4. ERRATA AND OTHER CHANGES

This chapter contains revisions (additions, deletions, corrections) to the *Northern Rail Extension Draft Environmental Impact Statement* (Draft EIS). Unaltered text from the Draft EIS is not repeated in this chapter. The Surface Transportation Board's Section of Environmental Analysis (SEA) identified these revisions through its ongoing environmental review or through agency and public comments on the Draft EIS.

Draft EIS Chapter 20, Mitigation, is not included in this chapter because Chapter 20 has been revised and reprinted as a separate chapter, Final EIS Chapter 2. Similarly, Draft EIS Appendix G, Essential Fish Habitat; Appendix H, Programmatic Agreement; and Appendix M, Section 4(f) Report are all reprinted as independent Final EIS Appendices D, E, and F respectively. Therefore, revisions to any of these chapters and appendices do not appear in this chapter.

Each revision described herein identifies the exact location of the change in the Draft EIS. Underlining indicates additions; ~~strikethrough~~ indicates deletions.

4.1 Summary

Page S-1, fourth paragraph, fifth and sixth sentences
The Applicant has also stated that the NRE would provide a transportation alternative to the Richardson Highway for individuals traveling between Fairbanks and Delta Junction~~, where, at present, there is no public transportation. The rail line would be less susceptible to inclement winter weather than the highway and also could increase tourism in the area~~.

Page S-7, Figure S-4
Replace with the figure shown on the following page.

Page S-12, second full paragraph, first sentence
Impacts on soil from construction of the proposed rail line would mostly be associated with excavation and fill activities required to maintain the grade of the railbed and access road, or with removal of unsuitable construction material.

Page S-12, fourth full paragraph, inserted after first sentence
Seismic activity could result in misalignment of tracks, railbed or access road through ground shaking, offset lateral movement or soil subsidence.

Page S-12, fourth full paragraph, inserted after first sentence
If strong enough, ground shaking could derail a train.

Page S-13, first paragraph, fourth sentence
Impacts from bridges and culverts could include changes to natural drainage, sloughing and erosion of the streambank, impacts to permafrost, increased stages and velocities of floodwater, and increased channel scour or bank erosion.

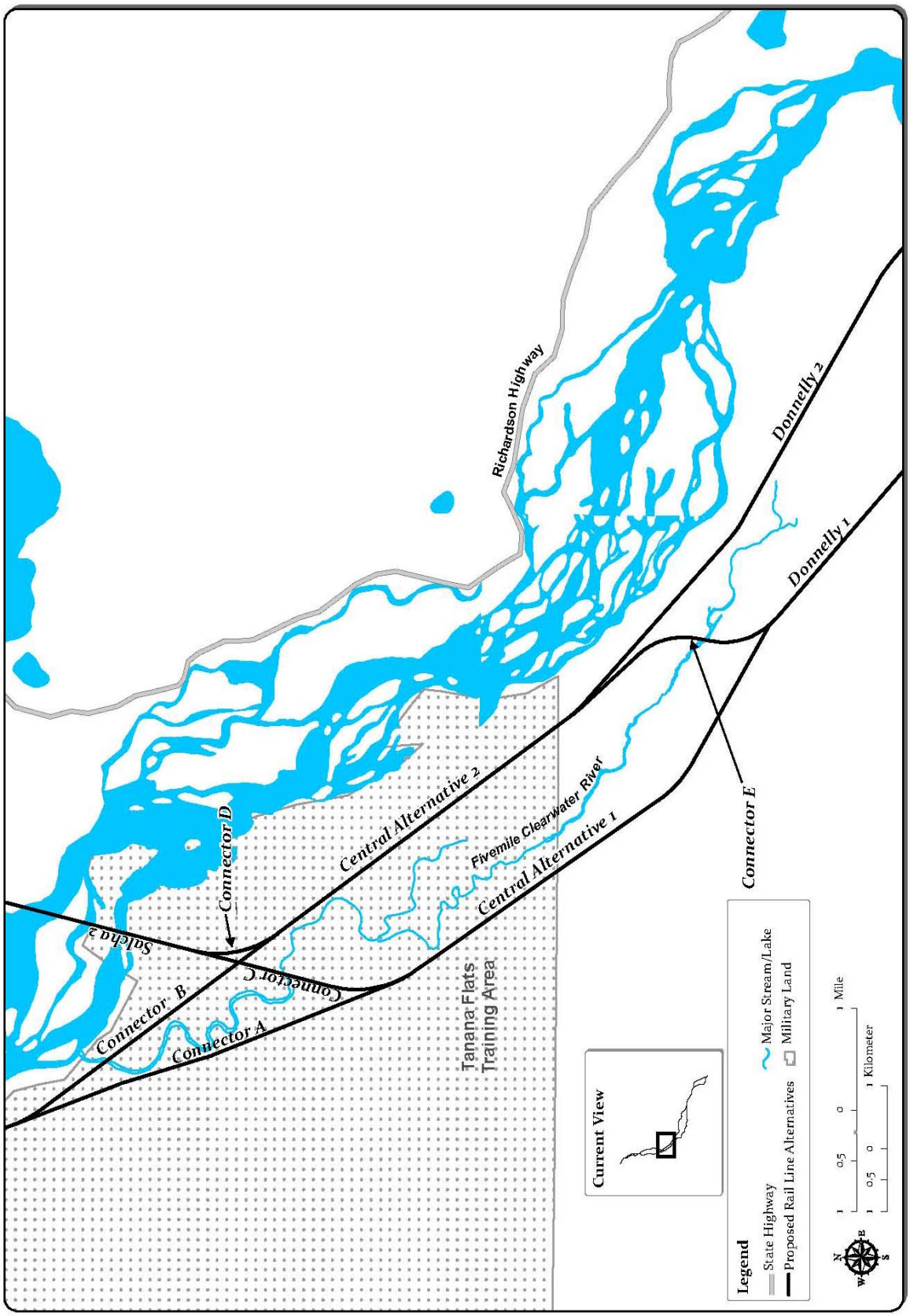

Figure S-4 – Central Alternative Segments and Adjoining Alternative Segments within Map Area 3

Page S-13, first paragraph, inserted after last sentence
Additionally, use and storage of power equipment during construction could affect surface water or groundwater resources in the unlikely event of an inadvertent spill of petrochemicals, deicing compounds or other compounds if the spill is not properly contained.

Page S-13, fourth paragraph, first sentence
Impacts to groundwater could include effects from infiltration, increased groundwater discharge through ponds created by borrow areas, contamination and commingling of surface water and groundwater ~~from~~ in ponds created by borrow areas and geotechnical boreholes, permanent changes to permafrost thickness and vertical location of the active thaw zone, and temporary groundwater elevation declines from pumping for potable and construction water.

Page S-14, fourth paragraph, first sentence
At the sites of the Tanana River bridges on Salcha alternative segments 1 and 2, ~~rock revetments (and a~~ levees and other training works~~, in the case of Option 1 for Salcha Alternative Segment 1)~~ would control surface flow and reduce the width of the floodplain near the bridge, but would not prevent flooding from groundwater upwelling on the upland side of the revetments.

Page S-15, second full paragraph, inserted after last sentence
Wind-blown dust from gravel roads and railbeds could also damage or eliminate plants by direct cover with fines that could inhibit photosynthesis.

Page S-16, second full paragraph, third sentence, and inserted after third sentence
Segments constructed through late-succession forest habitats and late-succession floodplain forest habitats would have the greatest impact on forest nesting landbirds, raptors, and cavity nesters. Construction and operations noise could disturb or displace individuals or breeding pairs.

Page S-17, first full paragraph
Negligible impacts to ~~prehistoric and historic~~ cultural resources are expected from North Common Segment, the Eielson alternative segments, Salcha Alternative Segment 1, the Central alternative segments, and Connector alternative segments A, B, C, and D because they lie in areas with relatively low archaeological sensitivity for prehistoric sites, low or moderate sensitivity for historic sites, and have no known cultural resources within the Area of Potential Effect (APE). Eielson Alternative Segment 1 and Salcha Alternative Segment 1, however, each contain a historic site within 1,312 feet of their APE. Salcha Alternative Segment 2 is in an area that has high potential for both prehistoric and historic sites. A prehistoric site and an historic site associated with Salchaket Village lie within or near the APE. In total, two cultural resources were identified within the APE and five cultural resources were identified within 1,312 feet of the APE for Salcha Alternative Segment 2. The Donnelly alternative segments are in areas with relatively high potential for prehistoric resources. Donnelly Alternative Segment 1 contains more identified archaeological sites than Donnelly Alternative Segment 2. There are eight buried prehistoric sites within the APE of Donnelly Alternative Segment 1. Seventeen additional cultural resources were identified within 1,312 feet of the APE boundary for Donnelly Alternative Segment 1. Radiocarbon dating indicated that one of the sites is approximately 13,000 years old (after date calibration), which would make it one of the earliest human habitation sites in North America. Four prehistoric archeological sites were recorded along Donnelly Alternative Segment 2, and 11 archaeological sites were identified within 1,312 feet of

the APE boundary. ~~Prehistoric sites were~~ One prehistoric site was also identified within 1,312 feet of the APE for South Common Segment (low potential for historic and prehistoric resources)~~., and~~ Delta Alternative Segment 1 (moderate potential for historic and prehistoric resources) contains no cultural resources within its APE and one potential cultural resource within 1,312 feet of its APE. Delta Alternative Segment 2 (moderate potential for prehistoric and high potential for historic resources) contains one cultural resource within its APE and two cultural resources within 1,312 feet of its APE. ~~No cultural resources were identified within the APE for Delta Alternative Segment 1 (moderate potential for historic and prehistoric resources).~~

Page S-18, second full paragraph, sixth sentence

None of the construction would occur in the Fairbanks and North Pole carbon monoxide maintenance areas, ~~and~~ estimated emissions would be well below the *de minimis* conformity thresholds (100 tons per year for each pollutant), and the project size and scope would not be large enough to require a $PM_{2.5}$ hot-spot analysis.

Page S-18, last paragraph, third and fourth sentences

An estimated 32 noise receptors near Salcha Alternative Segment 2, and an estimated four receptors near Eielson ~~A~~alternative ~~S~~segments 2 and 3 would be exposed to adverse noise effects of greater than 65 DNL and an increase in noise level of 15 to 30 dBA as a result of rail line operation. An estimated four receptors along Salcha Alternative Segment 2 would experience vibration levels due to rail line operation exceeding the 80-vibration-decibels criterion for human annoyance.

Page S-20, third full paragraph, tenth sentence

There would be temporary ~~indirect~~ effects to residences and business during construction, primarily from ~~noise and changes to the visual landscape~~ access changes and other disturbances associated with construction activities, but these effects would generally be minor and temporary.

Page S-21, second paragraph, inserted after last sentence

The Applicant has proposed grade-separating trail crossings with the exception of trails with heavy vehicular usage where an at-grade crossing could be more appropriate. SEA developed several preliminary mitigation measures to ensure continuity of trails and require the Applicant to coordinate with user groups and owning agencies with respect to trail crossings and access needs. The Applicant has offered, and SEA has recommended mitigation measures that would provide for public access.

Page S-21, third paragraph, inserted after last sentence

Where the proposed rail line crosses ADNR land, Alaska State Statute 42.40.460 provides for additional crossing of the proposed rail line even after the transfer of fee-title ROW from ADNR to the Applicant. The Applicant and ADNR are discussing existing and proposed crossing locations and types.

Page S-21, fourth paragraph, and inserted after fourth paragraph

SEA identified ~~potential U.S. Department of Transportation Act Section 4(f)~~ four resources that ~~would~~ could be protected under Section 4(f) of the U.S. Department of Transportation Act that would be affected by the proposed NRE. ~~Most of these properties are recreational trails used for dogsledding, snowmachining, and skiing; two are cultural resource sites.~~ These include

recreational trails used for running, hiking, and skiing, school grounds, a recreational area, and two cultural resource sites (see Section 6.3). ~~Ten~~ Two alternative segments would require use of Section 4(f) resources (see Appendix F of the Final EIS) ~~, based on preliminary determination. By criteria of Section 4(f) evaluation, the combination of segments that minimize effects to Section 4(f) properties would include the following: North Common Segment, Eielson Alternative Segment 3, Salcha Alternative Segment 1, any of the connector segments, either Central alternative segment, Donnelly Alternative Segment 2, South Common Segment, and either Delta alternative segment. There might be opportunities to minimize or mitigate impacts to Section 4(f) resources, including scheduling construction to avoid times of heavy trail use, and minimizing dust and noise emissions. Coordination is ongoing with appropriate agencies to determine the significance of resources protected under Section 4(f) that would be affected by the proposed NRE.~~

By the criteria of Section 4(f) evaluation, the alignment that results in the least overall harm to Section 4(f) properties could include a combination of the following segments: North Common Segment, any of the Eielson alternative segments, Salcha Alternative Segment 1, any of the connector segments, either Central alternative segment, either Donnelly alternative segment, South Common Segment, and either Delta alternative segment.

SEA, FTA, and FRA have recommended measures to minimize harm and mitigate the effects of the proposed rail line on Section 4(f) resources. These include timing construction to avoid times of heavy trail use, potential use of grade-separated crossings, minimization of dust and noise emissions, and other specific measures such as coordinating with affected agencies with jurisdiction over the resource. As determined through consultation with the agencies with jurisdiction over the resources, the measures to minimize harm detailed in the final Section 4(f) Evaluation (Appendix F of the Final EIS) would result in *de minimis* impacts to one of the four Section 4(f) resources affected by the project. A Programmatic Agreement (PA) is being developed to address impacts to the cultural resource sites.

Page S-23, first full paragraph, inserted after first sentence

Acres of impact are based on clearing of the entire 200-foot ROW plus clearing for extra areas (bridge staging areas, gravel mine sites, passenger terminal, etc.) outside the ROW for the Salcha, Donnelly, and Delta alternative segments.

Page S-24, Table S-2, inserted footnote after table heading

Table S-2 [in the Draft EIS] Summary and Comparison of Potential Impacts[c]

[c] Acreage-based analyses assumed that the entire 200-foot right-of-way and the location of ancillary facilities would be disturbed during construction.

Page S-25, Table S-2, Eielson Alternative Segment 1 row, Biological Resources column, last item

1 bald eagle nest and 1 red-tailed hawk nest affected

Page S-25, Table S-2, Eielson Alternative Segment 1 row, Land Use column, second and fourth items

2 to 3 residences ~~directly~~ affected

~~4(f) resource present~~

Page S-26, Table S-2, Eielson Alternative Segment 2 row, Biological Resources column, fourth item
1 bald eagle nest and 1 red-tailed hawk nest affected

Page S-26, Table S-2, Eielson Alternative Segment 2 row, Land Use column, third item
~~4(f) resource present~~

Page S-26, Table S-2, Eielson Alternative Segment 3 row, Land Use column, third item
~~4(f) resource present~~

Page S-27, Table S-2, Salcha Alternative Segment 1 row, Biological Resources column, fifth item
1 identified pair bald eagles, 1 identified pair great horned owls affected

Page S-27, Table S-2, Salcha Alternative Segment 1 row, Land Use column, second item
25 to 30 residences ~~directly or indirectly~~ affected

Page S-28, Table S-2, Salcha Alternative Segment 2 row, Biological Resources column, fourth item
2 identified pair bald eagles and 3 nest structures; 3 identified pair peregrine falcon affected

Page S-30, Table S-2, Central Alternative Segment 2 row, Biological Resources column, fifth item
1 identified pair bald eagles affected

Page S-31, Table S-2, Connector Segment A row, Biological Resources column, fourth item
1 identified pair great horned owls affected

Page S-32, Table S-2, Connector Segment B row, Biological Resources column, fifth item
1 identified pair great horned owls affected

Page S-35, Table S-2, Donnelly Alternative Segment 1 row, Land Use column, third item
~~4(f) resource present~~

Page S-36, Table S-2, Donnelly Alternative Segment 2 row, Biological Resources column, fifth item
1 identified pair peregrine falcons, 1 bald eagle nest affected

Page S-36, Table S-2, Donnelly Alternative Segment 2 row, Land Use column, fourth item
~~4(f) resource present~~

Page S-37, Table S-2, South Common Segment row, Water Resources column, second item
Impacts to wetlands and other waters (acres): ~~55.5~~ 55.8 (forested 11.3, scrub/shrub 43.4, emergent 0.8, other waters 0.3)

Page S-37, Table S-2, South Common Segment row, Biological Resources column, fourth item
1~~2~~ red-tailed hawk nest, 2 great gray owl nests, and 1 great horned owl nest affected

Page S-37, Table S-2, South Common Segment row, Land Use column, third item
~~4(f) resource present~~

Page S-38, Table S-2, Delta Alternative Segment 1 row, Land Use column, fifth item
~~4(f) resource present~~

Page S-39, Table S-2, Delta Alternative Segment 2 row, Land Use column, fourth item
~~4(f) resource present~~

4.2 Glossary

Inserted the following terms

Aggradation	An increase in land elevation due to the deposition of sediment.
Alluvial Fans	A fan-shaped deposit formed where a fast flowing stream flattens, slows, and spreads typically at the exit of a canyon onto a flatter plain.
Channel planform	A body of water's outline or morphology as defined by the water line.
Culvert battery	Multiple culverts.
Hyporheic Zone	A region beneath and lateral to a stream bed, where there is mixing of shallow groundwater and surface water.
Section 4(f)	Section 4(f) is part of the Department of Transportation Act, as amended, and refers to 49 U.S.C. 303 and 23 U.S.C. 138 to protect publicly-owned public parks, recreation areas, or wildlife and waterfowl refuges of regional, state, or local significance, or land of an historic site of national, state, or local significance.
Wetland flow-way	Area appears to be saturated with an apparent flow direction, but no defined channel or drainage way was observed. Recognized by presence of grassy and/or boggy areas and lack of trees. These wetland flow-ways may or may not coincide with the areas of wetlands as described by the National Wetland Inventory (NWI) Codes, as defined by Classification of Wetlands and Deepwater Habitats in Cowardin *et al.* (1979), and used in Section 4.5.

Deleted the following term

~~**Wapiti**~~	~~The Cree Indian term for elk.~~

4.3 Chapter 1 Purpose and Need for Action

Page 1-3, Table 1-1, Federal Transit Administration row, second column
May provide funding ~~for the purchase of equipment for~~ related to the passenger component of the rail extension.

Page 1-4, first paragraph, first sentence
The Applicant has stated that the purpose of the project is to provide freight and passenger rail service to the region south of North Pole, Alaska, including the Tanana Flats and Donnelly Training Areas and the Delta Junction, Alaska, area.

Page 1-4, second paragraph, replaced second sentence

~~At present, there are no public transportation opportunities between these two areas.~~ At present, there is a coach service that is funded by the City of Delta Junction and operates between Fairbanks and Delta Junction with one round-trip per day Monday though Friday.

Page 1-4, third paragraph, first and second sentences

~~The proposed NRE would also provide year-round access to the Tanana Flats and Donnelly training areas on the southwestern side of the Tanana River and west side of the Delta River.~~ At present, U.S. Army and U.S. Air Force ground access to ~~this area~~ the Tanana Flats and Donnelly Training Areas on the southwestern side of the Tanana River and the west side of the Delta River is limited to winter months by way of ice bridges.

Page 1-5, first full paragraph, inserted last sentence

FRA intends to use this EIS to fulfill its NEPA responsibilities associated with a possible construction funding grant to the Applicant.

Page 1-5, second full paragraph, second sentence

ARRC intends to apply for FTA grant funds related to ~~purchase equipment for~~ the passenger component of the proposed ~~rail line~~ NRE.

Page 1-5, last paragraph, third and fourth sentences

Construction of the proposed rail line extension would involve crossing navigable waters of the United States; therefore, the Applicant would have to obtain a Section 10 permit prior to commencing project construction. USACE ~~intends to~~ may use this EIS to fulfill its NEPA requirements associated with permit evaluation under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act.

Page 1-6, last paragraph, last sentence

ADNR intends to use this EIS to help fulfill parts of its statutory review requirements in its consideration of any rail line identified by ARRC on state-owned land.

Page 1-9, last paragraph, inserted after third sentence

This EIS is organized in a manner consistent with NEPA and CEQ regulations at 40 CFR 1502.10. It is intended to provide clear and concise information on the proposed action and alternatives to agency decisionmakers and the public. The EIS describes the proposed action and alternatives, existing environmental conditions, and potential environmental impacts associated with the proposed action and alternatives. Environmental impacts are evaluated and assessed by resource category (e.g., water resources, biological resources, etc.) and are discussed in the impact section of each affected resource chapter. Cumulative environmental impacts for each affected resource are evaluated and assessed collectively in Chapter 17, Cumulative Impacts in the Draft EIS. Chapters and specific topics within each chapter are outlined in the Table of Contents to aid the reader in locating areas of interest. Tables and figures are listed numerically by the chapter and section in which they appear. Appendices are denoted with alphabetic characters and are ordered alphabetically at the end of the Draft EIS.

4.4 Chapter 2 Proposed Action and Alternatives

Page 2-1, third paragraph, second sentence
At present, ~~there are no public transportation services between North Pole and Delta Junction~~ there is a coach service between Delta Junction and Fairbanks, which operates one round-trip per day Monday though Friday and is funded by the City of Delta Junction.

Page 2-5, first paragraph, third sentence

One alignment was developed as far to the west as practicable and the other was developed as far to the east as practicable, with the location of the western alignment limited by military TAs and land features (glacial outwash plain and hilly topography) in the south, and the eastern alignment limited by Eielson AFB in the north and hilly topography.

Page 2-7, first full paragraph, second sentence
The rail line would be ~~designed and constructed~~ built and operated to meet Class 5 standards and ARRC proposes to transport commercial freight, military supplies, and passengers on the rail line.

