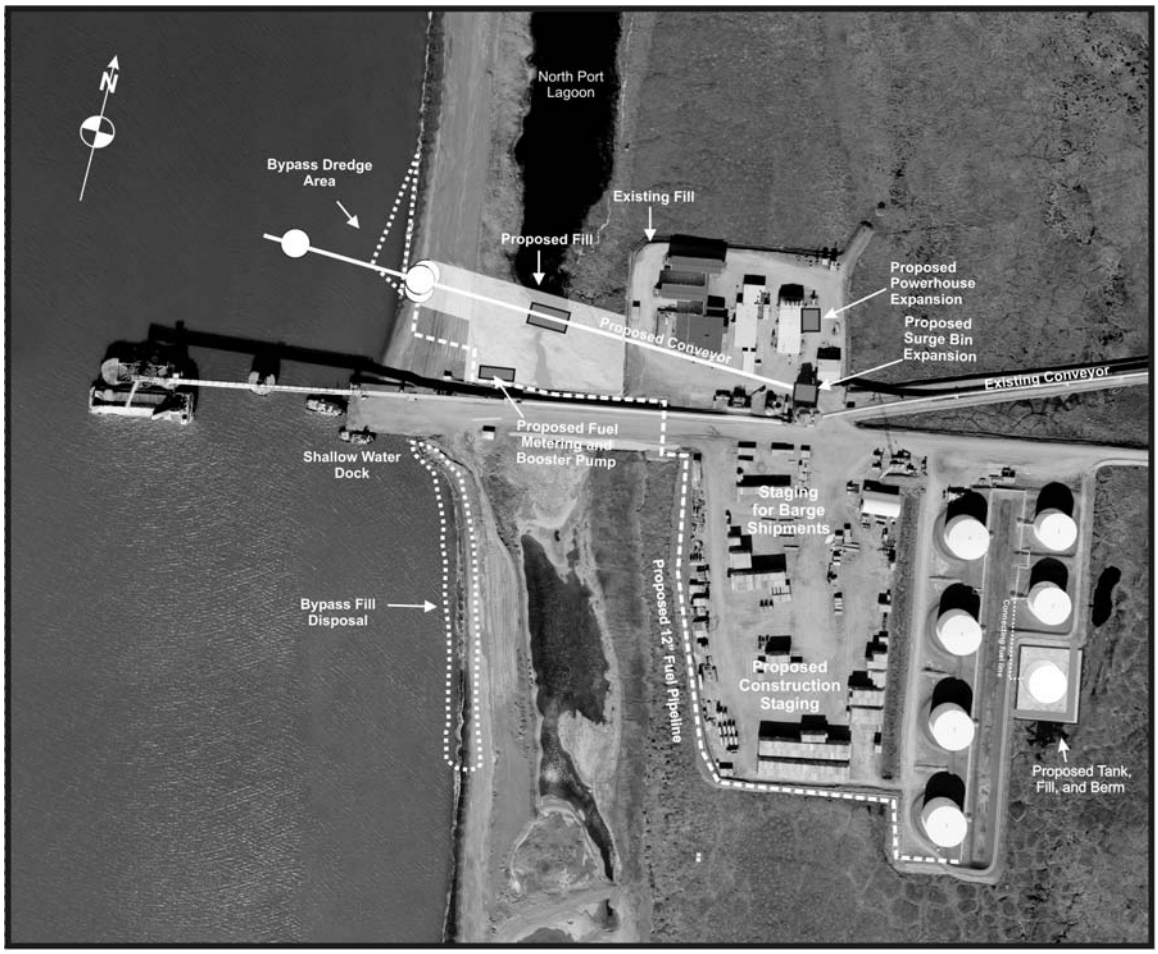

Figure 1. Trestle approach and fuel tank areas that would be filled and developed under the trestle-channel alternative.