Page 2-7, second full paragraph, third sentence, and inserted after third sentence
The Tanana River bridge would be a dual-modal structure able to support both rail and ~~military~~ non-public vehicular traffic. ARRC has not requested or expressed an interest in making the Delta River bridge dual-modal.

Page 2-7, last paragraph, inserted after last sentence
ARRC would comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 for all displacement and relocation activities.

Page 2-8, Table 2-1, Eielson Area Alignments row, Reason for Elimination column
Would create further intrusion into the Tanana Flats TA and also affect important moose habitat~~; was not practicable because of the current grade crossing of Richardson Highway and topography~~.

Page 2-9,Table 2-1, inserted after last row

Non-Rail Alignment	New road alignment that would follow a route from the vicinity of Healy to the military TAs.	Did not meet two of the purposes of the proposed Northern Rail Extension: to provide passenger train service between Fairbanks and Delta Junction and to provide common-carrier rail service to Delta Junction.

Pages 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, and 2-21; Figures 2-6 through 2-12
Reprinted as Final EIS Chapter 1 Figures 1-2 through 1-7.

Page 2-20, third full paragraph, third sentence
Central Alternative Segment 1 would not connect to Donnelly Alternative Segment 2 ~~due to terrain considerations~~, as this would require the rail line to climb 75 to 100 feet in elevation from the Salcha segment only to return to river elevation.

Page 2-20, last paragraph, inserted after third sentence
There is also a high likelihood of avulsion (the movement of a stream channel) into the paleochannel.

Page 2-22, third paragraph
SEA is considering two alternative segments for the Delta area. Each of these segments would cross the Delta River, one north and one south of Delta Junction. ~~The alternative segment that would cross the Delta River south of Delta Junction,~~ Delta Alternative Segment 1, which is ARRC's preferred alternative segment~~.~~, ~~Delta Alternative Segment 1~~ would cross the Delta River just downstream of Jarvis Creek and would run toward the east, crossing Richardson Highway and then the Trans Alaska Pipeline System (TAPS), until turning toward the southeast to parallel ~~the~~ Alaska Highway. Delta Alternative Segment 2 would cross Delta River and then Richardson Highway north of Delta Junction. It would then cross the TAPS and proceed toward the southeast through Delta Junction before crossing Alaska Highway. Delta Alternative Segments 1 and 2 would both end ~~at the end of the alignment~~ about 3 miles east of ~~the~~ Delta River, adjacent to ~~the~~ Alaska Highway (see Figure 2-11 [in the Draft EIS]).

Page 2-22, last paragraph
~~On t~~The west side of the Tanana River~~, which~~ is a remote area without permanent, all-season road infrastructure, ~~a 24-foot-wide permanent all-season access road would be constructed along the rail line~~ which would make access to the ROW difficult during construction. A wider road with greater separation from the rail line would be required west of the Tanana River to provide for material transport along the long, linear ROW during construction and subsequent safe use by non-rail utility vehicles and military vehicles. ARRC anticipates using large (approximately 20 feet wide) construction equipment on the west side of the Tanana River, requiring construction of a 24-foot-wide permanent all-season access road along the rail line. ~~The road would be used to move construction personnel, equipment, and material along the rail line during construction. Following construction, ARRC would use the road to support rail line operations and the military could also sue the road.~~ The size of the construction trucks makes their passage on a single embankment difficult unless it is made wider than would otherwise be necessary for the long-term serviceability of the railroad. Because all construction traffic would enter the long, linear corridor from a single access point at one end, the only safe course is to separate the traffic into two separate one-way lanes, with eastbound traffic utilizing the proposed access road, and westbound traffic utilizing the railroad grade. Movement of vehicular traffic along the railroad ROW concurrent with train operations is governed by Federal law and railroad operating rules, and it is not feasible to provide for other required uses of the corridor without separating the railroad embankment and the access road. In general, this road would be offset from the centerline of the proposed NRE track by approximately 40 feet to avoid interference of vehicle traffic with the rail line during both construction and operations. However, in difficult terrain this offset might be greater. The road would require culverts or vehicle bridges for all stream crossings, as described in more detail below. Following construction, ARRC would use the access road to support rail line operations, and military and non-rail utility vehicle passage.

Page 2-23, first full paragraph, second sentence
~~However, the military could use the access road on the west side of the Tanana River to access TAs.~~

Page 2-24, first full paragraph, inserted after first sentence
Based on geotechnical studies conducted in 2006, ARRC does not anticipate any shortage of materials in the vicinity of the proposed NRE (Miller et. al., 2007).

Page 2-24, first full paragraph, inserted after last sentence
There are some areas where backfilling and excavation are not recommended, such as permafrost-laden soil.

Page 2-28, first paragraph, fourth sentence
~~In general~~ For preliminary design purposes, conveyances were sized to equal or exceed the measured channel width or 90 percent of bank full width ~~(to~~, which would meet or exceed the Alaska Department of Fish and Game [ADF&G]/Alaska Department of Transportation and Public Facilities [ADOT&PF] ~~mode of action~~ fish passage requirements for all sites, even those where fish presence is undetermined~~)~~.

Page 2-29, fifth paragraph
The second option would extend the eastern bank revetment upstream nearly 2 miles to an existing ADOT&PF revetment and connect to a levee (see Figure 2-16 [in the Draft EIS]). This ~~revetment extension~~ levee would prevent surface floodwater from inundating private property in the immediate area and force it under the proposed Tanana River bridge. The levee would either be placed in the Tanana River or along its bank. ~~This~~ The levee and revetment would not address groundwater up-welling associated with flooding in the area.

Page 2-33, seventh paragraph, first sentence
At a minimum, large rail bridges would be designed ~~for a~~ to pass 100-year flood flow ~~to pass through with less than 1 foot of rise in the tail-water elevation~~.

Page 2-41, second paragraph, first sentence
Based on preliminary design, ~~C~~communications towers would be situated at six locations along the proposed rail line to provide for communications with the train crew.

Page 2-41, last paragraph, first sentence, inserted footnote
ARRC would construct up to seven 6,200-foot ("in clear" length)[3] sidings to allow train passage and/or access to rail services.

[3] "In clear" siding length is the length of the train that the siding can accommodate without interfering with operations on the main line.

Page 2-43, fourth paragraph, first sentence
Impacts on soil from construction of the proposed rail line would mostly be associated with excavation and fill activities to provide the desired elevation and grade of the railbed and access road, or with removal of compressible soils that are unsuitable for construction.

Page 2-43, fourth paragraph, inserted after seventh sentence
Seismic activity could result in misalignment of tracks, railbed, or access road caused by ground shaking, offset lateral movement, or soil subsidence.

Page 2-43, fourth paragraph, inserted after last sentence
If strong enough, ground shaking could derail a train.

Page 2-44, first paragraph, fourth sentence
Impacts from bridges and culverts could include changes to natural drainage, sloughing and erosion of the streambank, impacts to permafrost, increased stages and velocities of floodwater, and increased channel scour or bank erosion.

Page 2-44, first paragraph, inserted after last sentence
Additionally, use and storage of power equipment during construction could affect surface water or groundwater resources in the unlikely event of an inadvertent spill of petrochemicals, deicing compounds or other compounds if the spill is not properly contained.

Page 2-45, second full paragraph, sixth sentence
At the sites of the Tanana River bridges on Salcha Alternative Segments 1 and 2, ~~rock revetments (and a levee, in the case of Option 1 for Salcha Alternative Segment 1)~~ levees and other training works~~,~~ would control surface flow and reduce the width of the floodplain near the bridge, but would not prevent flooding from groundwater upwelling on the upland side of the revetments.

Page 2-45, last paragraph, inserted after sixth sentence
Wind-blown dust from gravel roads and railbeds could also damage or eliminate plants by direct cover with fines, which could inhibit photosynthesis.

Page 2-47, first paragraph, second full sentence, and inserted after second full sentence
Segments constructed through late-succession forest habitats and late-succession floodplain forest habitats would have the greatest impact on forest nesting landbirds, raptors, and cavity nesters. Construction and operations noise could disturb or displace individuals or breeding pairs.

Page 2-47, second full paragraph, first sentence, and inserted after first sentence
Negligible impacts to ~~prehistoric and historic~~ cultural resources are expected from North Common Segment, the Eielson alternative segments, Salcha Alternative Segment 1, the Central alternative segments, and Connector Alternative Segments A, B, C, and D because they would lie in areas with relatively low archeological sensitivity for prehistoric sites, low or moderate sensitivity for historic sites, and have no known cultural resources within the Area of Potential Effect (APE). Eielson Alternative Segment 1 and Salcha Alternative Segment 1, however, each contain a historic site within 1,312 feet of their APE.

Page 2-47, second full paragraph, inserted after third sentence
In total, two cultural resources were identified within the APE and five cultural resources were identified within 1,312 feet of the APE for Salcha Alternative Segment 2.

Page 2-47, second full paragraph, tenth through twelfth sentences
One p~~P~~rehistoric site~~s were~~ was also identified within 1,312 feet of the APE for South Common Segment (low potential for historic and prehistoric resources)~~, and~~. Delta Alternative Segment 1~~2~~ (moderate potential for ~~pre~~historic and ~~high potential for~~ prehistoric resources)~~. N~~ contains no cultural resources ~~were identified~~ within ~~the~~ its APE and one potential cultural resource within

1,312 feet of its APE. Delta Alternative Segment 2~~1~~ (moderate potential for prehistoric and high potential for ~~pre~~historic resources) contains one cultural resource within its APE and two cultural resources within 1,312 feet of its APE. ~~Table 2-5 at the end of this chapter identifies the potential impacts to prehistoric and historic resources within the APE by segment.~~

Page 2-48, second full paragraph, sixth sentence
None of the construction would occur in the Fairbanks and North Pole carbon monoxide (CO) maintenance areas, and estimated emissions would be well below the *de minimus* conformity thresholds (100 tons per year for each pollutant) and the project size and scope would not be large enough to require a $PM_{2.5}$ hot-spot analysis.

Page 2-49, first paragraph, second sentence
An estimated 32 noise receptors near the Salcha Alternative Segment 2, and an estimated four receptors near the Eielson ~~A~~alternative ~~S~~segment 2 and 3 would be exposed to adverse noise effects at greater than 65 DNL and an increase in noise level of 15 to 30 dBA as a result of rail line operation.

Page 2-49, first paragraph, fourth sentence
An estimated four receptors along Salcha Alternative Segment 2 would experience vibration levels due to rail line operation exceeding the 80 vibration decibels (VdB) criterion for human annoyance.

Page 2-50, first full paragraph, last sentence
Any temporary, construction-related impacts on commercial or personal navigation in these waterways, such as changes to access, would depend on the types of crafts using the waterway and the timing of bridge construction.

Page 2-50, second full paragraph, last sentence
There would be ~~T~~temporary ~~indirect~~ effects to residences and business ~~would occur~~ during construction, primarily from ~~noise and changes to the visual landscape,~~ access changes and other disturbances associated with construction activities, but these effects would generally be minor and temporary.

Page 2-51, first paragraph, third and fourth full sentences, and inserted after as new paragraph
~~During construction and operations, restricted access to the proposed rail line ROW would create a linear barrier, preventing free range of recreational users within the ROW and across the area.~~ To prevent creation of a linear barrier resulting from restricted access to the proposed rail line ROW, SEA has developed several preliminary mitigation measures to ensure that continuity of trails would be maintained. See Table 2-5 [in the Draft EIS] at the end of this chapter for the types of recreational activities affected and the number of recreation access route intersections by segment.

Operations of the proposed rail line would result in changes to access patterns. The Applicant has proposed grade-separating trail crossings with the exception of trails with heavy vehicular usage where an at-grade crossing could be more appropriate. SEA developed several preliminary mitigation measures to ensure continuity of trails and require the Applicant to coordinate with user groups and owning agencies with respect to trail crossings and access

needs. The Applicant has offered, and SEA has proposed mitigation measures, that would provide for public access.

Page 2-51, first full paragraph, third sentence, and inserted after third sentence
The Alaska Division of Mining, Land and Water has indicated that it would consider closure of these generally allowed trails to be an impact, ~~and~~ would require further investigations to determine their location and use, and would require accommodation of these legal features (Proulx, 2008). Where the proposed rail line crosses ADNR land, Alaska State Statute 42.40.460 provides for additional crossing of the proposed rail line even after the transfer of fee-title ROW from ADNR to the Applicant. The Applicant and ADNR are presently discussing existing and proposed crossing locations and types.

Page 2-51, third, fourth, and fifth full paragraphs
SEA identified four ~~potential 4(f)~~ resources that are protected under Section 4(f) of the U.S. Department of Transportation Act that could ~~would~~ be affected by the proposed NRE. ~~Most of these properties are~~ These include recreational trails used for ~~dog-sledding, snowmachining,~~ running, hiking, and skiing, school grounds, a recreational area, and ~~but~~ two ~~are~~ cultural resource sites (see Section 6.3). ~~Ten~~ Two alternative segments would require use of Section 4(f) resources~~, based on preliminary determination~~ (see Appendix ~~M~~ F of the Final EIS).

By the criteria of Section 4(f) evaluation, the alignment that ~~minimizes effects~~ results in the least overall harm to Section 4(f) properties ~~would~~ could include ~~the following~~ a combination of the following segments: North Common Segment, any of the Eielson ~~A~~alternative ~~S~~segment~~s~~ ~~3~~, Salcha Alternative Segment 1, any of the connector segments, either ~~of the~~ Central alternative segment~~s~~, either Donnelly ~~A~~alternative ~~S~~segment ~~2~~, South Common Segment, and either Delta alternative segment.

~~There may be opportunities to minimize or mitigate~~ SEA, FTA, and FRA have recommended measures to minimize harm and mitigate the effects of the proposed rail line on ~~impacts to~~ Section 4(f) resources. These include ~~including~~ timing construction to avoid times of heavy trail use, potential use of grade-separated crossings, ~~and~~ minimization of dust and noise emissions~~.~~, and other specific measures such as coordinating with affected agencies with jurisdiction over the resource. As determined through consultation with the agencies with jurisdiction over the resources, the measures to minimize harm detailed in the final Section 4(f) Evaluation (Appendix F of the Final EIS) would result in *de minimis* impacts to one of the four Section 4(f) resources affected by the project. ~~Coordination is ongoing with appropriate agencies to determine the significance of resources that are protected under Section 4(f) that would be affected by the proposed NRE.~~ A Programmatic Agreement (PA) is being developed to address impacts to the cultural resource sites.

Page 2-52, last paragraph, inserted after second sentence
Acres of impact are based on clearing of the entire 200-foot ROW plus clearing for extra areas (bridge staging areas, gravel mine sites, passenger terminal, etc.) outside the ROW for the Salcha, Donnelly, and Delta alternative segments.

Page 2-53, Table 2-5, inserted footnote after table heading
Table 2-5 [in the Draft EIS] Summary and Comparison of Potential Impacts[c]

[c] Acreage-based analyses assumed that the entire 200-foot right-of-way and the location of ancillary facilities would be disturbed during construction.

Page 2-53, Table 2-5, Eielson Alternative Segment 1 row, Biological Resources column, fourth item
1 bald eagle nest and 1 red-tailed hawk nest affected

Page 2-53, Table 2-5, Eielson Alternative Segment 1 row, Land Use column, second and fourth items
2 to 3 residences ~~directly~~ affected
~~4(f) resource present~~

Page 2-54, Table 2-5, Eielson Alternative Segment 2 row, Biological Resources column, fourth item
1 bald eagle nest and 1 red-tailed hawk nest affected

Page 2-54, Table 2-5, Eielson Alternative Segment 2 row, Land Use column, third item
~~4(f) resource present~~

Page 2-54, Table 2-5, Eielson Alternative Segment 3 row, Land Use column, third item
~~4(f) resource present~~

Page 2-55, Table 2-5, Salcha Alternative Segment 1 row, Biological Resources column, fifth item
1 identified pair bald eagles, 1 identified pair great horned owls affected

Page 2-55, Table 2-5, Salcha Alternative Segment 1 row, Land Use column, second item
25 to 30 residences ~~directly or indirectly~~ affected

Page 2-56, Table 2-5, Salcha Alternative Segment 2 row, Biological Resources column, fourth item
2 identified pair bald eagles and 3 nest structures; 3 identified pair peregrine falcon affected

Page 2-57, Table 2-5, Central Alternative Segment 2 row, Biological Resources column, fifth item
1 identified pair bald eagles affected

Page 2-57, Table 2-5, Connector Segment A row, Biological Resources column, fourth item
1 identified pair great horned owls affected

Page 2-58, Table 2-5, Connector Segment B row, Biological Resources column, fifth item
1 identified pair great horned owls affected

Page 2-60, Table 2-5, Donnelly Alternative Segment 1 row, Land Use column, third item
~~4(f) resource present~~

Page 2-61, Table 2-5, Donnelly Alternative Segment 2 row, Biological Resources column, fifth item
1 identified pair peregrine falcons, 1 bald eagle nest affected

Page 2-61, Table 2-5, Donnelly Alternative Segment 2 row, Land Use column, fourth item
~~4(f) resource present~~

Page 2-61, Table 2-5, South Common Segment row, Water Resources column, second item
Impacts to wetlands and other waters (acres): ~~55.5~~ 55.8 (forested 11.3, scrub/shrub 43.4, emergent 0.8, other waters 0.3)

Page 2-61, Table 2-5, South Common Segment row, Biological Resources column, fourth item
~~2~~1 red-tailed hawk nest~~s~~, 2 great gray owl nests, and 1 great horned owl nest affected

Page 2-61, Table 2-5, South Common Segment row, Land Use column, third item
~~4(f) resource present~~

Page 2-62, Table 2-5, Delta Alternative Segment 1 row, Land Use column, fifth item
~~4(f) resource present~~

Page 2-62, Table 2-5, Delta Alternative Segment 2 row, Land Use column, fourth item
4(f) resource present

4.5 Chapter 3 Topography, Geology, and Soils

Page 3-7, fourth paragraph, first sentence
Impacts on soil during rail line construction would mostly be associated with excavation and fill of soils to maintain the grade of the railbed and access road or with removal of unsuitable construction material.

Page 3-9, inserted after third paragraph
Soil in the ROW could be affected in the unlikely event of a release of hazardous materials from a train derailment or collision. The level of impact would depend on the type and quantity of spill. However, the likelihood of a release would be low. ARRC anticipates few shipments of hazardous materials, and railcars used for transportation of hazardous materials are designed to withstand various types of impacts. The extent of soil degradation, such as changes in soil pH, would depend on factors such as the specific pollutant released and soil affected. Chapter 11 in the Draft EIS discusses hazardous materials transportation safety.

Page 3-11, Table 3-4, header of third column
Depth (in feet) of Overburden ~~(ice content)~~

Page 3-15, first paragraph, inserted after last sentence
Seismic activity could result in misalignment of tracks, railbed or access road caused by ground shaking, offset lateral movement or soil subsidence.

4.6 Chapter 4 Water Resources

Page 4-1, first bullet point, inserted after first sentence
USEPA is charged with administering the NPDES permit program, but can authorize states to assume responsibility of administering the program.

Page 4-1, third bullet point
Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) – Requires authorization from the USACE for the placement of any structure in, over, or under any navigable water of the U.S., the excavation or dredging in these waters, or any obstruction of these waters. ~~Navigable Waters of U.S. Dredge and Fill Permit~~

Page 4-1, fourth bullet point
Section 404 of the CWA – ~~Discharge of Fill Material to Waters of the U.S.~~ The USACE is responsible for regulating discharge of fill material to wetlands and other waters of the U.S. through Section 404.

Page 4-1, fifth bullet point
Executive Order 11990, *Protection of Wetlands* (24 May 1977). The USACE does not administer this Executive Order, but it is independently required for federally funded, managed, or permitted actions.

Page 4-1, sixth bullet point
Executive Order 11988, *Floodplain Management* (24 May 1977). The USACE does not administer this Executive Order, but it is independently required for federally funded, managed, or permitted actions.

Page 4-2, fourth bullet point, inserted after first sentence
On October 31, 2008, USEPA approved the State of Alaska's NPDES Program application. The state's program is called the Alaska Pollutant Discharge Elimination System (APDES) Program. Authority over Federal permitting and compliance and enforcement programs is being transferred to Alaska Department of Environmental Conservation over three years, beginning at program approval. USEPA will retain oversight of the program.

Page 4-4, Table 4-1, Moose Creek row, Drainage Area column
~~ND~~ 57

Page 4-4, Table 4-1, Providence Creek row, Drainage Area column, and inserted footnote
~~ND~~ ~6[e]

[e] The watershed is difficult to delineate in the Tanana River floodplain.

Page 4-4, Table 4-1, footnote c
[c] ND = no data available. Drainage areas for Piledriver and Twentythree Mile Sloughs are not readily determined because they both sometimes receive overflows from the Tanana River during high ice break-up and/or seasonally high flows.

Page 4-5, second full paragraph, fourth sentence
Over time, these depressions fill in with organics and sediment and typically transition into wetland habitat ~~no longer contain standing water~~.

Page 4-18, inserted after first paragraph
ARRC proposes to use channel plugs to minimize the potential for overflow into the side channels and sloughs from the Tanana River (mainly on the west side of the river), thereby slightly increasing the discharge in the main channel. The quantitative effect has not been determined (not modeled or calculated pending final design and permitting), but based on the considerably smaller channel cross-sectional areas in the plugged channels versus the main channel, the increase in flow is anticipated to be small.

Page 4-25, last paragraph, last sentence
~~Thirteen~~ Forty-four culvert crossings would be required to maintain flow for 13 seeps, 7 wetland flow-way crossings, and 24 small streams, drainageways, and overflow channels.

Page 4-37, last paragraph, last sentence
These boreholes could provide direct communication between surface water and groundwater and between shallow and deep aquifers, which could result in the contamination of groundwater; therefore, they would have to be properly abandoned following state regulations.

Page 4-40, inserted after third paragraph
The Applicant proposes that bridge crossings of the Tanana River would include channel plugs at the inlets of some of the minor overflow and side channels and that would be designed to minimize the potential for overflow from the Tanana River. The side channels and sloughs would still retain water due to the high groundwater table in the floodplain. Thus, water levels in the plugged sloughs would be almost entirely groundwater driven, but the plugs themselves would essentially have a negligible effect on groundwater.

Page 4-43, fourth paragraph, fourth sentence, and inserted after fourth sentence
Appendix E [in the Draft EIS] also describes and summarizes historical data the USGS and the State of Alaska collected in the project area. There are no current or active USGS water quality data stations in the project area. All data is historical. Streamflow gauging is active at several sites.

Page 4-43, last paragraph, first sentence
This section describes potential impacts to groundwater and surface water quality as a result of the proposed project.

Page 4-44, third paragraph, inserted after first sentence
Fill and other materials introduced from material sites and quarries (some quite far from the project site) could have the potential to introduce deleterious compounds if they are not properly screened and characterized. Additionally, use and storage of power equipment during construction could affect surface water or groundwater resources in the unlikely event of an inadvertent spill of petrochemicals, deicing compounds or other compounds if the spill is not properly contained.

Page 4-45, second bullet point

Unmitigated thermal degradation of permafrost, leading to increased sediment load to, and lowered dissolved oxygen levels in, watercourses.

Page 4-47, first paragraph, inserted after third sentence, and fourth sentence

In addition, Eielson Alternative Segment 3 would place fill along the southern edge of Scout Lake, which could increase turbidity and sediment loads in the lake. However, ~~this impact~~ these impacts would be short in duration, and conditions would return to background levels once construction was completed.

Page 4-47, sixth paragraph

There is a considerable volume of sediment (fines and coarse) contained within the many bars and banks throughout the system. The substantial amount of channel and bank work that would occur from either of the Tanana River crossings would likely disturb these sediments and create localized increased sediment loads and downstream sedimentation. Although sediment loads in the Tanana River vary widely over the year, it is during the periods of highest daily flow (late June through August associated with glacial melt and major rain events) when most of the disturbed sediment would be mobilized. Standard sediment control practices (such as silt fences and bales) would be in place to minimize effects on water quality during lower flow periods when turbidity and sediment concentrations are typically lower. The effects of this disturbance would not be discernable during peak summer flow season, because this is when stored sediment is mobilized and sediment loads are already high. ~~However, the effects might not be discernible due to the already high sediment loads carried during ice breakup and during peak summer flow season.~~ Thus, the impacts are anticipated to be low. If construction occurs during ice break-up, it could potentially have additional impacts because baseline sediment conditions are expected to be lower than average peak summer flow.

Page 4-51, third paragraph, last sentence

~~Appendix E also describes and summarizes data the USGS and the State of Alaska collected in the project area.~~

Page 4-51, fourth paragraph, inserted after last sentence

The USACE would be responsible for determining the jurisdictional status of these potentially isolated wetlands and other waters.

Page 4-52, Table 4-11

Table 4-11
Summary of Wetland Types Within 500 Feet of the Proposed Alternative Segments[a]

Proportion (percent) of Wetland Area by Category[b]	Wetland Type (NWI Code[c])	Number of Wetland Regions[d]	Wetland Area (acres)
1	Broadleaf Forest Wetlands (PFO1)	28	18.1
96	Needleleaf Forest Wetlands (PFO4)	~~576~~ 577	~~2,061.7~~ 2,061.9
3	Mixed Forest Wetlands (PFO#/#)	27	66.2
~~30~~ 34	**Subtotal Forest**	**~~631~~ 632**	**~~2,145.9~~ 2,146.2**

Table 4-11
Summary of Wetland Types Within 500 Feet of the Proposed Alternative Segments[a]

Proportion (percent) of Wetland Area by Category[b]	Wetland Type (NWI Code[c])	Number of Wetland Regions[d]	Wetland Area (acres)
	Wetlands (PFO)		
26	Broadleaf Scrub/Shrub Wetlands (PSS1)	584	779.9
24	Needleleaf Scrub/Shrub Wetlands (PSS4)	274	729.7
50	Mixed and Other Scrub/Shrub Wetlands (PSS#/#)	~~343~~ 344	~~1,532.4~~ 1,533.2
43	**Subtotal Scrub/Shrub Wetlands (PSS)**	**~~1,201~~ 1,202**	**~~3,042.0~~ 3,042.8**
~~9~~ 2	Emergent Wetlands (PEM)	430	160.9
~~3~~ 1	Palustrine Waters (P)	60	63.6
~~42~~ 14	Riverine Waters (R)	435	787.9
~~46~~ **15**	**Subtotal Other Waters**	**495**	**851.5**
~~**27**~~	~~**Subtotal**~~ **All** ~~**Other**~~ **Wetlands and Waters**	**~~1,420~~ 2,759**	**~~1,863.9~~ 6,201.4**
	~~**All Wetlands and Waters**~~	~~**3,252**~~	~~**7,051.8**~~

[a] Source: HDR, 2007a.
[b] Proportion of wetland area for broader wetland types (PFO, PSS, and Other Wetlands and Waters) are in bold. Proportion of wetland areas within each wetland type are listed for Forested Wetlands (PFO1,PFO4, PFO#/#), Scrub/Shrub Wetlands (PSS1, PSS4, PSS#/#), and Other ~~Wetlands and~~ Waters (~~PEM~~, P, R, ~~Other Waters~~).
[c] National Wetland Inventory (NWI) Codes as defined by Classification of Wetlands and Deepwater Habitats (Cowardin *et al.*, 1979):
PFO – Palustrine Forested
PSS – Palustrine Scrub/Shrub
PEM – Palustrine Emergent
R – Riverine
[d] Regions are individual contiguous wetland areas as mapped by HDR (2007a).

Page 4-55, first paragraph, first sentence, and inserted after first sentence
To be conservative, SEA assumed that construction of the rail line would require that all of the 200-foot ROW be cleared of surface vegetation. The width of the ROW could be reduced as necessary and practicable to minimize impacts to sensitive resources or to accommodate the terrain. The area in the ROW cleared of vegetation for construction but not needed for permanent structures would be restored to natural conditions, to the extent practicable, consistent with rail line operating requirements.

Page 4-55, second paragraph, inserted after fourth sentence
Riparian habitats provide food, shelter, breeding sites, and travel corridors for a variety of terrestrial wildlife and bird species. They also supply shelter and food for many aquatic animals and shade that is an important part of stream temperature regulation.

Page 4-58, inserted after second paragraph
Use of the rail line and access roads, and maintenance clearing could introduce invasive species with the potential to compete with native wetland vegetation. Invasive species are generally aggressive and able to rapidly spread and outcompete native vegetation. This could change the character and function of a wetland.

Page 4-59, first paragraph, inserted after first sentence, and inserted under all other Common Construction Impacts headings
Disturbances to wetland hydrology and the clearing of wetland vegetation could also impact wetland functions.

Page 4-59, second paragraph, last sentence
Eielson Alternative Segment 1 would cross fewer wetland communities, although Eielson Alternative Segment 1 would ~~come closest~~ be closer to the Tanana River (approximately 500 feet at its nearest point), which could affect water quality~~, not only~~ of ~~wetlands within the ROW, but within the~~ riparian communities ~~next to~~ associated with the Tanana River.

Page 4-63, Table 4-17, title
Wetlands within Salcha Alternative Segments 1 and 2 Bridge Staging Areas, Levees, ~~Riprap Areas,~~ Shot-Rock Revetments, Channel Plugs, Channel Modifications, Gravel Extraction Sites, Access Roads, and Highway Relocations[a]

Page 4-63, first paragraph, second sentence
Table 4-17 [in the Draft EIS]lists wetlands within the Salcha alternative segments 1 and 2 bridge staging areas, levees, ~~riprap areas~~ rock revetments, channel plugs, channel modifications, borrow sites, access roads, and highway relocation areas.

Page 4-64, first full paragraph, first sentence, and inserted after second sentence
During construction, ~~riprap~~ rock and fill material would be added to the upstream side of the proposed Tanana River Bridge, resulting in affects on wetlands and riparian areas. Direct impacts would occur from placement of riprap material in wetlands. Levees, shot-rock revetments, channel plugs, and channel modifications constructed with rock and/or other fill material would be designed to change flooding regimes that recharge floodplain wetlands and would affect wetlands beyond the 200-foot ROW.

Page 4-65, second paragraph, last sentence
~~The glacial nature of the Little Delta River and Delta Creek, however, could negate most water quality or habitat impacts because of the higher turbidity and suspended sediment loads already present in the stream.~~

Page 4-73, third paragraph, first sentence
Section ~~4.4~~ 4.5.2 [in the Draft EIS] describes operations impacts to wetlands.

Page 4-76, Table 4-25, last column heading
~~Vegetated~~ Wetland Proportion (percent)

Page 4-76, Table 4-25, inserted footnote to Salcha 1 + Extra column
Salcha 1 + Extra[f]

[f] + Extra consists of any staging areas, gravel extraction sites, access roads, highway relocations, levees, or riprap areas associated with the alternative segment.

Page 4-78, second paragraph, fifth sentence
The project area and many of the proposed rail segments within the FNSB lie within the 100-year floodplain, while the proposed rail segments within the Southeast Fairbanks ~~Borough~~ Census Area are primarily outside the 100-year floodplain, except near Delta Junction.

Page 4-79, fifth full paragraph, third sentence, and inserted after third sentence
River training works and channel plugs are structures placed in the river to direct the flow of water, and are typically designed to prevent lateral corrasion (erosion caused by abrasive particles set in motion in moving water) by streams, thereby maintaining the location of the main channel. River training works could be less successful in preventing avulsions (the movement of a stream channel), which could occur upstream. In these cases, potential avulsion locations would be evaluated as part of the final design. If flood waters were contained by river training works, then flows and stage could increase, which could cause increases in velocity and subsequence increases in scour. It is also possible that flood waters could contract and expand through the affected reach, causing scour and fill that could cause changes in channel geometry, which could lead to upstream and downstream effects on the location of the main channel. These dynamics are typical of the Tanana River system, and the effects of the river training works could be difficult to discern or measure.

Page 4-79, sixth full paragraph, inserted after second sentence, and third sentence
If ice jams would cause flooding to homes, then impacts would be considered high. Flooding of personal property only (with no improvements) would be considered moderate. Potential flooding impacts would be considered in permitting and final design. ~~This impact would be low.~~

4.7 Chapter 5 Biological Resources

Page 5-2, Table 5-1, Natural Resources – Land, Forest, and Wildlife Management row, second column
Natural Resources – Land, Forest, and Wildlife Management (Army Regulation (AR) 200-1~~3~~)

Page 5-6, first paragraph, first sentence
~~This~~ The Tanana-Kuskokwim Lowlands eco-region provides prime habitat for animals using aquatic and riparian habitats such as mink, marten, muskrat, beaver, and river otter.

Page 5-6, first paragraph, inserted after third sentence
Some glacial rivers are important as migratory corridors and for spawning by some species in nonturbid seasons. For example, Arctic grayling spawn in spring of the year, so their eggs are not present in spring-fed areas over winter.

Page 5-6, third paragraph, first sentence, and inserted after first sentence
~~Many migrant waterbirds and landbirds pass though this area on their way to and from nesting habitats to the north.~~ The Tanana River Valley is one of Alaska's major bird migration corridors for hundreds of thousands of waterbirds, landbirds, and raptors. Many of these birds move along this corridor on their way to and from nesting habitats to the north and west.

Page 5-11, first bullet point, inserted after last sentence
For information on timber resources and timber salvage see Chapter 13, Land Use, in the Draft EIS.

Page 5-12, fourth bullet point, last sentence
~~A fuel break along the Tanana River Valley could also be beneficial in the protection of late-succession riparian forests and private property.~~

Page 5-13, first paragraph, inserted after last sentence
Ongoing maintenance activities could further compact soils and/or compact soils in new areas.

Page 5-14, first paragraph, first complete sentence
Borrow areas would be converted to ponds depending on depth of excavation, soils, and groundwater levels, or they would remain dry and unvegetated unless rehabilitated.

Page 5-14, Table 5-4, footnote b, inserted after first sentence
Estimate based on the relative proportion of each vegetation class within the project area.

Page 5-17, second full paragraph, first and second sentences
Salcha Alternative Segment 1 crosses the Tanana River and continues along the west side of the Tanana River in a largely undisturbed landscape where few invasive plants would be expected and the potential ~~to~~ for local spreading of invasive plants would be low. However, operation of the rail line could facilitate the spread of invasive species if an invasive species management program is not implemented. SEA's recommended mitigation measure 37 in the Final EIS would require the Applicant to develop and implement an invasive species management plan. The Salcha Alternative Segment 2 parallels portions of the Richardson Highway ROW, where existing local sources of invasive plants would likely be spread throughout the rail ROW during construction.

Page 5-28, third paragraph, inserted after last sentence
The spread of weed species would be expected to continue on the east side of the Tanana River, while the potential spread of weed species on the west side of the river would be expected to be low because of the low occurrence of weed species. However, during operations, the west side of the Tanana River could be exposed to invasive species, increasing the number of invasive species in this area over time if an invasive species management program is not implemented. SEA's recommended mitigation measure 37 in the Final EIS requires the Applicant to develop and implement an invasive species management plan.

Page 5-32, first paragraph, third sentence
The combination of alternatives and segments that has the least number of stream crossings documented to contain either fish or fish habitat is the North Common Segment, Eielson

Alternative Segment 1, Salcha Alternative Segment 1, Connector A, Central Alternative Segment 1, Donnelly Alternative Segment 1, South Common Segment, and Delta Alternative Segment 1.

Page 5-33, Figure 5-10 caption
Waters Documented as Important for Chinook, Coho and Chum Salmon under Alaska Statute ~~16.15.871(a)~~ 16.05.871(a) in the Project Area (Johnson and Weiss, 2007)

Page 5-35, last bullet point, inserted after third sentence
Hyporheic flows are necessary to maintain movements of oxygen to and waste products from developing eggs.

Page 5-41, Figure 5-12
Replace with the following page.

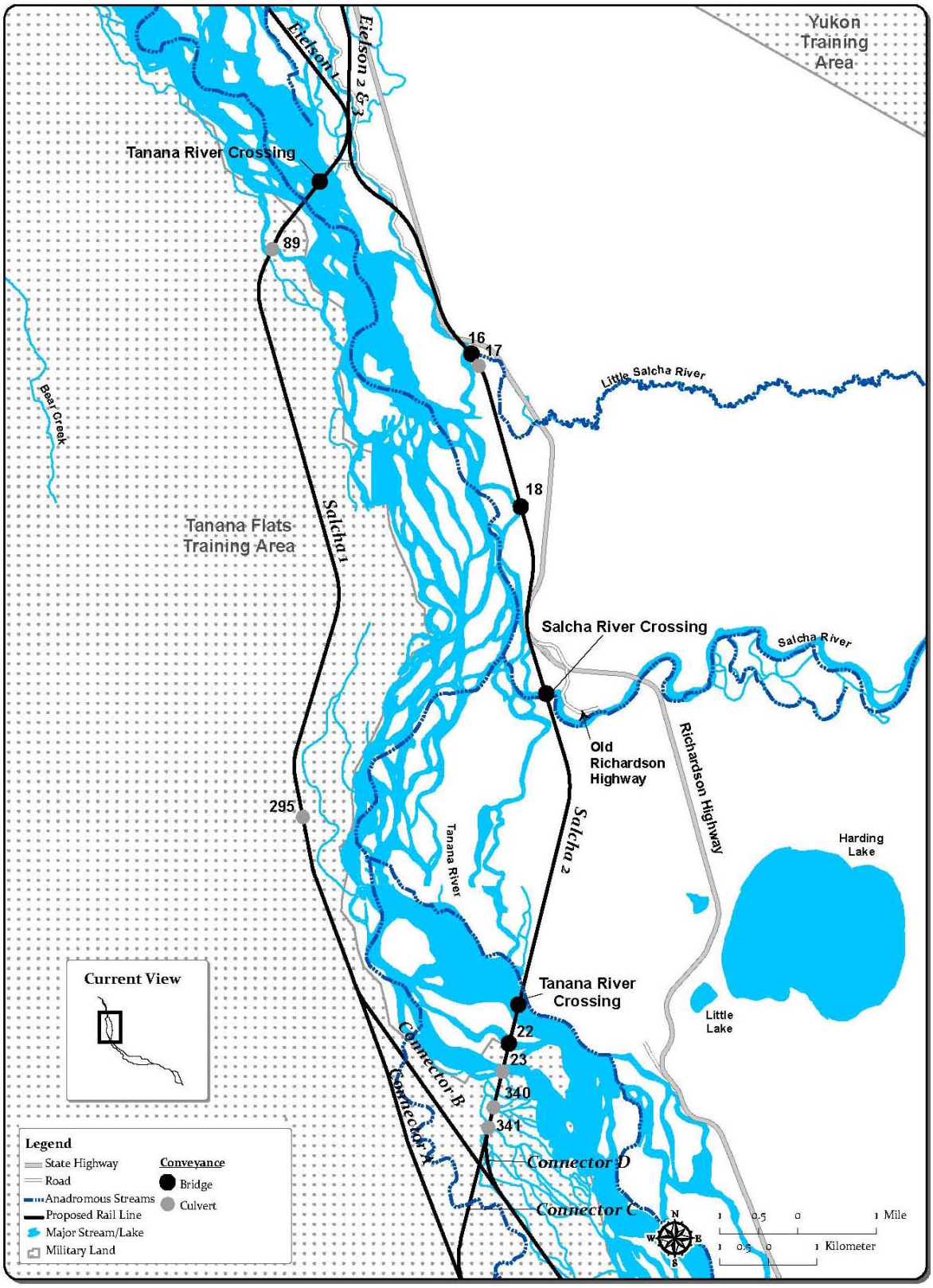

Figure 5-12 – Fish-bearing Streams Crossed by the Salcha Alternative Segments (ADF&G, 2005; Johnson and Weiss, 2007; Noel, 2007a)

Page 5-43, last paragraph, inserted after last sentence
Habitat at the Connector E crossing includes gravels in riffle habitats suitable for spawning by salmonids and overwintering for fry and juvenile salmonids.

Page 5-44, Table 5-21, Connector E row, Over-winter Habitat column
√

Page 5-56, last paragraph, inserted after thirteenth sentence
Most moose move to areas traditionally used for calving, rutting, and wintering, thereby making use of different habitat types throughout the year. Moose movements within the project area follow general patterns, with movements from foothills areas of the Alaska Range and Yukon-Tanana Uplands toward the Tanana-Kuskokwim Lowlands during late winter to early spring and back to the foothills during late summer to early fall (Figure 5-17 in the Draft EIS). Movement extent and timing during fall and winter from upland forested areas to lowlands, such as river valleys, is influenced primarily by snow depth. Moose are well adapted to traveling across snow, but depths of more than 28 inches can affect moose movements and habitat use. As snowpack reaches more than 38 inches moose may seek closed-canopy needleleaf forests, which generally have lower snow depths (Peek 1997). Moose wintering in the Salcha and Chena river drainages of GMU 20B and
the Alaska Range foothills in GMU 20A move into the Tanana Flats in February to April where cows calve in central GMU 20A (Gasaway *et al.*, 1983). Migratory moose return to the Salcha and Chena river drainages or the Alaska Range foothills during August to October (Gasaway *et al.*, 1983). Moose from the western portion of GMU 20D make similar movements into the eastern portion of GMU 20A (Gasaway *et al.*, 1983). Moose tend to use traditional migratory routes and calves learn migratory behavior as they follow their mothers on annual migration routes (Hundertmark, 1997).

Page 5-57, first paragraph, last two sentences
~~Moose are well adapted to traveling across snow, but depth of more than 28 inches can affect moose movements and habitat use. Moose may seek closed canopy needleleaf forests, which generally have lower snow depths, as snowpack reaches more than 38 inches (Peek, 1997).~~

Page 5-59, fourth paragraph, third sentence
The difference between the existing road and trail density within the ~~analysis~~ block, the increase in density as a result of construction of the NRE, and the final post-construction density were compared.

Page 5-65, second paragraph, first sentence
Based on early-winter densities, an estimated 2,300 moose would occur within 5 miles of the proposed project alternatives, including about 1,400 seasonal migrants ~~that~~ of which about 700 would be expected to move across the proposed rail line at least twice a year (see Appendix F, Section F.3.1 [in the Draft EIS]).

Page 5-66, seventh paragraph, first sentence
Both alternative segments cross the Tanana River and areas of riparian habitats potentially used by moose, bears, and furbearers for forage, cover, and travel ~~upstream from these crossings~~ that would be lost and altered by ~~bank armament~~ shot-rock revetments and levees.

Page 5-75, second paragraph, inserted after first sentence
A few bald eagles might remain within Interior Alaska over winter, especially near sloughs and open water areas where waterfowl might also overwinter (Ritchie and Ambrose, 1987).

Page 5-78, third bullet point, last sentence
Linear alignments increase landbird nest predation and nest parasitism by fragmenting forest habitats and facilitating access, ~~of~~ which could be beneficial for edge-loving landbirds and predators.

Page 5-81, third full paragraph, first sentence
Construction of the South Common Segment would result in destruction or disturbance of ~~two~~ one red-tailed hawk nest~~s~~, two great gray owl nests, and one great horned owl nest.