Teck-Cominco Alaska, Inc. (TCAK) is currently permitted to discharge between 15,000 and 50,000 cubic yards of sediment dredged from the beach north of the dock past the existing loading facility and dock annually (ACOE Permit CC-830359 Chukchi Sea 9 Renewal). Up to 10,000 cubic yards of beach sediment that originate north of Portsite are allowed to be used for upland storage and Portsite operations annually. The tentatively recommended trestle alternative would intercept the longshore drift before it reached the existing loader and dock. Consequently the estimated 26,000 cubic yards of sediment

held by the trestle could substantially reduce the amount of material bypassed around the existing facility.

II. FACTUAL DETERMINATION

A. Physical Substrate

A description of the geology and soils at Portsite is presented in Section 3.4.3 of the DEIS.

The wetland at the proposed trestle approach is at the south end of a shallow, freshwater lagoon trapped between the gravel and sand beach berm and a man-made pad that supports Portsite facilities (figure 1). The western edge of the proposed fill area is not wetland, but sand and gravel pushed into a high beach berm by shoreward thrusts of sea ice and wave action. The inland portion of the fill adjoins the existing gravel pad and covers a vernal pond that is connected to the lagoon during higher water levels.

Permafrost in the Portsite area typically starts about 3 to 4 feet under the surface and the polygon-patterned tundra soil along the east side of the lagoon most likely has permafrost starting at that depth. Bore logs from borings near the pad indicate that underlying soils are sand, gravel, and silt with lenses of peat. Sandstone bedrock is about 61 feet beneath ground level.

Fill for the fuel tank pad would cover about 1 acre of wet-tussock tundra with poor drainage underlain with permafrost from 1 to 1½ feet beneath the surface (Woodward-Clyde 1983), with gravel and rock from an existing quarry. The pad would be approximately 1,000 feet east of the approach pad described in the preceding paragraph. Soils under this pad would be similar to soils under the trestle approach pad.

A bore log in the vicinity of the near-shore trestle support cells indicates soil under the cells would likely be composed of sand with fine gravel from 0 to 5 feet, elastic silt with fibrous peat lenses from 5 to 18 feet, silty sand with gravel between 18 and 21 feet, silty sand with shell fragments between 21 and 39 feet, and fractured sandstone and sandstone below 39 feet.

Net longshore drift at Portsite is southerly and a slowing of longshore drift near the sheetpile cells is expected to accumulate sediments in this area. About 26,000 cubic yards of longshore sediments would be dredged from the up-current (north) side of Portsite and deposited along the beach near the water line south of Portsite. Discharged sediment would be composed of unsorted and wave-washed sand and gravel of similar composition to that described near Portsite by Moore (1966) and Woodward-Clyde Consultants (1983).

The tentatively recommended alternative would cover a total of about 2.5 acres of tussock tundra wetland and 1 acre of beach gravel berm with clean, quarried rock and gravel to support the trestle approach and an additional fuel tank (figure 1). This action would destroy the vegetation and habitat within the footprints of the pads. Up to 26,000 cubic yards of sand and gravel resulting from the slowing of longshore drift past the ballast cells would be mechanically moved from the north side of the facilities to the south side of the facilities where it could continue migrating southward as longshore drift. The bypass dredging and discharge could result in minor turbidity increases in the vicinity of dredging, but would have little overall effect on the marine environment.

B. Fill

Sheet Pile Cells.
Ballast rock for the offshore 72-foot-diameter sheet pile cells and for the onshore trestle abutment pad would come from established quarries. Sheet piles would be driven to refusal, and the substrate within the cells compacted before filling with ballast rock. Approximately 1,000 cubic yards of ballast would be used to fill both cells. The ballast for the cells would likely be mostly cobble-sized angular rock containing few fines. Rock from local quarries or quarries near Nome may be used to fill the ballast cells. Rock from local quarries does not contain contaminants and has been approved by the Alaska Department of Environmental Conservation (ADEC) for use in the construction of roads and facility pads at Portsite. Rock from the quarries near Nome does not contain contaminants and is approved and commonly used for water-dependant projects in northwestern Alaska. Construction of the ballast cells would destroy approximately 0.20 acre of near-shore marine habitat with no significant adverse consequences to marine life.