Page 5-82, first paragraph, third sentence
Alternative segments passing through late-succession forest and late-succession floodplain forest habitats would have the greatest potential impact on forest nesting landbirds, raptors, and cavity nesters by fragmenting large patches of forest and creating edge habitat that decreases reproductive potential ~~for forest nesting landbirds~~.

4.8 Chapter 6 Cultural Resources

Page 6-1, first paragraph
This chapter assesses the impacts that the proposed Northern Rail Extension (NRE) ~~would~~ could have on cultural resources within the project area. For purposes of this analysis, a "cultural resource" is any tangible or observable evidence of past human activity, regardless of significance, found in direct association with a geographic location, including tangible properties possessing intangible traditional cultural values. A "historic property" is any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the *National Register of Historic Places* (National Register) maintained by the Secretary of the Interior. This term [historic property] includes artifacts, records, and remains that are related to and located within such properties. The term historic property includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR Part 63). [See 36 CFR 800.16(l)(1).] Simply put, a "historic property" is a "cultural resource" that is included on or eligible for inclusion on the National Register. A discussion of regulations is followed by a characterization of cultural resources in the project area. The subsequent section describes the direct and indirect impacts on cultural resources that ~~would~~ could result from construction and operation of the rail line, followed by documentation of consultation with Alaska Native organizations. The analyses draw from three reports, which are incorporated here by reference: (1) a predictive model of cultural resources in the area (Potter, 2006), (2) 2006 survey results (Potter *et al.* 2007a), and (3) 2007 survey results (Potter *et al.*, 2007b).

Page 6-1, third paragraph, inserted after first sentence
"Prehistoric" means the time before Native Americans came in contact with Euro-Americans; "historic" is the time after contact. In the Tanana Valley study area, the historic period began around AD 1878.

Page 6-6, Section 6.2.3 heading
~~Previously Known~~ Previous Cultural Resource~~s~~ Surveys in the Region ~~Project Area~~

Page 6-6, inserted after third full paragraph
These prior surveys documented some cultural resources that fall within the scope of the proposed NRE. In the State of Alaska, the system for codifying sites incorporates the USGS (1:250,000) quadrangle in which the site is located. For example, the FAI prefix refers to sites within the Fairbanks quadrangle, and the XBD prefix refers to sites within the Big Delta quadrangle. Tables 6-2 and 6-3 in Section 6.3.4 in the Draft EIS include sites identified before and during the survey for this project. FAI sites with numbers lower than 1750 and XBD sites with numbers lower than 281 were recorded prior to the studies undertaken for this project and are therefore not included in the Section 6.3.2 discussion or Table 6-1 of the Draft EIS.

Page 6-6, last paragraph
Section 106 regulations, (36 Code of Federal Regulations [CFR] Part 800) use "historic properties" as a general term to include the entire range of different cultural resources, such as archeological sites and historic structures, that are included on, or are eligible for inclusion on the National Register. The National Environmental Policy Act of 1969 (NEPA) requires an assessment of impacts on historic properties. To assess the potential impacts on ~~historic properties~~ cultural resources in the project area, SEA used a combination of direct identification of sites in the project area, as well as computerized modeling of potential for the presence of buried archeological resources in different parts of the project area.

Page 6-7, first full paragraph
In general, the purpose of cultural resource surveys is to identify ~~historic properties~~ cultural resources within the Area of Potential Effects (APE) that are potentially eligible for listing on the National Register ~~of Historic Places~~. For the purposes of the NRE cultural resources surveys, the APE included the area potentially disturbed by the actual railbed ~~limits of potential disturbance were considered to be~~ (100 feet on either side of the track centerline~~). This would encompass the actual railbed. The overall APE for the project was established as~~ plus an expanded area of 328 feet (100 meters) on either side of the rail centerline to accommodate ~~This APE would account for~~ the proposed mainline track, ~~as well as~~ any ancillary support facilities and the potential indirect impacts that could result from construction and operation of the rail line. A complete field survey of the entire APE, including all alternative segments, was not feasible because of climate and field conditions. The survey was conducted as a systematic sampling survey, which included development of a predictive model for the project area, followed by strategic field sampling of certain moderate and high probability locations. Information about sites outside the APE is important for development and verification of the predictive model and testing its performance, even though these sites might not be physically disturbed by the project. Sites outside the APE are also included to account for (1) the fact that site boundaries have not been delineated and (2) the inherent error in uncorrected Global Positioning System measurements recorded in the field (plus or minus 10 meters). This workplan was approved by the Alaska SHPO and Bureau of Land Management (BLM) prior to survey.

Page 6-7, third full paragraph, first sentence
To develop the predictive model for ~~cultural resources~~ prehistoric sites in the project area (Potter, 2006), a range of values from low potential to high potential was assigned to the landscape.

Page 6-7, fourth full paragraph, third sentence
Type B surveys, conducted in high and moderate probability areas, consisted of systematic pedestrian walkover in transects, combined with subsurface excavations.

Page 6-7, fourth full paragraph, inserted after third sentence
Cultural resource professionals considered a number of interrelated and complex factors for the identification of areas of higher potential for subsurface testing; these are described in detail in the project predictive model (Potter 2006) and two technical reports (Potter *et al.* 2007a, 2007b). Examples include but are not limited to the following:

- Areas where subsurface deposits are exposed (blowouts, deflated ridges and knobs, road/river cut banks, etc.)
- Visible cultural features (tent rings, housepits, cabins, cachepits, etc.)
- Areas with elevated landforms in relation to the surrounding landscape
- Well-drained areas, particularly south-facing slopes, and areas with certain substrates
- Areas within dry tundra/low shrub ecosystems
- Areas near certain resource intensifiers (mineral licks, natural topographic constriction, freshwater/clearwater lakes/streams harboring favored fish species, caribou migration routes, habitats favorable to moose, sheep, waterfowl, and other key animals, lithic resource localities, critical wood resource localities, caves and rockshelters)
- Areas associated with certain landforms (lake margins, river outlets, stream-river confluences, recently abandoned floodplain channel edges, areas near the margins of swampy lowland, areas near treelines)
- Particularly important are areas defined by the intersection of two linear units (bluff intersections), three planar surfaces (small lakes, topographic prominences), or ecotones (valley constrictions, ends of peninsulas) and anomalous topographic features.

Page 6-7, last paragraph, last sentence
The 2006-2007 surveys identified and tested 198 high potential areas for subsurface cultural remains, resulting in the excavation of 949 test pits and the discovery of 61 ~~historic properties~~ cultural resources including archeological sites and standing structures.

Page 6-8, first full paragraph
Summary data on all 61 ~~historic properties~~ cultural resources (51 prehistoric and 10 historic) discovered during the 2006-2007 surveys are provided in Table 6-1 [in the Draft EIS]. ~~Of the 61 historic properties evaluated for this project, 7 were considered not eligible for listing on the National Register because they are less than 50 years old.~~ A total of 51 were ~~considered~~ recommended eligible for listing on the National Register under Criterion D ~~of the Department of Interior's guidelines for assessing site significance. Historic properties eligible for listing on the National Register under Criterion D are those that~~ because they have the potential to yield important information about prehistory or history, but have not yet been formally evaluated. The information the sites could be related to prehistoric technology, subsistence, and/or settlement patterns important to the cultural history of Interior Alaska. Criterion D is generally used to describe the research potential of archaeological resources whose full extent and integrity are unknown. Of the 61 properties, 3 ~~historic properties~~ cultural resources need more information before eligibility can be adequately determined: XBD-293, 294, and 295~~,~~ . XBD-295 is an abandoned truck; XBD-293 and XBD-294 are comprised of historic archaeological deposits associated with Salchaket Village. Of ~~T~~these sites, XBD-293 and XBD-294 are likely eligible for listing on the National Register, but more research is needed to fully determine their

significance. Of the 61 cultural resources evaluated for this project, 7 were considered not eligible for listing on the National Register because they are less than 50 years old.

Page 6-8, Table 6-1, title
~~Archaeological Site~~ Cultural Resources Field Survey Summary Data

Page 6-8, Table 6-1, first table header, first column
AHRS Site No.[a]

Page 6-8, Table 6-1, first table header, last column
Recommended Eligibility for National Register Listing

Page 6-8, Table 6-1, AHRS Site No. FAI-1607, Description
Trapper's Cabin

Page 6-8, Table 6-1, AHRS Site No. XBD-295, Description
Possibly Associated with Salchaket~~?~~

Page 6-10, Table 6-1, footnote a
[a]AHRS = Alaska Heritage Resources Survey. The sites listed in this table are identified by their site identifier codes. This table lists only the sites newly discovered during the 2006-2007 fieldwork.

Page 6-10, inserted after Table 6-10
In a letter dated November 21, 2008, the Alaska SHPO concurred with the eligibility of 7 of the 10 prehistoric lithic sites SEA determined eligible for inclusion on the National Register under criterion D (XBD-298, XBD-335, XBD-337, XBD-338, XBD-339, XBD-341, and XBD-343) but did not concur with SEA's findings on 3 of the individual sites, XBD-336, XBD-340 and XBD-342, recommending instead that they be evaluated as a historic district.

Page 6-10, first paragraph, third sentence
Ground disturbance ~~would~~ could directly and adversely impact the integrity of archeological sites through removal of surface artifacts, disturbance of site contexts, soil compaction, watershed modification, and contamination of organic residues of a site.

Page 6-10, first paragraph, fifth sentence
For historic ~~properties~~ buildings, structures, objects and districts eligible for inclusion on the ~~NRHP~~ National Register, construction of the project could have impacts to the aesthetics and visual site setting, depending on proximity.

Page 6-10, second paragraph, first and second sentences
Indirect project impacts ~~would~~ could include increased erosion and site degradation. The project ~~would likely~~ could alter the watershed in the area.

Page 6-10, third paragraph, first sentence
This section compares the impacts of each alternative segment on known ~~historic properties~~ cultural resources as well as the potential to affect buried archeological sites.

Page 6-10, third paragraph, last sentence

These areas, outside the 200-foot right-of-way to 323 feet from the centerline could be limits of direct disturbance, are subject to indirect impacts from the build alternatives.

Page 6-10, last paragraph

All known historic properties cultural resources associated with NRE alternative segments, both previously known and newly discovered, are listed in Table 6-2 [in the Draft EIS]. There are a total of 16 sites within 328 feet of proposed project alternative segments, 15 14 prehistoric and 1 2 historic. Testing to date has involved a limited sample and the full spatial boundaries of these 15 sites have not been determined. It is assumed here that historic properties cultural resources within 328 feet of proposed alternative segments have the potential to receive direct and indirect impacts from construction and operation of the rail line. Historic properties Cultural resources up to 1,312 feet (400 meters) from the APE (i.e., 1,640 feet [500 meters] from centerline) would not likely be affected by the right-of-way, but could be affected by the final design of ancillary features and their access roads.

Page 6-11, Table 6-2

Table 6-2
Summary of Site Proximity to Main Track Alternative Segments

Segment	Historic Properties Cultural Resources[a] (within the Area of Potential Effect)	Historic Properties Cultural Resources[a] (within 1,312 feet of Area of Potential Effect)
North Common Segment	0	0
Eielson 1	0	1 (FAI-071*)
Eielson 2	0	0
Eielson 3	0	0
Salcha 1	0	0 1 (FAI-1607)
Salcha 2	2 (FAI-1751, XBD-293**)	5 4 (FAI-156*, XBD-027, XBD-067, XBD-294**, 296)
Central alternative segments	0	0
Donnelly 1	8 (XBD-335-336, 338-343)	17 (XBD-188*, 189*, 297-309, 312, 337)
Donnelly 2	4 (XBD-291, 313, 320-321)	11 (XBD-287-289, 314-319, 325-326)
South Common Segment	0	1 (XBD-322)
Delta 1	1 (XBD-091)* 0	0 1 (XBD-091)*
Delta 2	1 (XBD-281)	2 (XBD-282, XBD-129)

[a] The historic sites listed in this table are identified by their site identifier codes. This table lists both previously known sites and those discovered during the 2006-2007 fieldwork, but does not include recent-use sites.

* Sites have not undergone final determinations of eligibility for listing on the National Register.

** Sites related to Salchaket Village require more data for a determination of eligibility for listing on the National Register, and would likely be eligible.

Page 6-11, first full paragraph

In addition to sites affected by the right-of-way, some ancillary facility locations have associated ~~historic properties~~ cultural resources (Table 6-3 [in the Draft EIS]). The list in Table 6-3 includes only those ancillary feature locations that have been proposed by ARRC and which have ~~historic properties~~ cultural resources within 1,312 feet (400 meters) of the APE. Table 6-2 in the Draft EIS lists previously known sites and those discovered during the 2006-2007 fieldwork.

Pages 6-11 through 6-12, Table 6-3

Table 6-3
Survey Results of Ancillary Facilities

Ancillary Facility	~~Historic Properties~~ Cultural Resources[a] (within the Area of Potential Effect)	~~Historic Properties~~ Cultural Resources[a] (within 1,312 feet of Area of Potential Effect)
Delta Creek Material Processing Site	4 (XBD-~~327-330~~ 325-328)	0
Material Site 7	1 (XBD-293)	1 (XBD-294)
Microwave tower 1	0	1 (FAI-1750)
Microwave tower 2	~~0~~ 1 (XBD-128)	~~2~~ 1 (XBD-~~128,~~ 296)
Microwave tower 3	~~2~~ 1 (XBD-~~323-~~324)	~~0~~ 1 (XBD-323)
Microwave tower 5	1 (XBD-282)	1 (XBD-281)
Southern Terminus Depot	0	1 (XBD-129)

Note: Sites located in the vicinity of both rail line alternatives and ancillary facilities are noted in Tables 6-2 and 6-3 [in the Draft EIS].
[a] The historic sites listed in this table are identified by their site identifier codes. This table lists both previously known sites (FAI numbers below 1750 and XBD numbers below 281) and those discovered during the 2006-2007 fieldwork, but does not include recent use sites.

Page 6-12, first paragraph

~~Historic properties~~ Potential cultural resources within the APE can be divided into two groups with respect to significance and impacts. The first group includes all buried prehistoric sites. The sites are all potentially eligible for ~~listing~~ inclusion on the ~~NRHP~~ National Register for their potential to yield information important in prehistory or history. These sites consist of buried cultural materials, usually lithic flakes, with some additionally including cultural features (e.g., hearths), formal artifacts (e.g., projectile points), and associated faunal remains.

Page 6-12, fourth paragraph, inserted after third sentence

However, one potentially historic site (FAI-071) is within 1,312 feet of the APE of Eielson Alternative Segment 1.

Page 6-12, fifth paragraph, fourth sentence

No historic properties are known in ~~or near~~ the APE, and only one cultural resource (FAI-1607, a historic site) is located within 1,312 feet of the centerline.

Page 6-12, last paragraph, second sentence

Two potential historic properties lie in or very near the APE, prehistoric site FAI-1751, and historic site XBD-293, which is associated with Salchaket Village.

Page 6-12, last paragraph, last sentence
~~Four~~ Five other cultural resources (two prehistoric and three historic) ~~sites~~ are known within 1,312 feet of the APE.

Page 6-13, first paragraph, first full sentence
~~One of these~~ Two sites, XBD-294 and XBD-067, ~~is~~ are related to Salchaket Village and features associated with the site may extend into the APE.

Page 6-13, first paragraph, third full sentence
~~Numerous archeological resources were encountered.~~

Page 6-13, third full paragraph
Both Donnelly alternative segments are located in areas with high potential for prehistoric resources. Twenty-six high potential areas of the APE along Donnelly Alternative Segment 1 were tested. Based on the sample survey, ~~T~~there are eight sites within the APE~~;~~, all are buried prehistoric sites (XBD-335-336, 338-343). Twenty-two high potential areas between 328 and 1,640 feet of the ~~APE~~ centerline were tested, and 17 ~~historic properties~~ cultural resources were identified (XBD-297-307, 312, 337-341). Deeply buried ~~S~~site XBD-298 ~~returned a~~ was determined by radiocarbon ~~date~~ analysis to be at least 11,300 years old, indicating ~~the site~~ it is one of the earliest human habitation sites in North America. Both Donnelly Alternative Segments 1 and 2 also ~~contains~~ cross the Donnelly-Washburn Trail (RS 2477 Trail No. 0064). The trail has not been evaluated as a potential historic property; this would be done as part of the PA process should either of these alternatives be selected.

Page 6-13, fourth full paragraph
The entire extent of Donnelly Alternative Segment 2 APE has been surveyed. Four prehistoric archaeological sites (XBD-291, 313, 320, 321) were recorded~~, XBD-291, 313, 320, 321.~~ and 15 high-potential areas were tested within the APE. Eleven prehistoric sites ~~were identified in 7 test areas within~~ and seven high-potential areas were recorded between 328 and ~~1,312~~ 1,640 feet of the ~~APE~~ centerline (~~S~~see Table 6-1 [in the Draft EIS]).

Page 6-13, last paragraph
The two Donnelly alternative segments ~~would~~ could both have direct impacts on ~~historic properties~~ cultural resources because 12 prehistoric sites were recorded within the APEs of the two segments. ~~Overall,~~ Donnelly Alternative Segment 1 contains eight more archaeological sites than Donnelly Alternative Segment 2, including some that have exceptional significance for understanding human migrations to North America. ~~Consequently~~ Because it has more sites, Donnelly Alternative Segment 1 ~~would~~ could have proportionally greater direct impacts on ~~historic properties~~ cultural resources than Donnelly Alternative Segment 2. However, ~~B~~both alternatives ~~would~~ could have similar indirect impacts.

Page 6-14, first paragraph, last sentence
Minimal direct and indirect impacts on ~~historic properties~~ cultural resources would be anticipated for the South Common Segment.

Page 6-14, second paragraph
~~Both Delta alternative segments have moderate potential for prehistoric and historic archeological sites.~~ Delta Alternative Segment 1 is located primarily west of Delta River in an

area of moderate potential for prehistoric and historic sites. The segment is situated in abandoned and active floodplain alluvium. Four areas were identified for testing within the APE but no resources were identified. A previously recorded site in the vicinity, XBD-091, is of uncertain locational/preservation status, and is presumed to have been eroded by Jarvis Creek. For the purposes of this analysis, it is included in Table 6-2 in the Draft EIS.

Page 6-14, fourth paragraph
The Delta alternative segments are relatively similar, with moderate potential to affect ~~historic properties~~ cultural resources. From the known data, Delta Alternative Segment 2 ~~would likely~~ could have greater direct impacts on ~~historic properties~~ cultural resources.

Page 6-14, fifth paragraph
If this project is not constructed, there would be ~~few potential~~ no related impacts on cultural resources. ~~More vehicle traffic, both commercial and private, on Richardson Highway is anticipated for the No-Action Alternative. Increased traffic raises the potential for erosion and road damage, and if the highway is widened there would be direct impacts to compensate for lack of rail transport. Tourism associated with recreational and other vehicles may have more direct and indirect impacts on cultural resources than tourism associated with the rail line.~~

4.9 Chapter 7 Subsistence

Page 7-5, first full paragraph, eleventh sentence
Alaska does not regulate the taking of non-game resources such as berries~~,~~ and medicinal plants~~, or wood~~.

Page 7-9, first paragraph, last sentence
The use of the project area relative to each community's overall use areas is low; however, as noted above, all resources subsistence use area data are not available for some communities located near or in the project area (e.g., Delta Junction and Salcha).

Page 7-9, third paragraph, inserted between third and fourth sentences
Because all resources subsistence use area data are not available for Delta Junction and Salcha, the level of subsistence overlap for these two communities is based on documented moose harvest areas that overlap the project area.

4.10 Chapter 8 Climate and Air Quality

Page 8-2, first paragraph, inserted after last sentence
If SEA assessed potential impacts to Denali National Park, SEA anticipates that the impact would be substantially below the significance level of 1 microgram per cubic meter for NO_2, PM_{10}, and $PM_{2.5}$.

Page 8-3, first paragraph, first sentence
The proposed NRE would be constructed in an area currently in attainment[2] for all criteria air pollutants. ~~However, the~~ The

Page 8-3, inserted after the second paragraph
On December 22, 2008, a rule that would establish $PM_{2.5}$ non-attainment area designations was signed, but it was not published in the *Federal Register* and is currently under review by USEPA. A future designation of a portion of the FNSB, including the City of Fairbanks and the City of North Pole, as a non-attainment area for $PM_{2.5}$ would require that the area take action to improve $PM_{2.5}$ concentration levels, with the goal of attaining and maintaining the $PM_{2.5}$ air quality standards. Because the proposed rail line extension would provide public transport, designation of a portion of FNSB as a $PM_{2.5}$ non-attainment area could potentially make the project subject to "transportation conformity," which would require that the Fairbanks Metropolitan Area Transportation System (FMATS) and ADEC coordinate planning to ensure that transportation-related emissions from projects do not interfere with the area reaching attainment. Projects are not required to demonstrate transportation conformity until one year after non-attainment designation. By definition, projects with estimated $PM_{2.5}$ emissions less than the *de minimis* level of 100 tons per year would not interfere with the goal of attaining the $PM_{2.5}$ air quality standard.

If a portion of FNSB is designated as a $PM_{2.5}$ non-attainment area, the State of Alaska, in cooperation with FMATS, would be required to detail control requirements in a SIP demonstrating how they would meet the $PM_{2.5}$ NAAQS. States must submit such plans to USEPA within three years after the Agency makes final designations. Areas are required to attain the $PM_{2.5}$ standard by 2014. USEPA may grant attainment date extensions for up to 5 additional years in areas with more severe $PM_{2.5}$ problems and where emission control measures are not available or feasible.

Page 8-6, fourth paragraph, sixth sentence
In addition, the estimated emissions are well below the *de minimis* conformity thresholds (100 tons per year for each pollutant) and the project size and scope would not be large enough to require a $PM_{2.5}$ hot-spot analysis.

4.11 Chapter 9 Noise and Vibration

Page 9-2, last paragraph, inserted after second sentence
Military training activities also influence noise levels near Delta Junction and west of the Tanana River.

Page 9-6, Table 9-4, Eielson 2 row, 65 DNL column
~~0~~ 4

Page 9-6, Table 9-4, Eielson 2 row, + 3 dBA column
~~0~~ 49

Page 9-6, Table 9-4, footnote a
[a] DNL = day-night average noise level. For all receptors identified, noise levels would equal or exceed 65 DNL as a result of horn sounding.

Page 9-13, second paragraph
An estimated four receptors near ~~the~~ Eielson Alternative Segments 2 and 3 would experience an adverse noise impact; they would be exposed to greater than or equal to 65 DNL and would experience an increase in noise level up to 15 dBA.

4.12 Chapter 10 Energy Resources

Page 10-2, inserted before third full paragraph
SEA based its calculations of fuel usage for construction of NRE on fuel consumed by construction vehicles and equipment over the lifetime of the construction project. Fuel usage estimates were based on the assumption that construction would last for three years and that construction would take place during only seven months of each year. Calculations were based on fuel consumed during construction of a similar project, the Eielson Branch Realignment (Sierra Research Inc., 2007). Fuel consumption for diesel engines was calculated based on the hours worked at a certain engine load factor with diesel combustion providing energy at a rate of 1 brake horsepower per hour from the combustion of 0.367 pound of diesel. Fuel consumption for gasoline vehicles was calculated assuming an average fuel economy for a mix of trucks of 10 miles per gallon. Using these estimates, total fuel consumed over the lifetime of NRE construction would be 920,777 gallons of diesel fuel and 134,910 gallons of gasoline.

4.13 Chapter 11 Transportation Safety and Delay

Page 11-8, inserted after first full paragraph
In a letter to SEA dated February 20, 2009, the Applicant revised voluntary mitigation measure 30 to specifically clarify that the new rail line would be incorporated into the Applicant's existing emergency response process and that the Applicant would update its Oil Spill Contingency Plan to include the new rail line.

4.14 Chapter 12 Navigation

Page 12-1, first paragraph, fourth sentence
~~In instances where the~~ The Alaska Department of Natural Resources (ADNR) owns the beds of all navigable waterbodies, and in instances where the ADNR is ~~Alaska Department of Natural Resources~~ also the landowner of one or both sides of a waterbody, ADNR is ~~also~~ responsible for authorizations required for crossing these waterbodies.

Page 12-6, fourth paragraph, second sentence
Depending on engineering and other considerations, t~~T~~he span of the Tanana River conveyance would be ~~at least~~ approximately 4,000 feet and the span of t~~T~~he Salcha River ~~crossing distance is~~

~~still to be determined, but would~~ conveyance would be ~~at least~~ approximately 2,500 feet~~, the minimum distance needed to clear the 100-year floodplains for the waterway~~.

Page 12-7, second full paragraph, second sentence
Depending on engineering and other considerations, the span for the Little Delta River crossing would be at least 800 ~~to 1,100~~ feet and the span of the Delta Creek crossing would be at least 700 feet~~; these are the minimum distances needed to clear the 100-year floodplains for these waterways~~.

Page 12-7, third full paragraph, second sentence
Depending on engineering and other considerations, the span for the Little Delta River crossing would be at least 900 feet and the span of the Delta Creek crossing would be at least 700 feet~~; these are the minimum distances needed to clear the 100-year floodplains for these waterways~~.

Page 12-8, first paragraph, second sentence
Depending on engineering and other considerations, the span of the bridge would be at least 2,000 feet~~, the minimum distance needed to clear the 100-year floodplain~~.

Page 12-8, second paragraph, second sentence
Depending on engineering and other considerations, the spans for the bridge would be at least 2,000 feet~~, the minimum distance needed to clear the 100-year floodplain~~.

4.15 Chapter 13 Land Use

Page 13-2, fourth paragraph, fourth and fifth sentences
All areas are managed primarily for the flood control purposes of the project~~. These planning units are additionally managed~~ as well as for recreation, low-density use, and wildlife management.

Page 13-3, fifth full paragraph, fifth and sixth sentences
Forest lands in the vicinity of the project are primarily ~~located~~ north of Richardson Highway~~, and would not be directly affected by any of the proposed rail line segments~~. Management Unit 7a is on the east side of the Tanana River and would be crossed in two locations by Salcha Alternative Segment 2. As of ~~March~~ the start of the state's fiscal year, July 1, 2008, several parcels ~~located~~ between Fort Greely and the Tanana River near Flag Hill ~~are still on the list of proposed additions~~ were added to the Tanana Valley State Forest under SB 229, and could be affected by proposed rail line segments in the area.

Page 13-3, fifth full paragraph, inserted after last sentence
AS 41.17.210(b) directs that these Tanana Valley State Forest lands would be retained in state ownership and not subject to ADNR's land sales program.

Page 13-4, inserted before fourth full paragraph
All displacement and activities that occur as a result of the proposed action would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. 4601 *et seq.*) (Uniform Act), regulations promulgated pursuant to that statute (49 CFR Part 24), and AS 34.60.010 through 34.60.150. Under the Uniform Act, direct effects are effects of the proposed action related to persons whose real

property is acquired or who are displaced as a result of the physical siting of the rail line. For example, a direct effect to land use would mean the proposed rail line would change the use of the land, or would necessitate acquisition of property or a structure and property. Indirect effects are defined as effects caused by the project, but occurring later in time or farther removed in distance than direct impacts. An example of an indirect effect would be a shipper building a facility in the future that would change land use or induce development. The Uniform Act is also discussed in Section 15.3.3 in the Draft EIS.

Page 13-7, inserted after first paragraph

There could be temporary changes to land use from construction camps, construction staging areas, and armor rock staging areas established during rail line construction. The exact locations of these construction facilities would be determined during final design; however, Chapter 2 in the Draft EIS presents potential locations, where known. Construction staging areas associated with the large bridges over the Tanana, Delta, Little Delta, and Salcha Rivers and Little Delta Creek might extend beyond the 200-foot ROW. River areas excavated for gravel removal would refill with gravel due to materials transport by river flows from upstream areas. In addition, two main construction staging areas would be located at the terminus of the proposed rail line. Construction staging areas and construction camps would be collocated when possible. Land in these areas would be converted from its current use to rail line use. Original land use could be reestablished after construction was complete. Section 2.2.3 in the Draft EIS discusses construction camps and staging areas in more detail.

Construction activities, including the presence or movement of construction equipment outside the ROW, could generate dust and change access patterns in proximity to rail line construction. Additional noise would be generated by construction activities, and would be more noticeable in areas in proximity to the rail line where trucking/rail activity is low or does not currently exist. However, such increased noise due to construction would be temporary and would not constitute an adverse noise impact. Rail line construction would constitute a visual change in the landscape for residents in proximity to the rail line who are not buffered by vegetation. See Chapters 9 and 14 in the Draft EIS for discussion of noise and visual effects from the proposed NRE.

Page 13-8, second paragraph, inserted after first sentence

Approximately 85 acres of this staging area would be within the USACE-managed CRLFCP, with 55 acres, owned by BLM and ADNR, outside the CRLFCP.

Page 13-8, fourth paragraph, last two sentences, and inserted between last two sentences

Eielson Alternative Segment 1 would ~~directly affect~~ likely require acquisition of two to three residences where structures are within the 200-foot ROW. Land within the ROW would be converted from its current residential use to rail line use. Approximately 25 additional residences are within 2,000 feet of the proposed ROW and ~~would be indirectly affected by~~ could experience construction disturbance and possibly changes to visual resources (see Chapters 9 and 14 [in the Draft EIS]).

Page 13-8, sixth paragraph, fifth sentence

While it appears that no residences would be directly in the path of the rail line, as many as 75 residences would be within 2,000 feet of the ROW and ~~would be indirectly affected by~~ could experience construction disturbance, such as noise, and changes to visual resources (see Chapters 9 and 14 [in the Draft EIS]).

Page 13-9, first full paragraph, fourth sentence

~~While it appears that no residences would be directly affected, a~~ Approximately 60 residential structures are within 2,000 feet of the ROW and ~~would be indirectly affected by~~ could experience construction disturbance, and possibly changes to visual resources (see Chapters 9 and 14 [in the Draft EIS]).

Page 13-9, second full paragraph

During construction, a temporary access road encompassing approximately 5.0 acres of private land outside of the 200-foot ROW would be required. This access road would be on private land adjacent to the eastern bank of the Tanana River. In addition, two bridge staging areas, each covering approximately 5.7 acres on either side of the Tanana River, would be required. Land ownership of these areas is private on the east side of the river and military on the west side. Approximately 25 to 30 residences would ~~be affected by~~ temporarily experience changes to access as a result of construction activities and use of the staging areas and access road on the east side of the Tanana River. Although effects to ~~some~~ most of these residences would be temporary because the area could be restored after construction and original land use could be reestablished, ~~effects to several residences~~ there is one structure within the ROW and impacts would be permanent. The proposed staging area on the west bank of the Tanana River would be on undeveloped, relatively inaccessible land used by the military for training purposes. ~~This use would be temporarily affected, because training exercises could be resumed after construction of the bridge.~~ ARRC would coordinate construction activities with military training schedules.

Page 13-10, first full paragraph

Salcha Alternative Segment 2 mainly lies along the eastern bank of the Tanana River; it would traverse privately owned and partially developed land in the northern part of the segment in the vicinity of the Salcha community and undeveloped University of Alaska lands in the southern portion of the segment immediately north of the river crossing. ~~Some u~~ Undeveloped ADNR land ~~parcels that would be affected are~~ on the east side of the river and part of Tanana Valley State Forest, Management Unit 7a, would be affected by Salcha Alternative Segment 2. These lands are managed for commercial and personal-use timber production in addition to fish and wildlife habitat and recreational use (ADNR, 2001). Rail line construction and operations could affect access for forest management and timber harvest purposes within this management unit.

There are approximately 150 homes or businesses within approximately 2,000 feet of the proposed rail line ~~and these would be directly affected by construction on or through their properties, or indirectly affected by~~ that could experience construction disturbance ~~near their properties. Construction of this alternative segment would require the relocation of a portion of Richardson Highway (see Figure 2-8). Consequently, highway use in this area would be affected by construction delays and possible detours.~~ Approximately nine structures lie within the 200-foot ROW and would be permanently affected by the proposed rail line. Sixteen other structures in proximity to the proposed rail line, Boondox Drive, Cold Foot Court, or the Salcha 2 Tanana bridge approach would experience changes to access as a result of the NRE.

Page 13-10, fourth full paragraph

The proposed ROW crosses the Tanana River at a location south of the Salcha community near Flag Hill. On the western bank of the river, the rail line would pass through undeveloped military lands associated with the Tanana Flats Training Area. The ROW permit would likely stipulate coordination with the military during construction activities to ensure avoidance of

conflicts. ~~Military use of the land in the immediate vicinity of the rail line could be temporarily affected during rail line construction. There are several parcels of land~~ The existing Harding Lake Communication Tower in the vicinity of Flag Hill ~~that have been recommended for additions to the Tanana Valley State Forest. As of March 2008, the parcels are still on the proposed additions list. If added to the Tanana Valley State Forest, these parcels could be managed for timber resources, and rail line construction and operations could adversely impact access for forest management and timber harvest purposes. The existing Flag Hill Tower~~ would be upgraded as part of this alternative segment, which would directly affect (by conversion of the land from its current use to rail support facility use) less than one quarter of an acre of private land to the east of the segment near the Tanana River crossing, close to residential development.

Page 13-10, fifth full paragraph, last sentence

~~See Chapter 20 for proposed mitigation measures that would require the ARRC to conduct this coordination~~.

Page 13-11, first paragraph

The southern portion of the segment would cross undeveloped, relatively inaccessible land owned by ADNR. Land use would be affected by rail line construction in the ROW~~. Land~~, because this area would be converted from its current use ~~outside of~~ to rail line use. In addition, access to land within the rail line ROW would ~~not~~ be ~~affected.~~ prohibited except by permission from ARRC or at designated public crossing locations.

Page 13-11, second paragraph, fifth and sixth sentences

~~Land use would be affected by rail line construction in the ROW. Land use outside of the ROW would not be affected.~~ ADNR land within the 200-foot ROW would be permanently converted to rail line use. In addition, access to land within the rail line ROW would be prohibited except by permission from ARRC or at designated public crossing locations.

Page 13-11, third paragraph, fifth and sixth sentences

Land use would be affected by rail line construction in the ROW because this area would be converted from its current use to rail line use. ~~Land use outside of the ROW would not be affected.~~ In addition, access to land within the rail line ROW would be prohibited except by permission from ARRC or at designated public crossing locations.

Page 13-11, fourth paragraph

The northern portion of Donnelly Alternative Segment 1 traverses generally inaccessible, undeveloped ADNR lands, and military lands within Donnelly Training Area on the western side of the Tanana River. ~~Use of lands in the rail~~ The ROW permit would ~~be affected during rail line construction~~ likely stipulate coordination with the military during construction activities to ensure avoidance of conflict. ~~State lands outside of the ROW would not be directly affected by construction. There could be indirect effects, such as construction disturbance due to noise, dust generation, or the presence or movement of construction equipment outside the ROW. Training activities on adjacent military lands could be curtailed during construction.~~ An at-grade crossing is proposed for a winter-use trail on ADNR lands north of the Little Delta River crossing.

Page 13-11, sixth paragraph

This alternative segment lies closer to the Tanana River, compared to Donnelly Alternative Segment 1, and the majority of the land that would be crossed is undeveloped, relatively

inaccessible land owned by ADNR (635 acres), with a minor amount of private land (4 acres) supporting several recreational cabins. Approximately 2 acres of the ADNR lands are submerged under the waters of the Little Delta River and Delta Creek. ~~Recreational land use would be affected by rail line construction in the ROW. Land use outside of the ROW would not be affected.~~ After crossing the Little Delta River, the rail line ~~traverses~~ would traverse part of the Donnelly Training Area. Recreational land use would be displaced by rail line construction within the ROW, as detailed in Section 13.2.3 in the Draft EIS. There are several parcels of land in the vicinity of Flag Hill that were added to the Tanana Valley State Forest under SB 229, as of the start of the state's fiscal year, July 1, 2008. These parcels could be managed for timber resources, and rail line construction and operations could affect access for forest management and timber harvest purposes.

Page 13-12, third paragraph, fourth sentence
~~Land use outside of the ROW would not be affected.~~

Page 13-12, sixth paragraph, third sentence
~~Use of these facilities and residences would likely be affected by disturbance during construction.~~

Page 13-12, seventh paragraph
An existing communication tower, the Delta Tower, would be upgraded to support rail line operations in this area. The existing tower is situated on ADNR land in a relatively undeveloped but road-accessible area approximately two miles east of Richardson Highway. Approximately five nearby residences could ~~be indirectly adversely affected by~~ experience effects from construction activities associated with tower upgrade construction activities. ~~associated with the tower upgrade~~. ~~River areas excavated for gravel removal are expected to refill with gravel due to materials transport by river flows from upstream areas. Therefore, effects within the river bed are expected to be of short duration.~~

Page 13-13, second paragraph
A passenger terminal and 30-foot permanent access road would be built on approximately 6 acres adjacent to the 200-foot ROW. The parcel to be used for the terminal is mostly privately owned (4 acres) with a small amount of ADNR-owned lands. While the actual site of the proposed terminal appears to be undeveloped at present, there are fewer than 10 residences or businesses in the vicinity that could experience temporary ~~adverse~~ effects from construction activities ~~An existing communication tower, the Delta Tower, described under Delta Alternative Segment 1, would be upgraded to support rail operations in this area. As described~~ such as changes in access and an increase in ~~the previous section, approximately five nearby residences could be indirectly affected by~~ noise, dust, and disturbance generated by construction activities.

As described under Delta Alternative Segment 1, the Delta Tower would be upgraded to support rail line operations in this area. Approximately five nearby residences could experience effects from construction activities associated with the tower upgrade.

Page 13-14, first paragraph, last sentence
The remainder is within the CRLFCP and is managed by USACE, primarily for flood control, but also for recreation ~~is a secondary management objective~~ and wildlife.

Page 13-14, second full paragraph, first sentence
Recreationists seeking entrance to most military lands must obtain a free Recreation Access Permit, and sign in via telephone to the U.S. Army Recreation Tracking System.

Page 13-14, last paragraph, fourth through seventh sentences
Section 4(f) applies to agencies within the Department of Transportation, and applies to the proposed action through the involvement of the Federal Railroad Administration (FRA) and the Federal Transit Administration (FTA), which are serving as cooperating agencies for the proposed project. ~~The Federal Transit Administration is involved in the project because it has a commuter rail component of the proposed action. The Federal Railroad Administration~~ FRA is administering grant funding to ARRC for NRE preliminary engineering and environmental analysis ~~of the proposed rail line. The Federal Railroad Administration~~. FRA could also provide funding for rail line construction and would enforce rail safety regulations on the operating rail line. FTA is involved because of the project's passenger rail component and could fund equipment purchases and maintenance of the rail line for passenger rail service. ARRC intends to apply for FTA grant funds related to the passenger component of the proposed NRE.

Page 13-20, last paragraph, first sentence
~~The site of the~~ Another infrastructure project in the area, the proposed Moose Creek grade separation, located between the existing ARRC ~~rail~~ main line and Richardson Highway (at Milepost 345) would be approximately 0.25 mile west of the Chena Flood Road crossing, and would include recreational features.

Page 13-20, last paragraph, last sentence
At this time it is not clear if the project will proceed~~, and its construction could depend partly on the development of the NRE~~ (Schaake, 2008).

Page 13-22, fourth full paragraph, last sentence
The Salcha Ski Area would be affected ~~directly and indirectly~~ by construction of Salcha Alternative Segment 2, which would require the relocation of Richardson Highway through the ski area.

Page 13-23, fifth full paragraph, last sentence, and inserted after last sentence
Construction activities would result in noise and dust, which could have a negative impact on the public's enjoyment of recreational areas. Additional noise would be generated by construction activities, and would be more noticeable in areas in proximity to the rail line where trucking/rail activity is low or does not currently exist. However, such increased noise due to construction would be temporary and would not constitute an adverse noise impact, although it could affect the public's enjoyment of recreational areas in proximity to rail line construction. Rail line construction would constitute a visual change in the landscape for residents in proximity to the rail line who are not buffered by vegetation. See Chapters 9 and 14 in the Draft EIS for discussion of noise and visual effects of the proposed NRE.

Page 13-23, inserted after last paragraph
Temporary effects to recreational resources could result from construction camps, construction staging areas, and armor rock staging areas established during rail line construction. The exact locations of these construction facilities would be determined during final design; however, Chapter 2 in the Draft EIS presents potential locations, where known. Construction staging areas

associated with the large bridges over the Tanana, Delta, Little Delta, and Salcha Rivers and Little Delta Creek could extend beyond the 200-foot ROW. In addition, two main construction staging areas are anticipated at the terminus of the proposed rail line. Construction staging areas and construction camps would be collocated when possible. Temporary closures of trails or other recreational access in proximity to rail line construction could occur; however, original land use and access could be reestablished after construction is complete. Section 2.3.3 in the Draft EIS discusses construction camps and staging areas in more detail.

Page 13-24, fourth paragraph, last sentence
~~Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited~~

Page 13-24, fifth paragraph, inserted after last sentence
The proposed rail line would be subject to AS 42.40.460, Extension of the Alaska Railroad (2005), which charges ADNR with identifying and reserving ROWs for existing and potential future crossings on state-managed lands. Under AS 42.40.460, even after the transfer of fee-title ROW from ADNR to ARRC, ADNR reserves the right for additional crossing of the proposed rail line. As a result, the Applicant and ADNR are discussing existing and proposed crossing locations and types. The Applicant has offered, and SEA has recommended mitigation measures that would provide for access.

Page 13-25, fourth paragraph, first sentence
~~ARRC to provide for a systematic approach for existing public roads and trails.~~

Page 13-31, first paragraph, last sentence
~~Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited.~~

Page 13-31, third paragraph, second sentence
Construction activities would also necessitate the temporary closure of a trail leading from the mouth of the Fivemile Clearwater River to the Blair Lakes Area (Connectors A and B)~~; ARRC has not proposed any crossings of this trail at this time~~.

Page 13-31, fifth paragraph, fourth sentence
~~Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited.~~

Page 13-32, second full paragraph, last sentence
~~ARRC has not proposed crossings of this trail at this time.~~

Page 13-32, fourth full paragraph, last sentence
ARRC has proposed crossings for the ADNR Winter Trail~~, but no other crossings have been designated at this time~~.

Page 13-32, fifth full paragraph, third sentence
Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited.