On-Land Construction
Fill for the trestle approach and new fuel tank would likely contain a core of similar rock capped with gravel. Rock from Nome quarries is geologically characterized as either hard schistose marble or granite gneiss depending on the source. Rock from local quarries is sedimentary or igneous in origin. Fill quarried from either of these sources would have a negligible effect on the upland environment.

Bypass Discharge
Beach and near-shore sediments at Portsite that would be bypass dredged material are composed of approximately 50 percent dark chert characteristic of the Wulik River drainage, 40 percent limestone, and 10 percent dark shale and sandstone characteristic of the New Heart Creek formation near Portsite, with the sandstone fraction increasing south of Portsite (Woodward-Clyde 1983). The major source of the longshore drift material is the unconsolidated berms that occupy the upper beach. The coastline in the vicinity of Portsite is eroding and the direction of the net littoral longshore drift is southerly. The annual littoral transport rate at Portsite is roughly 100,000 cubic yards per year (Woodward-Clyde 1983). The beach in the vicinity of Portsite appears to be composed of sand and small gravel mostly less than about 1 inch in diameter.

Bypass discharge would involve mechanically placing beach sediment that would accumulate near the sheet-pile cells (figure 1) at the water line south of Portsite where it would continue to be transported south along the beach as littoral longshore drift by wave action during storms. Bypass discharge would have negligible effects on the marine environment.

C. Fluctuations, Suspended Particulates, Currents, and Salinity.

Local marine water quality is typical of marine waters in the eastern Chukchi Sea where natural turbidity varies with season and distance from shore. Natural turbidity near shore is typically higher during the spring and summer when runoff and wind and wave mixing affect near-shore waters. Salinity in Portsite waters is also typical of the eastern Chukchi Sea. The salinity of well-mixed seawater offshore of Portsite during the open water season would typically range from about 28 to 32 parts per thousand (ppt).

Water in the north Port Lagoon is mostly fresh, but occasionally becomes brackish after storms overtop the berm. The project would fill a small vernal pond of less than ¼ acre that forms at the south end of the lagoon. This pond drains into the lagoon when the water level in the lagoon is low. Construction of the pad would not adversely affect water quality, water fluctuations, salinity, or circulation in the main part of the lagoon. More detailed information on water resources at Portsite is found in Section 3.4.7 of the DEIS.

Lagoon water is stained dark from rotting vegetation and is sometimes turbid from wind mixing or the grubbing of waterfowl. During winter the shallow lagoon freezes to the bottom. Turbidity may temporarily increase in the lagoon as a result of pad construction, but the increase would be minor and could be mitigated with silt curtains if necessary.

Currents offshore of Portsite generally run northward but are subject to occasional brief reversals. A current also runs in a narrow zone along the beach. This current also runs north, but is subject to strong reversals during severe storms from the northwest. These storms result in a net southeastward littoral drift of sediments along the beach. Locating the cells near shore would not affect natural turbidity and salinity, but may slow the alongshore current and result in alongshore accumulation of sediment.

More information about ocean currents and sediments is found in Section 3.4.6 of the DEIS.

D. Contaminants

TCAK has implemented a program to monitor fugitive dust from its ore concentrate handling operations at Portsite (E^xponent 2002). This program includes monitoring ore concentrate related metals concentrations in sediments and water in the lagoons around Portsite.

The sediment and water samples from lagoons near Portsite have been analyzed for ore concentrate related contaminants (E^xponent 2002). Metal concentrations in some samples from nearby lagoons, including some from the North Port Lagoon, have exceeded water quality standards and sediment screening criteria. However, the fill used to construct the proposed gravel pad would not be contaminated and would not increase the levels of contaminants in water from the lagoon.

Rock or other material for fill would come from established quarries or borrow sites. The fill material would be tested if local geology testing indicates potential for the fill material to exceed standards. Filling the cells with ballast would not be expected to increase levels of contaminants in the marine ecosystem.