Page 13-36, third full paragraph, third sentence
~~Without the creation of trail crossings along these long stretches, public access across the rail ROW would be significantly restricted or prohibited.~~

Page 13-39, first paragraph, second sentence
~~In addition, without the creation of trail crossings, long stretches of the rail line ROW would not have any designated crossing points west of the Delta River (both Delta alternative segments), and public access across the ROW would be prohibited.~~

Page 13-39, third paragraph
The proposed project has the potential to affect Section 4(f) properties. The Final Section 4(f) Evaluation is included as Appendix ~~M~~ F of the Final EIS, and contains a detailed analysis of these potential impacts and avoidance alternatives. For recreation properties, impacts would ~~include (from north to south)~~ affect the Chena River Lakes Flood Control Project area~~,~~ and the ~~Twentythreemile Slough area multi-use trails, Eielson AFB Outdoor Recreation Area,~~ Salcha School grounds and Salcha Ski Area~~, the Silver Fox Lodge Trail, the U.S. Army Permit Route, the Koole Lake Trail, the Donnelly–Washburn Trail, the ADNR Forestry Winter Road, the Rainbow Lake Trail, the Phillips Road/Delta Junction area trail network, and dispersed-use areas designated for public recreation in the Tanana Basin Area Plan~~. The USACE concurred that the proposed rail line with measures to minimize harm and mitigate the effects would result in *de minimis* impacts to the Chena River Lakes Flood Control Project, flood management units I2 and I4[1], while the FNSB Department of Parks and Recreation and Department of Land Management, and the FNSB School District determined the effect on the Salcha School grounds and ski trails would constitute a "use" of the resources in the context of Section 4(f). Potential temporary ~~and permanent~~ impacts could include temporary construction disturbance such as closure of some existing trails and other access routes~~; relocation of recreation facilities; decreased user enjoyment arising from vegetation clearance; increased dust and noise; decreased water quality and fishery quality; decreased availability of parking; and decreased habitat for game species~~.

Page 13-40, first paragraph, inserted after first sentence
A Programmatic Agreement is being developed to address impacts to cultural resources, which includes those that could be protected under Section 4(f) of the U.S. Department of Transportation Act.

4.16 Chapter 14 Visual Resources

Page 14-2, second paragraph, last sentence
These settlements and developments are primarily along the east side (north) of the Tanana River and its tributaries.

[1] Written concurrence has been requested from the USACE regarding a *de minimis* finding for impacts to recreational flood management units within Chena River Lakes Flood Control Project.

Page 14-6, first paragraph, second sentence
Both Salcha alternative segments would cross the Tanana River at points not visible from Richardson Highway or other land-based KOPs, but would be visible to boaters on the Tanana River.

Page 14-6, second paragraph, last sentence
Salcha Alternative Segment 1 would meet VRM Class II management objectives except for the crossing of the Tanana River which results in strong contrast to some landscape elements, and would be visible to boaters on the Tanana River.

4.17 Chapter 15 Socioeconomics

Page 15-5, fourth full paragraph, inserted after first sentence
Thus, these estimates could either overestimate or underestimate to some extent the effects from the NRE project given the different geographic locations of the two projects.

Page 15-6, first footnote
[1] According to Northern Economics Inc. (2007), the estimates of expenditures and jobs for the Port MacKenzie Rail Extension were based on information from previous studies, personal interviews, rule-of-thumb engineering estimates, IMPLAN data, and cost data from other similar facilities. IMPLAN is a widely used software package and database for estimating local economic impacts.

Page 15-10, fourth full paragraph, first sentence
All displacement and relocation activities that occur as a result of the proposed action would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (42 U.S.C. 4601 *et seq.*) (Uniform Act), regulations promulgated pursuant to that statute (49 CFR Part 24), and Alaska Statutes 34.60.010 through 34.60.150.

Page 15-11, second full paragraph, second and third sentences
Most of these effects would be temporary and would include access changes and an increase in noise and dust generated by construction activities. These ~~because the~~ areas could be restored after construction and original land use ~~could be~~ re-established. ~~, but e~~ Effects on several residences within the ROW would be permanent, as land and residences within the ROW would be acquired by the Applicant and converted to rail line use.

4.18 Chapter 16 Environmental Justice

There were no errata or other changes to this chapter.

4.19 Chapter 17 Cumulative Impacts

Page 17-4, inserted after second full paragraph

Additionally, in December 2008, the U.S. Army Corps of Engineers as the lead agency for the Alaska Natural Gas Development Authority began preparing an Environmental Impact Statement for a proposed pipeline that would run from Beluga to Fairbanks (B2F). The B2F pipeline route would generally parallel the proposed NRE project area between Delta Junction and Fairbanks. Approximately 90 percent of the proposed 489-mile pipeline would be in existing rights-of-way and easements (ANGDA, 2008). Though the extent of the impacts would be less, the impacts from the B2F project would be similar in nature to those of the TransCanada Alaska and Alaska Gas Pipeline, LLC, projects. Therefore, the discussion of cumulative impacts resulting from these pipeline projects will be discussed in terms generic to all projects and will not be described individually in sections 17.5.1 through 17.5.14 in the Draft EIS.

Page 17-6, inserted after first full paragraph

One specific mining operation is a potential gold mine in Livengood, Alaska. In January 2009, International Tower Hill Mines, Ltd, provided updated statements on gold concentration levels at its facility in Livengood, approximately 70 miles north of Fairbanks. The company has stated that it will perform additional exploration to determine how much of the gold could be economically recovered and the recovery method. That exploratory drilling could begin in early 2009. International Tower Hill Mines, Ltd, is an exploratory company and would still need to partner with another company to develop the mining project.

Page 17-8, second full paragraph, inserted after last sentence

Impacts to resident and anadromous fish resources resulting from construction, including loss of riparian and stream habitat and potential blockage of fish movements, could decrease the availability of these fish species to harvesters. Construction activities could affect harvest activities, depending on construction timing, access points to the use area, and availability of alternative harvest locations.

Page 17-9, first paragraph, first full sentence

Along a transect following the Trans-Alaska Pipeline route, permafrost temperatures at 49.2- to 65.6-foot (15- to 20-meter) depths have increased to between 33.1 and 34.7 °F (0.6 and 1.5 °C) over the past 20 years. Borehole measurements have shown an increase ~~of~~ in the mean annual ground surface temperature~~s of~~ to 36.5 ºF (2.5 °C) since the 1960s, while discontinuous permafrost has begun thawing downward at a rate of 0.3 foot (0.1 meter) per year at some locations (ACIA, 2005).

Page 17-9, inserted after first paragraph

If regional warming continues, much of the discontinuous permafrost would be highly susceptible to thawing (U.S. Climate Change Science Program, 2009). Climate change-induced permafrost thaw could lead to embankment deformation through the process of thaw settlement. Thaw settlement occurs when ice-rich permafrost thaws, which causes the ground surface to subside (Lemke *et al.*, 2007). As a result, rail line embankments within the discontinuous permafrost zone could experience increased failure rates, causing higher maintenance costs (ACIA, 2005).

Degradation of permafrost could connect surface waters to groundwater, which has the potential to dry out shallow streams, ponds, and wetlands if re-supply by snowmelt and precipitation are less than losses from evaporation and percolation (ACIA, 2004). In areas with heavy concentrations of ground ice, permafrost thawing and associated ground surface collapsing could increase the formation of wetlands, ponds, and drainage networks (ACIA, 2004). Because water extraction would only occur during construction, long-term, climate-change induced changes in water availability would not be expected to affect the project.

Page 17-10, third full paragraph

~~The Federal Railroad Administration and Federal Transit Administration are cooperating agencies in the preparation of the EIS and are required to conduct a Section 4(f) evaluation under the U. S. Department of Transportation Act of 1966. SEA identified potential 4(f) resources that would be affected by the proposed NRE. Most of these properties are recreational trails used for dog-sledding, snowmachining, and skiing; two are cultural resources. Ten alternative segments would require use of Section 4(f) resources.~~ An impact to recreational use of the land as a result of the proposed NRE includes changing access patterns. The Applicant has indicated that they would grade separate officially recognized trail crossings with the exception of trails with heavy vehicular usage where an at-grade crossing might be more appropriate. SEA developed several mitigation measures to ensure continuity of trails and require the Applicant to coordinate with user groups and owning agencies regarding trail crossings and access needs. The Applicant has offered, and SEA is recommending mitigation measures to provide for public access. Where the proposed rail line would cross ADNR land, Alaska State Statute 42.40.460 provides for additional crossing of the proposed rail line even after the transfer of fee-title ROW from ADNR to the Applicant. The Applicant and ADNR are presently discussing existing and proposed crossing locations and types. Permanent changes to land use and changes to access patterns for recreational land use from the proposed NRE rail line extension, when added to the land use impacts of the other projects included in this analysis, could result in moderate cumulative impacts to land use.

4.20 Chapter 18 Short-Term Use Versus Long-Term Productivity of the Environment

There were no errata or other changes to this chapter.

4.21 Chapter 19 Irreversible and Irretrievable Commitment of Resources

Page 19-3, first full paragraph, inserted after third sentence

Access to land within the rail line ROW would be prohibited except by permission from ARRC or at designated public crossing locations.

4.22 Chapter 21 References

Inserted the following new references

Alaska Natural Gas Development Authority (ANGDA). 2008. "Alaska Natural Gas Development Authority awards contract for Environmental Impact Statement to URS Alaska." Press release dated December 4.

Arctic Climate Impact Assessment (ACIA). 2004. Impacts of a Warming Arctic: Arctic Climate Impact Assessment. Cambridge University Press.

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National Research Council (NRC). 2002. Riparian Areas: Functions and Strategies for Management. Committee on Riparian Zone Functioning and Strategies for Management, Water Science and Technology Board, National Research Council. National Academies Press, Washington, DC. Online at http://www.nap.edu/openbook.php?isbn=0309082951 February 2008.

Ritchie, R.J., and R.E. Ambrose. 1987. "Winter records of Bald Eagles, *Haliaeetus leucocephalus*, in Interior Alaska." Canadian field-Naturalist 101:86-87.

4.23 Chapter 22 List of Preparers

There were no errata or other changes to this chapter.

4.24 Chapter 23 List of Agencies, Organizations, Tribes and Persons to Whom Copies of the EIS are Sent

There were no errata or other changes to this chapter.

4.25 Appendix A Acronyms and Abbreviations

There were no errata or other changes to this appendix.

4.26 Appendix B Correspondence with Agencies

The following dated letters have been added to the list of State Agencies in Table B-1 in the Draft EIS, and attached on the following pages:

- June 13, 2007 SEA to the State Historic Preservation Officer
- August 22, 2007 SEA to the State Historic Preservation Officer
- January 16, 2008 SEA to the State Historic Preservation Officer
- July 16, 2008 from the State Historic Preservation Office
- October 10, 2008 SEA to the State Historic Preservation Officer
- October 31, 2008 SEA to the State Historic Preservation Officer

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

June 13, 2007

Judith Bittner
State Historic Preservation Officer
Alaska Office of History and Archaeology
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Re: STB Finance Docket No. 34658, The Alaska Railroad Corporation – Petition for Exemption to Construct and Operate a Rail Line Between North Pole and Delta Junction, Alaska

Dear Ms. Bittner:

Following up on a May 14, 2007 meeting/teleconference, I am writing to ask for your approval of the 2007 field survey activity described in detail below for the subject project. I have also provided some background information about the proposed project and cultural resources activities to date, both of which I understand you are acquainted.

General Background

The Alaska Railroad Corporation (ARRC) intends to file a petition with the Surface Transportation Board (Board), pursuant to 49 U.S.C. 10502, requesting authority to construct and operate a new rail line from North Pole to Delta Junction, Alaska. The Board would be the Federal agency responsible for granting authority for the construction and operation of the proposed new rail line. The Section of Environmental Analysis (SEA) is the office within the Board responsible for preparing the appropriate National Environmental Policy Act documentation for railroad construction and operation cases that come before the Board.

SEA is preparing an Environmental Impact Statement (EIS) to evaluate the potential environmental impacts of ARRC's proposed Northern Rail Extension Project, including consideration of cultural resources. ICF Consulting is serving as the independent third-party consultant to assist SEA with preparation of the EIS. Northern Land Use Research, Inc. (NLUR) is the cultural resources subcontractor to ICF Consulting.

Summary of 2006 Cultural Resources Research Design

Prior to the 2006 field season, a predictive model and survey strategy (Potter 2006) were prepared. These were reviewed and approved by SEA and your office (State Historic Preservation Officer or SHPO).

In 2006, SEA conducted a Phase II (evaluation level) survey of the proposed main track alignments and ancillary facilities for the Northern Rail Extension Project. The survey was conducted by NLUR. The main track alignments from ARRC's proposed map set (ARRC Revision 4) consisted of 343 linear km (213 linear miles) through the Middle Tanana Basin. The Area of Potential Affect (APE) is considered to be 100 ft (30 m) from the alignment centerlines (resulting in a total APE width of 200 ft [61 m]) plus all ancillary facilities. We initiated the surveys to gather Phase II data in support of the EIS, and to gather enough data to complete Determinations of Eligibility (DOE) to the National Register of Historic Places (NRHP).

On July 28, 2006, representatives of the SEA project team and SHPO met at your office to formally delineate some minor deviations from the originally submitted and agreed-upon survey strategy, and to formalize the verbal agreements reached in the meeting between your office and SEA. As a result of that meeting, the following specific changes were made to the survey strategy:

- For the remainder of the 2006 field season, all ancillary facilities would be analyzed in accordance the predictive model, rather than being surveyed 100%. Most of these ancillary facilities are in areas with relatively low site potential, and were surveyed through Type A surveys (helicopter-based surveys with localized areas of testing). However, some are in higher potential locations and were surveyed though Type B surveys (ground-based transects and localized areas of testing).

- A full Phase II (Evaluation Phase) level of effort was described in the survey strategy. However, given the large number of sites that were being encountered during the ongoing 2006 surveys, and the fact that most of them were discovered in subsurface contexts, the SHPO and SEA agreed in principle to analyze the sites in a less intensive manner (i.e., informally referred to at this meeting as "Level 1.5"). Enough information was thus gathered to assess context, integrity, stratigraphic position, age (if possible), diagnostics, and overall technology. Site extent (identifying the borders of located sites) was not specifically addressed in the 2006 field effort, given the limited helicopter availability, limited field season, and depth/complexity of the buried sites.

All other aspects of the 2006 survey followed the predictive model and survey strategy. A draft cultural resources report has been completed by NLUR (Potter et al. 2007) and is currently in review by the SEA project team.

2006 Cultural Resources Survey Results

During the 2006 evaluation survey, we surveyed a total of 109 km of the main track alignment using ground-based survey (Type B), and 212 km using helicopter-based survey (Type A) based on the Revision 4 map set of ARRC's proposed alignments. Approximately 27 km (8%) of the proposed alignments were not surveyed because these alignment sections are located on private property, native allotments, or Alaska Mental Health Trust lands. In addition to the alignments, all ancillary facilities provided to NLUR in 2006 were surveyed through ground survey or helicopter-based survey (totaling 2,339 acres). A total of 1,637 acres of alignment were surveyed by ground transects, and 3,132 acres were surveyed by helicopter-based survey, based on the Revision 4 map set. Total area surveyed in 2006 using all methods was 7,108 acres. A total of 221 testing areas were identified, and 783 test pits were excavated. As a Phase II level survey, the intent was to identify and evaluate cultural resource sites in the proposed APE. A total of 53 new cultural resource sites were discovered, and one recent cabin was re-located and described (FAI-1607). Site types included 42 prehistoric-subsurface sites and 12 historic/recent sites, including features relating to the historic Salchaket village and the Washburn townsite. Of the 42 prehistoric sites, 27 yielded radiocarbon dates. The resultant ages span the entire Holocene Epoch, from about 1,000 to 10,000 years Before Present.

Of the 54 cultural resource sites evaluated, seven sites were considered not eligible to the NRHP, 42 sites were considered eligible, under Criterion D, and four sites need further information. These four include XBD-293, 294 and 295, and represent historic materials associated with Salchaket village. A comprehensive survey supported with oral history and archival research is needed to situate these features within the overall context of Salchaket village. Some oral history data pertaining to Salchaket has been compiled by Stephen Braund and Associates (another subcontractor to ICF) in conjunction with subsistence research of the EIS project area. These historic sites are likely considered eligible under Criteria A, B, and D, but more research is needed to fully assess significance. The fourth site, XBD-310, is associated with the Washburn townsite, which is currently not within the project APE.

Historic Property Identification and Evaluation Efforts Proposed for 2007

On May 14, 2007 the members of the SEA project team participated in a meeting with you and Stephanie Ludwig. Peter Bowers and Ben Potter of NLUR and Mike Nagy of ENTRIX (also a subcontractor to ICF) attended in person. Dave Navecky of SEA, and Alan Summerville, David Bauer and Liz Zelasko of ICF participated via teleconference. Also in attendance was Robert King, Bureau of Land Management's (BLM), State Office Archaeologist.

SEA requested the meeting to present the proposed 2007 field surveys to you. These new field surveys were made necessary when ARRC issued Revision 5 to its proposed alignments map set in April 2007. Revision 5 has 105 linear km of alignments

outside the surveyed APE of Revision 4. Based on the predictive model and survey strategy approved in 2006, approximately 56 km of Type A surveys (helicopter overflight with selected ground testing) and 45 km of Type B surveys (ground transects) would be needed for these new Revision 5 alignments.

However, rather than strictly following the predictive model and survey strategy, SEA recommends Type A surveys for 13 km of the new Revision 5 alignments, and Type B surveys for approximately 28 km of the new Revision 5 alignments. SEA proposes to SHPO that the remaining portions of the new Revision 5 alignments are close enough to previously surveyed areas that we have adequate information to characterize the affected environments for purposes of the EIS. These portions may still need to be surveyed as part of preconstruction planning (see below). Thus, SEA recommends 2007 ground survey of 12% of ARRC's proposed new Revision 5 alignments, as identified below:

(a) Donnelly West Segment, Revision 5 Mapsheets 10-11, Milepost (MP) 1 to MP 4.5. This segment crosses Pleistocene (ice age) sand dunes. NLUR discovered two sites here in 2006, including one (site BCR-16) above the sands dating to 10,000 years ago. Because NLUR could not excavate to the lower sands, it does not have enough information to characterize this environment. NLUR proposes to utilize a hand auger to effectively test these lower sediments (NLUR also plans to test these lower sediments at site BCR-16). This sedimentary environment has the potential to reveal the oldest human habitation in the Western Hemisphere.

(b) Donnelly West Segment, Revision 5 Mapsheets 11 and 16, MP 4.5 to MP 9.5. This segment crosses several terraces and is near a terrace where NLUR discovered 11 prehistoric sites in 2006. Because the route goes through several new terraces, and because it is further south in this area than any 2006 survey, we need to assess this affected environment.

(c) Donnelly West Segment, Revision Mapsheets 16-17, MP 9.5 to MP 20.5 (where the alignment deviates from surveyed alignment in 2006). This segment lies a considerable distance to the south of the previously surveyed areas, crosses the historic Donnelly-Washburn trail, lies close to reported historic cabin sites, and crosses terraces known to contain prehistoric buried sites. For all of these reasons, SEA recommends a Type A survey (helicopter overflight and limited ground testing).

SEA notes that the work proposed for this summer is designed to keep the EIS process moving forward, especially to provide the data necessary to characterize the affected environment. We understand that much work would still remain to be done should the project move beyond the EIS into final design and construction (e.g., some survey of new alignments, survey of new ancillary facilities, especially borrow areas, Level 2 testing and DOEs for more than 40 known sites). A Programmatic Agreement (PA) would need to be prepared. A draft of the PA would be published with the Draft EIS, and the PA would need to be finalized and executed before the Board issues its decision on whether to grant authority to construct and operate the new rail line. The PA

would detail the necessary future work, such as full DOEs for all sites within the APE (SHPO Evaluation Phase), continued Native American consultation, and mitigation of sites that are determined both National Register Eligible and Adversely Affected.

The issue of the Salchaket village site area still needs to be addressed if the alignment alternatives in this locality are carried forward for detailed analysis in the EIS. This important 19th and 20th century village site is arguably a National Register-eligible historic district. It would involve discussions with local and regional Native American groups (i.e. Tanana Chiefs Conference), and could bring into play issues regarding Traditional Cultural Properties. Because of the complexity of this issue, and the importance of locking in helicopter schedules for the 2007 season, we suggest deferring this effort until later. If fieldwork is required at Salchaket this summer, we can access it by road and do the fieldwork later in the summer with a small crew. Evaluation of this area will also benefit greatly from input resulting from the ongoing interviews by Steve Braund and Associates.

NLUR is in the processing of completing antiquities permit applications for State and BLM lands. They anticipate commencing fieldwork the week of June 11, 2007.

If you have any questions about the project please do not hesitate to contact Dave Navecky, SEA Project Manager, at (202) 245-0294 or Alan Summerville, ICF Project Manager, at (703) 934-3616. Specific technical questions may be directed to our cultural resources subcontractor, Peter Bowers or Dr. Ben Potter at (907) 474-9684.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

August 22, 2007

Judith Bittner
State Historic Preservation Officer
Alaska Office of History and Archaeology
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Re: STB Finance Docket No. 34658, The Alaska Railroad Corporation – Petition for Exemption to Construct and Operate a Rail Line Between North Pole and Delta Junction, Alaska

Dear Ms. Bittner:

Please find enclosed the 2006 cultural resources survey and evaluation for the above-referenced project for your review pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C § 470f). This report was prepared for the Board's Section of Environmental Analysis (SEA) by our third-party contracting team including ICF International and Northern Land Use Research, Inc. (NLUR). The *Results of the 2006 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes and Ancillary Facilities, Alaska*, in 2 volumes, includes all cultural resource survey results, site forms, and determination of eligibility recommendations for the above undertaking for 2006. This report meets the stipulations under State of Alaska Field Archaeology Permit 2006-08 (as well as BLM Fieldwork Authorization/USDOI Cultural Resource Use Permit AA86535).

Please note that the enclosed report does not include the results from the 2007 cultural resources investigation. The 2007 field work was recently completed and a separate report is currently being prepared and will be provided to you as soon as it's available.