Bypass dredging would move longshore littoral drift from the north side of Portsite to the south side of Portsite where the dredged and deposited sediments would continue south by natural longshore drift. The beach sediments that originate north of Portsite are considered to be free of contaminants. They are mostly composed of chert, limestone, shale, and sandstone that are composed primarily of sand and gravel, created through erosion of unconsolidated former beach deposits (Woodward-Clyde 1983).

The community of Kivalina, 17 miles north of Portsite, would be the only potential source of contamination for bypass sediments, and there is no reason to believe they would be contaminated. Beach sediments in the immediate vicinity of the existing loader could become contaminated by fugitive zinc or lead concentrate dust, but previous sampling has not identified significant levels of contamination, and fugitive ore concentrate dust would be reduced by improvements to control dust that are included in the tentatively recommended Trestle-Channel Alternative.

The existing ballast cells at Portsite were constructed using rock from quarries near Portsite. Uncontaminated rock from local quarries and/or quarries near Nome could be used for projects in the region. Rock from Nome is not contaminated and has been used for water-dependant projects at Portsite and Nome. Use of material from either source would not adversely affect the local environment through introduction of contaminants.

E. Air Quality

The Portsite facilities operate under ADEC-regulated Air Quality Permit 289TVP01. Portsite is within the Northern Alaska Intrastate Air Quality Control Region. The area surrounding Portsite has been classified as attainment or unclassifiable for all regulated pollutants. The closest nonattainment area is the Anchorage/Eagle River PM_{10} nonattainment area, which is located approximately 600 miles southeast of Portsite.

The provisions of Alaska's Prevention of Significant Deterioration (PSD) program are applied to attainment and unclassifiable AQCRs with good air quality to limit its degradation from development activities. The region surrounding Portsite is a PSD Class II area. The nearest PSD Class I area is the Denali National Park, which is approximately 400 miles southeast of Portsite. There are no PSD Class III areas in Alaska. States strive

to allow industrial and commercial growth within PSD Class II areas without causing significant degradation of existing air quality or exceeding the National Ambient Air Quality Standards (NAAQS). The PSD program requires new sources of emissions to undergo review and permitting prior to construction or implementation of the emission source. New emissions at Portsite facilities would not be allowed to cause or contribute to a failure to meet any applicable NAAQS or Alaska Ambient Air Quality Standard (AAQS), or applicable Class II PSD increment limit.

Air quality at Portsite is discussed further in Section 3.4.2 of the DEIS.

F. Aquatic Ecosystems

A shallow lagoon, wet tundra, and intertidal beach characterize the wetland and navigable waters that would be affected by the Trestle-Channel Alternative. There are hundreds of square miles of wet tundra, lagoon, and beach habitat in the region that provides hundreds of square miles of habitat used by waterfowl, shorebirds, gulls and terns, jaegers, loons, and terrestrial animals including fox, caribou, moose, and brown bears. Comparatively moderate densities of waterfowl and shorebirds use habitats near Portsite, but use of the Portsite area by larger terrestrial mammals is comparatively low. Winter conditions and available food resources among other factors may limit the abundance of wildlife in the Portsite area. Use of approximately 2.5 acres of wetland and 1 acre of beach-berm habitat adjacent to Portsite would not result in placing limits on available habitat for any species of bird, fish or terrestrial mammal in the area.

Because the material dredged for bypass would be newly deposited each year, there would be relatively little development of benthic invertebrate communities in the accreted material. Few non-mobile invertebrates are expected to survive dredging, transportation, and disposal. The effects of dredging material from this zone of active accretion would be minor and localized. The dredged material would be discharged in areas of the beach that also are actively eroding or shifting, also indicating little development of invertebrates and low potential for impacts. The effects of bypass discharge on the beach south of Portsite would be negligible.

1. Wetland Classification, Functions, and Values

Wetland vegetation affected by the tentatively recommended alternative is described in Section 3.5.1.2 of the DEIS. The shallow edges of the North Port Lagoon (figure 2) are vegetated with emergent grasses during summer. The nutrient-rich lagoon develops a bloom of algae during the summer. The types, diversity, and abundance of emergent vegetation in the North Port Lagoon are influenced by influxes of seawater, depth, and the amount of freshwater input, wind action, and changes in ambient air temperature. The lagoon becomes brackish after tidal storm surges breach the berms. Low shrubs including dwarf willow are present around the dryer edges. The National Wetland Inventory (NWI) classification of the North Port Lagoon is estuarine, intertidal with vegetated unconsolidated bottom (E2UB5).

Shallow lagoons along the Chukchi Sea coast are particularly functional as migratory bird feeding and staging habitat. Lagoons also function as settling ponds allowing tidal and freshwaters to intermix.

Vegetation on the beach berm that separates the North Port Lagoon from the Chukchi Sea includes wild rye beach grass *(Elymus sp*.), beach pea, and other salt tolerant species. This area serves as a buffer zone from storm surge. Occasionally, moose and brown bears, and more frequently smaller mammals and migatory birds, use the beach fringe habitat near Portsite. The beach berm is classified as estuarine E2US2 where not vegetated and E2US5 where vegetated (figure 2).