If you have any questions about the project please do not hesitate to contact Dave Navecky, SEA Project Manager, at (202) 245-0294 or Alan Summerville, ICF Project Manager, at (703) 934-3616. Specific technical questions may be directed to our cultural resources third-party subcontractor (NLUR), Peter Bowers or Dr. Ben Potter at (907) 474-9684.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

Enclosure
cc: Bob King, BLM

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

January 16, 2008

Judith Bittner
State Historic Preservation Officer
Alaska Office of History and Archaeology
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Re: STB Finance Docket No. 34658, The Alaska Railroad Corporation – Petition for Exemption to Construct and Operate a Rail Line Between North Pole and Delta Junction, Alaska

Dear Ms. Bittner:

Please find enclosed the 2007 cultural resources survey and evaluation for the above-referenced project for your review pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C § 470f). This report was prepared for the Board's Section of Environmental Analysis (SEA) by our third-party contracting team including ICF International and Northern Land Use Research, Inc. (NLUR). The *Results of the 2007 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes, Alaska* includes all cultural resource survey results, site forms, and determination of eligibility recommendations for the above undertaking for 2007. This report meets the stipulations under State of Alaska Field Archaeology Permit 2007-12 (as well as BLM Fieldwork Authorization/USDOI Cultural Resource Use Permit AA-87527).

Please note that the enclosed report serves as a supplement to the 2006 Level 2 survey report (*Results of the 2006 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes and Ancillary Facilities, Alaska*), which was prepared by the same third-party contracting team and submitted for your review in August, 2007. In response to your comments on the 2006 report, the graphics in the 2007 report are provided in color. In addition to the hard copy of the 2007 report, we have also enclosed a CD containing the 2006 and 2007 reports in color. Please let us know if you would like a hard copy of the 2006 report in color as well.

If you have any questions about the project please contact Dave Navecky, SEA Project Manager, at (202) 245-0294 or Alan Summerville, ICF Project Manager, at (703) 934-3616. Specific technical questions may be directed to our cultural resources third-party subcontractor (NLUR), Peter Bowers or Dr. Ben Potter at (907) 474-9684.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

Enclosure
cc: Bob King, BLM

2

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF PARKS AND OUTDOOR RECREATION
OFFICE OF HISTORY AND ARCHAEOLOGY

SARAH PALIN, GOVERNOR

550 W. 7TH AVENUE, SUITE 1310
ANCHORAGE, ALASKA 99501-3565
PHONE: (907) 269-8721
FAX: (907) 269-8908

July 16, 2008

File No.: 3130-1R Surface Transportation Board

SUBJECT: Northern Rail Extension, Eielson Air Force Base (North Pole) to Fort Greely (Delta Junction), Alaska

Victoria Rutson
Chief, Section of Environmental Analysis
Surface Transportation Board
Office of Economics, Environmental Analysis and Administration
Washington, DC 20423

Dear Ms. Rutson,

The State Historic Preservation Office (SHPO) received your letter and the attached report titled *Results of the 2007 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes, Alaska* by Northern land Use Research, Inc. (November 2007) on January 17, 2008. We have reviewed the report in accordance with Section 106 of the National Historic Preservation Act. The excavation results of XBD-298 (Chapter 5) are impressive and confirm the potential for very deeply buried and very early, multi-component archaeological sites in the project area.

We informally agree with the recommendations regarding eligibility for the National Register of Historic Places listed in Appendix B of the report. To formally concur however, we need to know whether the Surface Transportation Board, as the lead Federal agency, agrees with the findings in the report (as with the sites reported in 2006). As your are aware, *36 CFR 800.2(a)(3)* allows Federal agencies to use the services of consultants to prepare information, analysis and recommendations, however the Federal official remains responsible for all findings of eligibility and effect.

We have also reviewed the report in accordance with *Alaska Statutes 41.35.080* and find that it meets the requirements of the State of Alaska Field Archaeology Permit issued to the contractor.

We look forward to continued consultation with you regarding this undertaking. Please contact Stefanie Ludwig (269-8720) if you have any questions or if we can be of further assistance.

Sincerely,

Judith E. Bittner
State Historic Preservation Officer

JEB:sll

Cc: Peter Bowers, Northern Land Use Research, Inc.

Printed on Recycled Paper

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

October 10, 2008

Judith E. Bittner
State Historic Preservation Officer
Alaska Office of History and Archaeology
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Re: STB Finance Docket No. 34658, The Alaska Railroad Corporation – Petition for Exemption to Construct and Operate a Rail Line Between North Pole and Delta Junction, Alaska

Dear Ms. Bittner:

In January 2008, I sent you a copy of the 2007 cultural resources survey and evaluation report for the proposed Northern Rail Extension (NRE) for your review and comment, pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C § 470f). The report, *Results of the 2007 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes, Alaska* (November 2007) was prepared for the Surface Transportation Board's Section of Environmental Analysis (SEA) by our third-party contracting team including ICF International and Northern Land Use Research, Inc. (NLUR).

Thank you for your response letter of July 16th in which you informally agreed with the report's recommendations regarding resource eligibility. As the lead agency for the Section 106 process on the Northern Rail Extension, SEA concurs with the findings of the report with regard to site eligibility. At this time we would like your concurrence on the site eligibility discussed in the report, which will assist us in preparation of the Environmental Impact Statement (EIS) comparing the potential environmental impacts associated with the project.

SEA is developing a Programmatic Agreement (PA), in accordance with Section 800.14(b) of the regulations (36 CFR Part 800) implementing Section 106. The PA will govern implementation of the remainder of the Section 106 process. If the proposed project is approved and an alignment for the new rail is chosen, Level 2 cultural resource surveys would be completed and SEA would issue a formal determination of effects.

I will forward a working draft of the PA to you in the near future for your review and comment. A draft of the PA will also be included in the Draft EIS for all interested parties to

review and comment upon. SEA anticipates issuing the Draft EIS ready later this Fall. I will provide you with a copy of this document separately.

If you have questions please contact Dave Navecky, SEA Project Manager, at (202) 245-0294 or Alan Summerville, ICF Project Manager, at (703) 934-3616. Specific technical questions may be directed to our cultural resources third-party subcontractor (NLUR), Peter Bowers or Dr. Ben Potter at (907) 474-9684.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

EO-1083

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Economics, Environmental Analysis and Administration

October 31, 2008

Judith E. Bittner
State Historic Preservation Officer
Alaska Office of History and Archaeology
550 West 7th Ave., Suite 1310
Anchorage, Alaska 99501-3565

Re: STB Finance Docket No. 34658, The Alaska Railroad Corporation – Petition for Exemption to Construct and Operate a Rail Line Between North Pole and Delta Junction, Alaska

Dear Ms. Bittner:

For your review and comment, please find attached a draft Programmatic Agreement (PA) for the proposed Northern Rail Extension project (NRE or Undertaking). The Board's Section of Environmental Analysis (SEA) developed the PA in accordance with Section 800.14(b) of the regulations (36 CFR Part 800) implementing Section 106. Once executed, the PA would govern implementation of the remainder of the Section 106 process for the Undertaking. If the Board authorizes construction and operation of the NRE, Level 2 cultural resource surveys would be completed on the approved alignment and SEA would issue a formal determination of effects.

This draft of the PA will also be included in the Draft Environmental Impact Statement (EIS) that SEA and several cooperating agencies are preparing for the proposed NRE. The Draft EIS will identify potential environmental impacts associated with the project, and will be distributed to government agencies, tribal organizations and other interested parties for review and comment. SEA anticipates issuing the Draft EIS later this Fall and will provide a copy to you when it becomes available.

If you have questions please contact Dave Navecky, SEA Project Manager, at 202-245-0294 or Alan Summerville, ICF Project Manager, at 703-934-3616. Please feel free to direct and specific technical questions to our cultural resources third-party subcontractor (NLUR), Peter Bowers or Dr. Ben Potter at 907-474-9684.

Thank you for your ongoing assistance and cooperation on this project.

Sincerely,

Victoria Rutson
Chief
Section of Environmental Analysis

Enclosure

Administratively Confidential

PROGRAMMATIC AGREEMENT
AMONG

SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION,
ALASKA STATE HISTORIC PRESERVATION OFFICER,
U.S. BUREAU OF LAND MANAGEMENT, ALASKA STATE OFFICE,
U.S. ARMY CORPS OF ENGINEERS, ALASKA DISTRICT,
U.S. DEPARTMENT OF DEFENSE, ALASKAN COMMAND,
U.S. AIR FORCE 354th FIGHTER WING, EIELSON AIR FORCE BASE,
FEDERAL TRANSIT ADMINISTRATION,
FEDERAL RAILROAD ADMINISTRATION,
AND U.S. COAST GUARD, SEVENTEENTH COAST GUARD DISTRICT

REGARDING

THE ALASKA RAILROAD CORPORATION, NORTHERN RAIL EXTENSION BETWEEN NORTH POLE AND DELTA JUNCTION, ALASKA

STB Finance Docket No. 34658

WHEREAS, the Surface Transportation Board (STB)[1], the lead Federal agency, has received an application for the construction and operation of a rail line by the Alaska Railroad Corporation (ARRC or applicant), extending its existing system between North Pole and Delta Junction, Alaska (Undertaking); and,

WHEREAS, the STB has determined that the proposed project is an Undertaking which may have an effect upon historic properties included on or eligible for inclusion on the National Register of Historic Places (NRHP), the full extent of which is unknown, and is in consultation with the Advisory Council on Historic Preservation (ACHP); Federal Transit Administration (FTA); Federal Railroad Administration (FRA); the United States Department of the Interior - Bureau of Land Management, Alaska State Office (BLM); the United States Army Corps of Engineers, Alaska District (USACE); U.S. Department of Defense, Alaskan Command (ALCOM); U.S. Air Force, 354th Fighter Wing, Eielson Air Force Base (354th Fighter Wing); U.S. Coast Guard (USCG), Seventeenth Coast Guard District; and the Alaska State Historic Preservation Officer (SHPO), pursuant to Section 800.14(b) of the regulations (36 CFR Part 800) implementing Section 106 of the

[1] The Surface Transportation Board (STB) was created with the passage of the ICC Termination Act of 1995 (Pub. L No. 104-88). The STB, an independent agency administratively housed within the U.S. Department of Transportation, is responsible for administering rail, pipeline, and certain adjudicatory functions involving motor and water carriers. These responsibilities are similar to those duties formerly administered by the Interstate Commerce Commission. The STB is the lead agency under the National Environmental Policy Act (NEPA) for the Northern Rail Extension Project.

National Historic Preservation Act, 16 U.S.C. 470f (NHPA); and,

WHEREAS, the STB, ACHP and SHPO are Signatories pursuant to 36 CFR 800.6(c)(1) and have authority to execute, amend or terminate this Programmatic Agreement (Agreement); and,

WHEREAS, the FTA, FRA, BLM, USACE, ALCOM, 354th Fighter Wing, USCG and ARRC are Invited Signatories pursuant to 36 CFR 800.6(c)(2) and have authority to amend or terminate this Agreement; and,

WHEREAS, the State of Alaska's Department of Natural Resources (ADNR) and invited Tribes and Indian Organizations are Concurring Parties pursuant to 36 CFR 800.6(c)(3). The refusal of any party invited to concur with this Agreement does not invalidate the Agreement; and,

WHEREAS, STB has consulted with and continues to consult with the Indian Tribes and Alaska native corporations outlined in Appendix A.3 of this Agreement who may attach a religious and/or cultural significance to properties that may be affected by the Undertaking and these Tribes have been invited to participate in this Agreement as Concurring Parties; and

WHEREAS, the STB, as lead Federal agency, in conjunction with the FTA, FRA, BLM, USACE, ALCOM, 354th Fighter Wing, Alaska DNR, and USCG (i.e., cooperating agencies) has prepared an Environmental Impact Statement (EIS) in accordance with the requirements of the National Environmental Policy Act (NEPA) to address the potential impacts of the Undertaking on a variety of human and natural resources; and,

WHEREAS, the STB, in consultation with the Signatories and Invited Signatories, developed an Identification Plan (ID Plan) for inventory of cultural resources prior to construction, and has conducted cultural resource inventories for a range of alternatives, which were subsequently narrowed down for inclusion in the EIS. Efforts thus far have included 949 shovel test pits across 5,382 acres of track alignment and 2,339 acres of ancillary facility locations, and have identified a total of 63 cultural resource sites in this largely unstudied area of interior Alaska (see Potter 2006, *Site Location Model and Survey Strategy for Cultural Resources in the Alaska Railroad Northern Rail Extension Project Area;* Potter et al. 2007a, *Results of the 2006 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes and Ancillary Facilities, Alaska*, and Potter et al. 2007b, *Results of the 2007 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes, Alaska*); and,

WHEREAS, the STB has made determinations of resource eligibility for the National Register of Historic Places (NRHP) for certain historic properties within the project area and SHPO has concurred with those findings; and,

WHEREAS, the applicable requirements of the NHPA, the American Indian Religious Freedom Act, 42 U.S.C. 1996 et. seq. (AIRFA), and the Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001 et. seq. and 43 CFR 10 (NAGPRA), have been considered in the development of the ID plan and this agreement does not waive the responsibilities of the Signatories and Invited Signatories under these acts and regulations; and,

WHEREAS, the STB has determined that this Undertaking may affect historic properties eligible for the NRHP during the life span of this Undertaking; and has consulted with the ACHP and the SHPO pursuant to Section 800.14(b) of the regulations (36 CFR 800) implementing Section 106 of the NHPA; and

WHEREAS, the STB has deferred final identification and evaluation of historic properties that may be effected by this Undertaking through the establishment of this Agreement; and,

WHEREAS, the ACHP has been invited to participate in this Agreement.

NOW, THEREFORE, the Signatories and Invited Signatories to this Agreement consent that the proposed Undertaking shall be implemented in accordance with the following stipulations in order to consider the effect of the Undertaking on historic properties and to satisfy all Section 106 NHPA responsibilities for all aspects of the Undertaking.

STIPULATIONS

The STB shall ensure that the following measures are carried out:

I. Administrative Considerations:

A. The STB and Invited Signatories shall attach this Agreement or the measures (stipulations) called for in this Agreement to any Record(s) of Decision (ROD), approved permit(s), or other condition(s) issued for this Undertaking so that this Agreement and its requirements become legally enforceable and binding on those actions.

B. This Agreement and all of its requirements shall be binding on ARRC, as the current applicant for STB authorization, and on its heirs, successors, and assignees.

C. Because of both singular and overlapping legal authorities and purviews among the Signatories and Invited Signatories regarding individual Undertaking components or activities, any or all of these agencies may be responsible to carry out the terms of this Agreement for a given Undertaking component or activity. That agency or agencies that has/have purview over a given Undertaking component or activity is referred to in this Agreement as the "responsible agency(ies)," hereinafter. To promote coordination among the agencies and to expedite the conduct of tasks pursuant to this Agreement, the responsible agency(ies) can make informal arrangements among themselves regarding the implementation of this Agreement so long as the substance of this Agreement is followed. However, if there is more than one agency with purview over a given Undertaking component or activity, all involved agencies shall remain aware of the substance, progress, and any problems with implementing this Agreement for that Undertaking component or activity and remain involved to prevent and

resolve problems. For certain larger Undertaking components and activities, it may be advisable for all involved agencies to carry out the terms of this Agreement jointly.

D. No later than 30 days after issuance of any STB Final Decision granting ARRC the authority to construct and operate the Undertaking, the STB and the SHPO shall consult and develop an Agency Consultation and Coordination Plan (ACCP) that outlines how the agencies shall coordinate with each other in carrying out the terms of this Agreement. The ACCP shall include a list of anticipated Undertaking components and activities and which agency will be the "responsible agency(ies)" for each. The ACCP should also include procedures for review and approval of resource determinations, treatment plans, any preliminary field reports, and final technical reports, according to the reporting structure described in Stipulation IX(C) of this Agreement. This ACCP may be amended as needed by these parties.

E. The Signatories and Invited Signatories shall enforce the terms of this Agreement, approvals, and other conditions that incorporate this Agreement and its terms. Each shall notify the others if any of them becomes aware of an instance of possible non-compliance with the terms and conditions of this Agreement or permit or conditions as they relate to this Agreement. In such case, the "responsible agency(ies)" shall ensure compliance consistent with its/their legal authorities and consult with the other agencies, as needed.

II. Historic Properties, Areas of Potential Effect, and the Applicability of this Agreement:

A. This Agreement shall apply to the Undertaking and all components of it, including actions specified in the EIS, permits and approvals, or other documents so long as they are within the jurisdiction of the STB and Invited Signatories.

B. The STB has made a reasonable and good faith effort to identify and evaluate historic properties eligible for the NRHP for the purposes of comparing impacts in the EIS. A total of 63 cultural resource sites were discovered during the 2006 and 2007 surveys, including 51 prehistoric/subsurface sites and 12 historic sites. Forty seven sites (75% of total) were considered eligible to the NRHP, 7 (11%) were considered not eligible, and 4 (6%) require more data (Potter et al. 2007a and 2007b; and letters from SHPO to STB dated 9/24/07 and 7/16/08 documenting consensus agreement with these findings).

C. This Programmatic Agreement is being implemented because the impacts of the proposed Undertaking can not be completely known at this time. The STB and SHPO have reached consensus agreement on historic properties identified in the 2006 and 2007 surveys. STB will provide final determinations of eligibility for the National Register and findings of effect to the SHPO for concurrence for those sites that are identified within the APE. It is further anticipated that such agency

action shall occur after execution of this Agreement, the APE is further refined (as may be needed) based on final design of the Undertaking, and after such time as the STB issues a decision on the application to construct and operate a new rail line by ARRC. Any future refinements to an APE in conjunction with this Undertaking shall be made in consultation with the SHPO, consistent with 36 CFR 800.4. All determinations of APE and of the effects of the Undertaking shall take into account the professional standards, guidance, and research of both the cultural resources and railroad design professions. Consistent with 36 C.F.R. § 800.4(d)(1), the STB may determine that there are historic properties within the APE, but that the Undertaking will have no effect on them.

III. Tribal Consultation:

STB initiated consultation with the tribal organizations outlined in Appendix A.3 of this Agreement regarding the Section 106 process, in conjunction with the preparation of the EIS. Consultation will continue as the terms of this Agreement are carried out. No later than 30 days after issuance of any STB Final Decision granting ARRC the authority to construct and operate the Undertaking, and prior to the initiation of construction in an area previously identified through the section 106 process as being eligible to the NRHP, STB, in consultation with the SHPO and tribal organizations, shall develop a Tribal Consultation Plan (TCP) that outlines procedures for agencies to consult with tribal organizations in carrying out the terms of this Agreement. This TCP shall be acceptable to the tribal organizations and describe when and how these organizations shall be consulted, the contact names and information for each organization, procedures for review of treatment plans (as appropriate), and other matters. This TCP may be amended as needed. The procedures in the TCP will be integrated into the ACCP and the agencies' implementation of this Agreement as necessary.

IV. Identification Plan for Historic Properties and Assessment of Effects:

A. Additional identification and evaluation efforts for cultural resources may be required as the activities related to this Undertaking progress, including (but not limited to):

1. Any areas of surface/subsurface disturbance related to this Undertaking and within the jurisdiction of the STB authority, including rail alignments as well as ancillary facilities, staging areas, and borrow areas, which are outside the 200-foot-wide APE surveyed in 2006-2007.

2. Portions of any alternative or alignment for which ARRC has received authority from the STB to construct and operate that were not surveyed during the 2006-2007 investigations, such as portions of the Salchaket Village that were not surveyed due to the presence of private property and native allotments.

3. Previously identified sites within the surveyed APE, and along the alignments

that may receive authorization from the STB to construct and operate, which require additional evaluation to establish boundaries and/or to determine the effects of the Undertaking.

B. Additional identification and evaluation efforts shall follow the administrative and consultation procedures established in the ACCP and TCP, as described in Stipulations I(D) and III. Additional identification and evaluation shall conform with Federal and state guidelines for fieldwork in Alaska, be compatible with previous investigations for this Undertaking, and may include a phased approach to testing and evaluation, as described in 36 CFR 800.4b2 and 800.5a3.

C. The STB, as the lead agency, shall review identification and evaluation efforts and prepare final determinations of site eligibility and assessment of effect for concurrence by the SHPO.

V. Treatment of Historic Properties:

A. Any design changes, modifications, and refinements of the Undertaking shall endeavor to avoid impacts to cultural resources.

B. For historic properties determined by the STB as eligible for the NRHP that cannot be avoided by the Undertaking, ARRC shall develop a treatment plan to minimize or mitigate the effects. Treatment plans shall be developed in consultation with STB, SHPO, the Invited Signatories, and tribal organizations that may attach religious and/or cultural significance to the identified property. During the preparation of treatment plans, the STB shall consider the views of these parties and the public. All treatment plans must be approved by STB, SHPO, any land managing agencies (as appropriate to their jurisdiction), and any tribes (as appropriate) prior to implementation. Under 43 CFR 7.7(a) "Protection of Archaeological Resources," tribes that consider any sites on public lands within the APE as having scared or cultural importance have 30 days within which to comment on the treatment plans.

1. Most historic properties identified through the 2006 and 2007 surveys are archaeological sites. For historic properties that are archaeological in nature and significant for their research data potential (criterion D), the treatment measures may follow standard mitigation through data recovery. Treatment plans for data recovery shall include, at a minimum, a research design with provisions for data recovery and recordation, analysis, reporting, and curation of resulting collection and records, and shall be consistent with the *Secretary of Interior's Standards and Guidelines* (48 FR 44734-44737). Treatment plans must be consistent with easement and permit requirements of other agencies, when applicable. To the extent possible, treatment plans should group related sites or areas, so that the treatment of related resources can be considered in context, and to minimize the burden of review and approval by agencies.