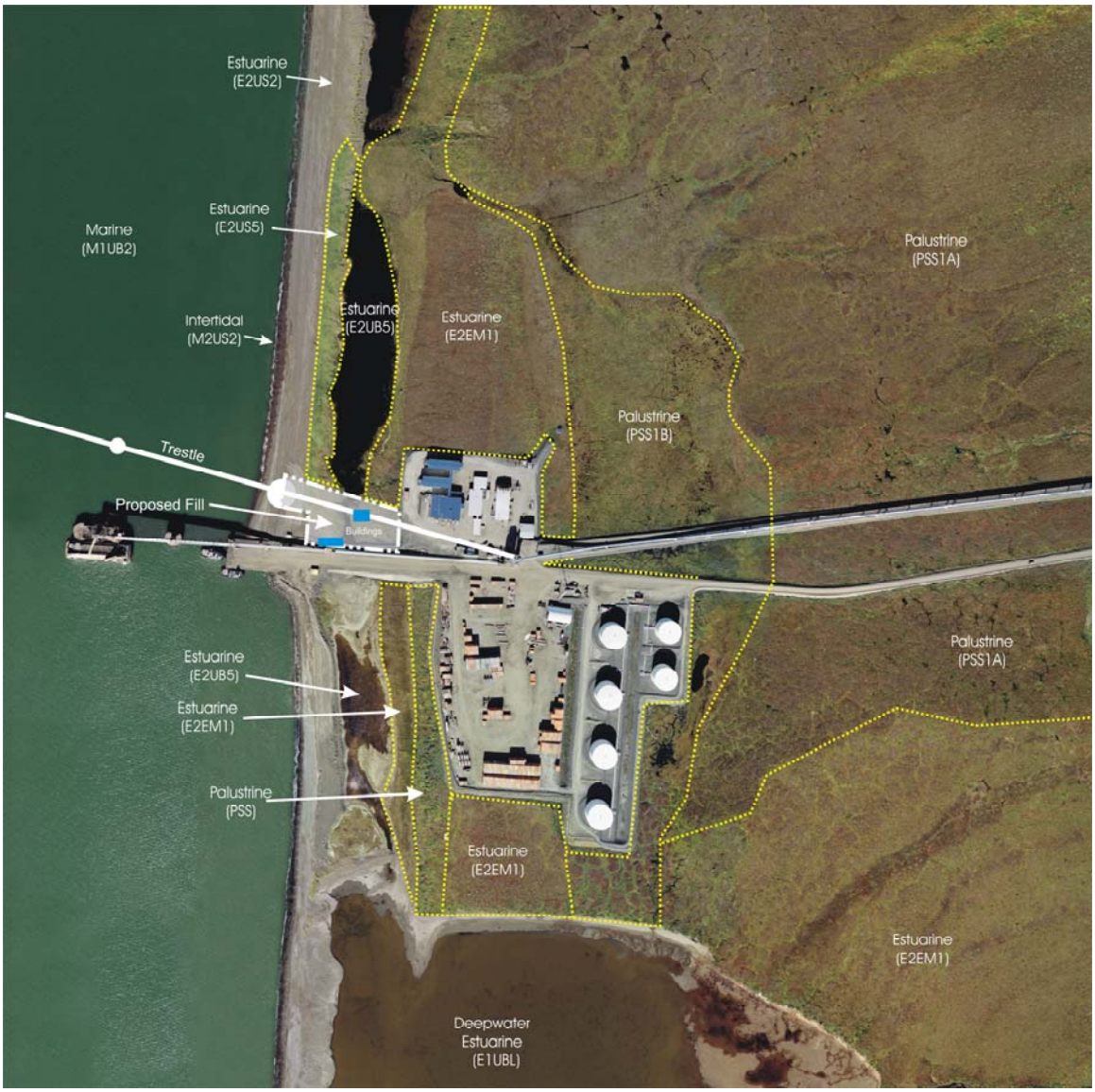

Figure 2. Wetlands in the Portsite area (NWI Cowardin system).

The intertidal sand and gravel habitat below the high tide line also functions as wildlife habitat and acts as a storm surge buffer accreting longshore sediments. The marine intertidal habitat is classified by the NWI as having sandy, unconsolidated shore (M2US2).

The wet tundra wetland adjacent to the fuel tank pad is classified as palustrine wet sedge meadow and palustrine scrub shrub characterized by frozen organic soils, with the active vegetative layer saturated (PSS1A) or temporarily flooded (PSS1B). Species include sedge species, tussock cotton grass species, marsh fivefinger, dwarf birch, and diamond willow. This wetland type functions include water filtration and retention, and aquifer recharge. This wetland type also reduces erosion and contributes to flood control. Wet tundra in some locations has significant value as waterfowl habitat.

A total of about 2.5 acres of wetland vegetation would be covered with gravel and essentially destroyed. However, the proposed action is not anticipated to affect the diversity of vegetation in the Portsite area.

The marine habitat that would be affected by bypass dredging is classified as marine subtidal with sandy unconsolidated bottom (M1UB2). Marine vegetation at Portsite is limited to single cell algae including diatoms important to the primary productivity of the Chukchi Sea. Kelps and other larger marine algaes are not present at Portsite

Loss of the 2.5 acres of wetland adjacent to developed uplands that would be filled by this action would not adversely reduce the overall functional value of wetland in the Portsite area.

2. Wildlife

Wildlife in the affected area is mostly seasonal waterfowl and shorebirds. Willow ptarmigan, snow buntings, and snowy owls are sometimes found during winter. A few red foxes that live year round in the Portsite buildings may occasionally cross the project site, but no large mammals use the wetlands proposed to be filled. Small mammals are present in small numbers and include meadow voles, lemmings, and short-tailed weasels. Small numbers of waterfowl, shorebirds, and small mammals would be displaced by this action. Wildlife typical of wetland habitat is described with more detail in Sections 3.5.4.2 and 3.5.5 of the DEIS.

Filling 2.5 acres of wetlands would displace relatively small numbers of waterfowl and shorebirds from the fill sites. The seasonal density of waterfowl in the Portsite area is moderate at times, but not to capacity, and displacement of a few waterfowl from these sites to adjacent areas would not have an adverse affect on waterfowl or shorebirds in the Portsite area.

Relatively small numbers of marine birds, including sea ducks and seabirds, are seasonally present in the Portsite area. Marine birds are present mostly during early summer. The proposed action would not affect water quality in any way that would adversely affect the diversity or abundance of marine birds in the Portsite area.

Marine mammals including whales, seals, walrus, and polar bears would not be adversely affected by the bypass dredging or fill placement in the sheet pile cells. More information on marine wildlife at Portsite and effects of the entire Trestle-Channel Alternative are presented in Sections 3.5 and Section 4.9 of the DEIS.

G. Aesthetics

The portion of the North Port Lagoon that would be affected by this project is similar to, but much smaller than, dozens of lagoons along the approximately 180 miles of coast along the southeastern Chukchi Sea coast. The pad would be an extension of and would blend with the existing visual scene. The proposed action would not be expected to adversely affect the overall aesthetics of the area.

The concentrate storage buildings (CSB) at Portsite are painted red, white, and blue, and are reported to be the largest buildings in Alaska. These CSB and the existing loader at Portsite are visible from about 20 miles on a clear day. Construction of an extended trestle in marine waters at Portsite would not adversely affect the overall aesthetics of the Portsite area because of the existing development. More information on the visual resources at Portsite is presented in Section 3.2.6.7 of the DEIS.

H. Public Access

A public access corridor along the beach berm, under the existing trestle, and around the dock allows local users to travel along the beach. The Trestle-Channel Alternative would not interfere with this access. Small boats use waters at Portsite for hunting and travel during summer. Actions addressed in this evaluation would not interfere with or impede navigation by small boats on the water or snow machines on the ice. Effects of the full trestle-channel alternative are discussed in the DEIS.

III. Determination of Cumulative and Secondary Effects on the Aquatic Ecosystem

No significant cumulative or secondary effects on the aquatic ecosystem would be expected from construction in wetlands at Portsite or from bypass dredging associated with the marine features of the Trestle-Channel Alternative. This would be a minor action in a region with little development and where similar habitat is common. Placing fill for construction and the bypass dredging would, however, allow the full navigation improvement project to be constructed. This construction could be considered a secondary effect of the dredging and fill placement. Cumulative effects of potential Federal navigation improvements at Portsite are addressed in section 4.12 of the DEIS.

IV. Findings of Compliance or Non-Compliance with the Restrictions on Discharge

A. Adaptation of the Section 404 (b)(1) Guidelines to this Evaluation

The proposed project complies with the requirements set forth in the Environmental Protection Agency's Guidelines for Specification of Disposal Sites for Dredged or Fill Material.

B. Evaluation of Availability of Practicable Alternatives to the Proposed Discharge Site in Accordance with the No Net Loss National Wetland Policy

This project was compared to the national policy of no net loss of wetlands. The U.S. Army Corps of Engineers describes wetlands as a marsh, swamp, bog, or similar area that filters and cleans drinking water supplies, retains floodwaters, harbors extensive fish and shellfish populations, and supports a diverse array of wildlife. Wetlands also function to recharge adjacent creeks, rivers, and lakes that support populations of fish, birds, and other aquatic wildlife. In performing these functions, wetlands provide valuable ecosystem services. Consequently, their destruction increases flooding and runoff, harms neighboring property, causes stream and river pollution, and results in the loss of valuable habitat. The no net loss wetland policy evaluates the function and value of wetlands by the above criteria.

The wetlands that would be affected by this action are of relatively low wildlife value because they are close to human development and activity. Relatively light use by waterfowl and other wildlife has been observed. Large mammals including caribou, moose, and brown bear that may occasionally use similar wetlands in the Portsite area do not typically use this wetland because of its proximity to human development. Vegetation growing on this wetland is composed of the same species that grows on abundant regional wetlands and includes no known rare or unique species.

Alternatives to filling the wetlands and navigable waters were considered but were eliminated due to practical, economic, and environmental reasons. Construction design requires using the wetland fills for both the trestle approach and fuel storage tank. The proposed trestle alignment and project configuration would minimize the amount of wetlands to be filled and the impacts on important wetlands functions and values. Working from an ice pad to lessen impact on the wetland was considered, but inconsistency in the length of the season and the need for equipment to access the abutment area year round made this alternative impractical. The wetland fill would also be needed to build the trestle approach and fuel tank, and to provide a workspace after construction.

A. State Water Quality Standards

The tentatively recommended plan would not be expected to have any long-term adverse effect on water quality or recreation. The project would not introduce significant

petroleum hydrocarbons, radioactive materials, residues, or other pollutants into wetlands and other waters. Alaska Department of Environmental Conservation turbidity standards for freshwater contact recreation (15 NTU) would be met by controlled retention of any sediment released to the lagoon during construction of the pad. The project would not introduce significant petroleum hydrocarbons, radioactive materials, residues, or other pollutants into marine waters at Portsite.

Bypass dredging and discharge of up to 26,000 cubic yards of longshore sediment would be performed annually. Mechanical dredges like draglines or backhoes would likely be used and, although the beach sediments are relatively clean because of its being washed by waves, some light turbidity might result from the dredging and discharge. Near-shore waters near Portsite are generally turbid during summer due to storm waves, and bypass dredging of the longshore littoral drift would not generally result in turbidity higher than ambient conditions. Consequently, silt curtains to contain turbidity at the dredging or discharge sites would serve no beneficial purpose.

Because the intent of bypass dredging is to move sediments accreted by obstructions at Portsite, the discharge would be placed at or near the waterline south of Portsite where it would be available for the continuation of longshore drift. The discharge would be dragged back into the water by wave action during a time when the near-shore water is naturally very turbid. Consequently, the discharge would not significantly increase the natural turbidity. Near-shore wave energy and the longshore current would make it difficult to keep a silt curtain in place if one was used.

B. Coastal Zone Management Program

The Trestle-Channel Alternative complies with provisions of the Northwest Arctic Borough Coastal Management Program Enforceable and Administrative Policies (1986) to the maximum extent practicable. More information about the local coastal zone management program is found in Section 3.2.6 of the DEIS.

C. Endangered Species Act of 1973

Threatened Steller's and spectacled eiders, and the endangered bowhead whale are listed species seasonally found in the general project area. The Corps consulted with the agencies responsible for management of these protected species. Steller's and spectacled eiders are under the authority of the U.S. Fish and Wildlife Service (USFWS) and the bowhead whale is under the authority of the National Marine Fisheries Service (NMFS). The USFWS determined that construction of a trestle over marine waters could result in a take of Steller's and spectacled eiders through collision with the trestle-loader structure, but the take would not jeopardize the existence of these species. The NMFS determined that the Trestle-Channel Alternative would not cause a taking of bowhead whales. More information about potential project impacts to special status resources is found in Appendix 5 of the DEIS.

D. Essential Fish Habitat

Fish do not inhabit the wetland or lagoon; therefore, the construction of a pad in a portion of the lagoon would not adversely impact essential fish habitat (EFH). Marine waters at Portsite are listed by the NMFS as essential fish habitat (EFH) for Pacific salmon. Marine construction related to the preferred alternative would not adversely impact EFH. This determination has been coordinated with the National Marine Fisheries Service, which is responsible for managing EFH under the Magnuson-Stevens Fishery Conservation and Management Act. More detailed information of special status resources is found in Section 3.5.6 of the DEIS.

E. Evaluation of Extent of Degradation of the Waters of the United States

There are no municipal water supplies in the area that could be negatively affected by the proposed project. Recreation and commercial interests would not be adversely impacted. There would be no significant long-term adverse impacts to plankton, fish, shellfish, wildlife, or special aquatic sites. More information regarding project impacts is presented in Section 4 of the DEIS.

F. Appropriate and Practicable Steps Taken To Minimize Potential Adverse Impacts of the Fill on the Aquatic Ecosystem

All appropriate and practicable steps would be taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem. The proposed discharge complies with the requirements of the Section 404(b) (1) Guidelines of the Clean water Act.

V. Other Determinations

The action evaluated under Section 404 criteria would have no detrimental effects on any of the following:

- National Parks, Monuments, or Wildlife Refuges;
- Subsistence, recreational, or commercial fisheries;
- Water-related recreation.

The adjacent Cape Krusenstern National Monument could be affected by noise and changes to aesthetics and air quality. Those induced effects of wetlands fill are discussed in the DEIS. The action would not have any effect on the known cultural or historical resources at Portsite.

VI. Literature Cited

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