2. A number of the resources identified during the 2006 and 2007 surveys were sites relating to the historic period, or were significant for values other than their potential research value (e.g., eligible under criteria A, B, or C), including those related to the Salchaket Village site. Treatment plans for such resources, if warranted, shall specify approaches for treatment or mitigation of the property in accordance with the principles, standards, and guidelines appropriate to the resource. This may include, but not be limited to, use of such approaches as relocating a historic property, re-landscaping to reduce effects, public interpretation, ethnographic recordation, oral history, archival research, or prescribing use of a component or activity of this Undertaking in such as way as to minimize effects to historic properties or to those concerned about the effects of that component or activity. Methods of recordation and documentation described in the treatment plan shall conform with the *Secretary of the Interior's Standards for Architectural and Engineering Documentation* (48 FR 44730-44734) or other standards specified by SHPO.

C. In lieu of standard mitigation approaches described above, treatment plans may adopt other alternative approaches to minimize or mitigate effects to historic properties, including assisting in the development of tribal historic preservation plans, developing detailed historic contexts for the region, developing educational materials, purchasing properties containing historic resources, or developing historic property management plans. Such alternative options must be approved in writing by all Signatories and Invited Signatories to the Agreement.

D. Treatment plans shall be reviewed according to the procedures established in the ACCP and TCP. Disputes or objections to treatment plans shall be resolved in accordance with stipulation XIII below.

VI. Treatment of Human Remains:

It is the intent of this Undertaking to avoid the disturbance or removal of any human remains. No activity will knowingly disturb human graves or human remains. If human remains, sacred objects, or mortuary objects are inadvertently discovered during the course of construction or operation, all activities in the vicinity shall immediately cease and the Plan of Action (POA) for the treatment of human remains (Appendix A) shall be implemented. The STB and ARRC shall ensure that any and all human remains, sacred objects, and objects of cultural patrimony discovered as a result of the Undertaking shall at all times be treated with dignity and respect.

VII. Monitoring:

A. If stipulated as part of a treatment plan, when the probability to uncover unidentified archaeological or historic materials is determined likely by the consulting archaeologist or SHPO, ARRC shall ensure that an archaeologist meeting the qualifications of the Standards and Guidelines is present to monitor specific ground-disturbing activities.

B. The results of monitoring shall be included in a report to the STB and SHPO. This report shall be developed, within 3 months of fieldwork and be acceptable to both the "responsible agency(ies)" and the SHPO.

C. If sites are discovered during monitoring, ARRC shall follow the procedures outlined in Stipulation X of this Agreement.

D. If human remains are discovered during monitoring, ARRC shall follow the procedures outlined in the Plan of Action (Appendix A).

VIII. Curation:

A. ARRC shall ensure that all artifacts, faunal remains, samples, records and field notes, and related materials collected during activities covered by this Agreement are deposited in the University of Alaska Museum of the North in Fairbanks, or another repository or institution approved by the SHPO. The curatorial facility shall meet requirements found in 36 CFR 79, *Curation of Federally Owned and Administered Archaeological Collections.*

B. Curation arrangements between ARRC, or their cultural resources consultant, and an approved institution must be part of any treatment plan.

C. ARRC shall incur all reasonable costs charged by the approved institution for curation of materials collected in conjunction with recovery actions under this Agreement. "Reasonable costs" shall be determined by the curatorial facility and approved by SHPO, and be consistent with professionally acceptable curatorial standards.

D. Consistent with 36 CFR 79, collections shall be packaged in archival quality materials and in a manner appropriate to the material type. Collection preparation and packaging shall be acceptable to SHPO and receiving institution, and consultation in advance is recommended.

E. Materials collected in conjunction with recovery actions under this Agreement will remain the property of the landowner unless a gift or purchase agreement is negotiated.

IX. Annual Meeting and Reports:

A. Meetings

Annual Meeting: A meeting of the STB, SHPO, and Invited Signatories, as well as the Concurring Parties if they so wish, shall be held each year to discuss the previous year's activities, and activities scheduled for the upcoming year. ARRC or their designated consultant shall prepare an annual report on the progress of cultural resources activities as they relate to compliance with the stipulations of this Agreement, and shall distribute it to all parties to this Agreement at least 45

days prior to the Annual Meeting. The meeting shall be held in Anchorage at the Alaska Office of History and Archaeology, or at another location by consensus of the Signatories and Invited Signatories. The parties may participate by telephone if they so desire, and minutes of the meetings will be distributed as soon as possible afterwards. The annual report shall include the following:

(a) A description of the past year's effort and anticipated upcoming efforts for identification, evaluation, mitigation, and protection of historic properties. This can include descriptions of sites, artifacts encountered, or other archaeological or historic materials encountered, including representative photographs and illustrations;

(b) A description of the progress of the Undertaking and any known or expected changes to the Undertaking;

(c) An evaluation of the effectiveness of this Agreement and whether any amendments or changes are needed based on deficiencies or project modifications.

B. Additional Meetings

The ACCP may establish an additional meeting schedule among all or some of the parties to this Agreement. If any party deems a meeting necessary in addition to the annual meeting described above their request shall be considered in consultation with the other parties.

C. Reporting

Implementation of this Agreement shall include administrative reporting as well as the preparation of technical reports on resource investigations. The reporting shall use the following procedures unless modifications to this reporting structure are agreed to by the STB, SHPO, and Invited Signatories and reflected in the ACCP.

(a) Progress reports. Progress reports shall be submitted quarterly by ARRC to the STB for the duration of the construction portion of the Undertaking following execution of this Agreement. Progress reports may be in letter format and shall describe fieldwork activities for cultural resources as well as relevant construction progress that was initiated, underway, or completed for the most recent performance period, and identify steps to be initiated, continued, or completed in the next quarter. These reports may be combined with other STB reporting requirements.

(b) Progress summaries . Progress summaries shall be submitted by the STB to the SHPO and Invited Signatories every six months for the duration of the construction portion of the Project. The first progress summary shall be distributed six months following execution of this Agreement, with subsequent summaries following each six months thereafter until the construction portion of the Undertaking is completed. The progress summaries shall identify steps initiated, underway, or completed for the most recent performance period and identify steps to be initiated, continued, or completed in the next six-month period.

(c) Preliminary field reports. Preliminary reports on the progress of cultural resource fieldwork shall be prepared by ARRC that demonstrate the completion of data recovery, or other procedures, investigations and site treatments approved in the treatment plans. The use of preliminary field reports is designed to facilitate a phased approach to resource evaluation and mitigation, as provided for in 36 CFR 800, and to facilitate reasonable construction planning and progress. ARRC shall distribute preliminary reports to the STB, SHPO, and the appropriate land managing agency(ies), and those parties will have twenty (20) business days to review the report and either concur or request additional fieldwork, after which concurrence will be presumed. Construction may proceed, in the area of the completed fieldwork, after the STB, SHPO, and appropriate land managing agency(ies) concur with the preliminary field report. If additional work is deemed necessary the parties will consult with ARRC to determine the nature and scope of that work.

(d) Technical reports. Technical reports describing the results of background research, fieldwork activities, and laboratory analyses shall be prepared according to the standards and permit guidelines appropriate to the resource, including final report standards for archaeological excavation. The extent of report distribution as well as procedures for review of draft and final technical reports shall be established in the ACCP. ARRC shall issue final technical reports no later than two years from the completion of fieldwork activities and, in consultation with the SHPO, shall prepare sufficient copies for dissemination to the Concurring Parties, appropriate public libraries, educational institutions, and other repositories.

X. Procedures for Inadvertent or Unanticipated Discoveries:

A. Upon the inadvertent discovery of a potential historic property in any activity's APE, all work in the vicinity shall immediately cease and ARRC shall protect the discovery site against further disturbance.

B. Upon the inadvertent discovery of human remains, sacred objects, or mortuary objects in any activity's APE, all work in the vicinity shall immediately cease and a plan of action for the treatment of human remains (Appendix A) shall be implemented. ARRC shall ensure that any and all human remains, sacred objects, and objects of cultural patrimony discovered as a result of activities related to the Undertaking will be treated with dignity and respect.

C. Upon the unanticipated discovery of cultural resources during construction that are not human remains, the Unanticipated Discoveries Plan shall be followed (Appendix A.2).

XI. Training:

A. On an annual basis, ARRC ensure that on-site supervisory-level employees and contractors are trained in procedures for identifying and reporting historic properties that may potentially be discovered during the course of their work. Minimally, the training shall include guidelines for identification of cultural resources, and notification procedures when archaeological materials, human remains, and historic period sites are discovered.

B. ARRC shall also ensure that its supervisory-level contractors and employees are advised against the illegal collection of historic and prehistoric materials, including human remains, and are familiarized with the scope of applicable laws and regulations.

C. Prior to the implementation of training, the curriculum shall be reviewed and approved by the STB and SHPO.

D. Training shall be conducted by an archaeologist meeting the qualifications of the Standards and Guidelines. However, ARRC's supervisory level employees and contractors may attend the above training and convey the information to staff unable to attend.

E. On an annual basis, ARRC shall supply to the STB and SHPO a list of employees and contractors who attended the annual training, and procedures through which the information was conveyed to employees and contractors who did not attend.

XII. Procedures for Consultation:

Consultation shall be an ongoing process throughout the construction phase of the Undertaking. The STB, SHPO, Indian tribes and Native Alaska Corporations, Invited Signatories and the ACHP may consult at any time in writing, including e-mail, or telephone. Formal contacts and reviews will be established in the ACCP and TCP.

XIII. Dispute Resolution:

Should any party to this agreement object within 30 days of any treatment plan or report

provided for review or actions proposed pursuant to this Agreement, STB and the SHPO shall consult with the objecting party to resolve the objection.

A. If the STB and/or SHPO determine that the objection cannot be resolved, the STB shall forward all documentation relevant to the dispute to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will either:

(1) Provide the STB with recommendations, which the agency will take into account in reaching a final decision regarding the dispute; or

(2) Notify the STB that it will comment pursuant to 36 CFR 800.6(b), and proceed to comment. Any ACHP comment provided in response to such a request shall be taken into account by the STB in accordance with 36 CFR 800.7 with reference to the subject of the dispute.

(3) Any recommendation or comment provided by the ACHP shall be understood to pertain to the subject of the dispute; the STB's responsibility to carry out all actions under this Agreement that are not the subjects of the dispute shall remain the same.

B. At any time during implementation of the measures stipulated in this Agreement, should an objection to any such measure or its manner of implementation be raised by a member of the public, the STB shall take the objection into account and consult as needed with the objecting party, SHPO, or the ACHP to resolve the objection.

XIV. Amendments:

Any Signatory or Invited Signatory to this Agreement may request that the other Signatories consider amending it, whereupon the parties shall consult to consider the amendment(s). Amendments will be executed in the same manner as the original Agreement. Concurring Parties may suggest proposed amendments to the Signatories and Invites Signatories, who shall consult to consider them.

XV. Termination:

Any Signatory or Invited Signatory to this agreement may terminate it by providing thirty (30) days notice to the other parties explaining the reasons for the termination. The Signatory or Invited Signatory shall consult during this period to seek agreement on amendments or other actions that will avoid termination. In the event of termination, the STB will comply with 36 CFR 800.1 through 800.7 on remaining Undertaking components, activities, or outstanding issues.

XVI. Failure to Carry Out Agreement:

If the STB does not ensure that the terms of this Agreement are carried out, or if the ACHP determines that the terms of this Agreement are not carried out, the STB shall comply with 36 CFR Part 800.1 through 800.7 with regard to individual Undertakings covered by this Agreement.

XVII. Duration:

This Agreement shall become effective upon execution by the STB, the ACHP and SHPO, and shall remain in effect for a term of five years from its date of execution, at which point the Agreement may be renewed.

XVIII. Execution and Implementation:

Execution and implementation of this Agreement evidences that the STB has satisfied responsibilities under Section 106 of the National Historic Preservation Act pursuant to 36 CFR 800, and that SHPO has satisfied responsibilities under the Alaska Historic Preservation Act pursuant to AS 41.35.

A. SIGNATORIES

Surface Transportation Board

By: _____ Date: _____
(Victoria Rutson, Chief, Section of Environmental Analysis)

Advisory Council on Historic Preservation

By: _____ Date: _____
(Name, Title)

Alaska State Historic Preservation Officer

By: _____ Date: _____
Judith E. Bittner,
State Historic Preservation Officer

B. INVITED SIGNATORIES

Cooperating Agencies and Applicant

Cooperating Federal Agencies
U. S. Department of Interior - Bureau of Land Management, Alaska State Office

By: _____ Date: _____
(Name, Title)

U. S. Army Corps of Engineers

By: _____ Date: _____
(Name, Title)

U.S. Air Force 354th Fighter Wing, Eielson Air Force Base

By: _____ Date: _____
(Name, Title)

U.S. Department of Defense, Alaska Command

By: _____ Date: _____
(Name, Title)

Federal Transit Administration

By: _____ Date: _____
(Name, Title)

Federal Railroad Administration

By: _____ Date: _____
(Name, Title)

United States Coast Guard, Seventeenth Coast Guard District

By: _____ Date: _____
(Name, Title)

Applicant
Alaska Railroad Corporation

By: _____ Date: _____
(Name, Title)

C. Concurring Parties

Agencies
State of Alaska, Department of Natural Resources

By: _____ Date: _____
Director, Division of Mining, Land, and Water

Tribes
Healy Lake Village

By: _____ Date: _____
(Name, Title)

Village of Dot Lake

By: _____ Date: _____
(Name, Title)

Northway Village

By: _____ Date: _____
(Name, Title)

Native Village of Tetlin

By: _____ Date: _____
(Name, Title)

Native Village of Tanacross

By: _____ Date: _____
(Name, Title)

Native Village of Eagle

By: _____ Date: _____
(Name, Title)

Nenana Native Association

By: _____ Date: _____
(Name, Title)

Native Village of Minto

By: _____ Date: _____
(Name, Title)

Tok Native Association

By: _____ Date: _____
(Name, Title)

Indian Organizations
Tanana Chiefs Conference, Inc.

By: _____ Date: _____
(Name, Title)

Doyon, Ltd.

By: _____ Date: _____
(Name, Title)

Upper Tanana Inter-Tribal Coalition

By: _____ Date: _____
(Name, Title)

Glossary of Terms/Acronyms

Adverse Effect: When an undertaking may alter, directly or indirectly, the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Area of Potential Effect: The Area of Potential Effect (APE) is the geographic area within which the project may cause physical, visual or audible effects to the character or use of historic properties. It includes all areas of construction, such as rights-of-way (ROW), staging areas, extra work spaces, yards, access roads, borrow areas, and other ancillary facilities. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking. Determination of the APE may take into account the professional standards, guidance, and research of both the cultural resources and railroad design professions.

Borrow Area(s): An excavated area where material has been or will be dug for use as fill at another location.

Consulting Parties: Consulting parties include SHPO, Indian tribes, representatives of local governments, applicants for Federal assistance, permits, licenses and other approvals, and certain individuals and organizations with a demonstrated interest in the undertaking.

Cultural Resource: A cultural resource is any prehistoric or historic district, site, building, structure or object in American history, architecture, engineering, archeology, or culture. This term includes artifacts, records, and remains that are related to and located within such properties. The term also includes properties of traditional religious and cultural importance to an Indian Tribe that may meet the National Register criteria.

Curation: The preservation of material remains that are excavated or removed during a survey, excavation, or other study of a prehistoric or historic resource, and associated records that are prepared or assembled in connection with the survey, excavation or other study.

Days: Calendar days.

Eligible for the National Register of Historic Places: The term eligible for the National Register includes both properties formally determined as such in accordance with the regulations of the Secretary of the Interior and all other properties that meet the National Register criteria.

Federal Agency(s): Any Federal entity with a statutory obligation to fulfill the requirements of Section 106 who has jurisdiction over an undertaking and takes legal

and financial responsibility for Section 106 compliance in accordance with Subpart B 36 CFR 800. The Federal Agency(s) has approval authority for the undertaking and can commit the Federal agency to take appropriate action for a specific undertaking as a result of Section 106 compliance.

Historic Property: Any prehistoric or historic district, site, building structure, or object included in or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian Tribe that meet the National Register criteria.

Human Remains: The physical remains of a human body.

ID Plan: Identification Plan.

Indian Tribe: An Indian Tribe, band, nation, or other organized group or community, including a Federally-recognized Native Village, Regional Corporation or Village Corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 T.I. S. C 1602) which is recognized eligible for the special programs and serviced provided by the United States to Indians because of their status as Indians.

Keeper of the National Register: The Keeper is the individual who has been delegated the authority by the National Park Service (NPS) to list properties and determine their eligibility for the National Register. The Keeper may further delegate this authority as he or she deems appropriate.

NAGPRA: Native American Graves Protection and Repatriation Act.

National Register: The National Register lists properties formally determined eligible for the National Register of Historic Places.

National Register Criteria: National Register criteria are criteria established by the Secretary of the Interior for use in evaluating the eligibility of properties for the National Register (36 CFR 60). The National Register of Historic Places criteria are listed below:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship and feeling and:

a. that are associated with the events that have made a significant contribution to the broad patterns of our history; or

b. that are associated with the lives of persons significant in our past; or

c. that embody the distinctive characteristics of a type, period, or method of

construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d. that yielded, or may be likely to yield, information on prehistory or history.

Criteria considerations: ordinarily cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations, commemorative in nature; and properties that have achieved their significance within the past 50 years shall not be considered eligible for the National Register of Historic Places (36 CFR 60.4).

NRHP: National Register of Historic Places.

PA: Programmatic Agreement.

SHPO: State Historic Preservation Officer.

Site: Site definition is different for each state but is generally defined by Willey and Phillips (1958:18), as any reasonably definable spatial unit that contains features or is fairly continuously covered with artifacts that are indicative of an occupation 50 years or older. A site may be defined as "a spatial cluster of cultural features, or items, or both" (Binford 1972:46). These definitions apply to both prehistoric and historic sites. Archaeological context may be defined by the inclusion of any of the following: soil staining, associated fire-cracked rock, ceramics, features, or a concentration of materials within a reasonably defined spatial boundary.

STB: Surface Transportation Board.

Traditional Cultural Properties: A Traditional Cultural Property can be defined generally as an object, site, landscape feature, or other form of feature that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that communities' history, and (b) are important in maintaining the continuing cultural identity of the community. For additional information, reference Parker and King 1995.

Treatment Plan: A proposal for the mitigation of effects upon any historic property that a project would affect. It can include data recovery, documentation, restoration or other measures.

Undertaking: An undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; those requiring a Federal permit; license or approval; and those subject to state or local regulation pursuant to a delegation or approval by a Federal agency.

Appendix A.

Plan of Action for the Treatment of Unanticipated Discovery of Human Remains, Graves and Historic Properties

A.1. Human Remains and Graves

As set forth in Native American Graves Protection and Repatriation Act (NAGPRA) regulations, a specific plan of action is required in the event that human remains are uncovered during survey or construction of the Alaska Railroad Corporation (ARRC) proposed Northern Rail Extension (i.e., Undertaking). The following steps must be taken if human remains, or suspected human remains, are discovered:

(1) Stop all work in the immediate vicinity of the remains.

(2) Mark the area in which the remains are located, as well as a minimum buffer area with a radius of 20 meters surrounding the remains. This buffer area may be larger if there is the possibility of more remains in the area or in the case of slopes or cut banks where work located nearby may impact the site of the remains. Make sure that the remains are protected from possible impacts while contacting the appropriate parties[2].

(3) If remains are found that are not clearly human, but are suspected to be so, a specialist must be called in for identification.[3]

(4) The ARRC Project Manager should contact the following people or agencies within 24 hours of uncovering the remains.

(a) The State Historic Preservation Officer (SHPO):
Judith Bittner
Alaska Department of Natural Resources
Office of History and Archaeology
550 West 7th Avenue
Anchorage, AK 99501-3561
Phone: (907) 269-8715
Fax: (907) 269-8908

(b) Federal agency official in charge:

[2] Ways of protecting the remains include: covering with a tarp or other protection from the elements; shoring up cut banks or trench walls so that no further exposure occurs; making sure that no water will collect on or around the remains.

[3] The specialist must meet the professional qualifications for the NHPA as set forth in 36 CFR 61, section 112 (a)(1).

Victoria Rutson
Chief, Section of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
Phone: (202) 245-0295
Fax: (202) 245-0454

(c) The appropriate land managing agency contact for the relevant parcel.

(d) The responsible Native representative for the area of discovery.

Gary Lee
Doyon Ltd.
1 Doyon Place, Suite 300
Fairbanks, AK 99701
Phone: (907) 459-2037
Fax: (907) 459-2062

and

Robert Sattler
Tanana Chiefs Conference, Inc.
122 1st Avenue, Suite 600
Fairbanks, AK 99701
Phone: (907) 452-8251, ext. 3343
Fax: (907) 459-3936

and

(d) The Alaska State Troopers
Alaska State Troopers
Communications Center Manager
Phone: (907) 451-5100
Fax: (907) 451-5165

Notification should include available information regarding the nature and extent of the remains and an accurate and precise location including GPS coordinates.

NAGPRA dictates that work in the immediate vicinity of the remains cannot proceed until 30 days after the reply from the Federal agency in charge or appropriate Native group that the documents regarding the finding were received, unless a written and binding agreement is issued from the Federal agency in charge and the affiliated Native American group(s) (NAGPRA 25 U.S.C. 3002 Sec 3(d)).

The remains will then be assessed and treated based on the guidance of the Federal agency in charge and the appropriate Native group as defined by NAGPRA.

A.2 Plan for Unanticipated Discoveries

Cultural resources may be encountered above ground and below ground during work on the Undertaking, and might include historic and prehistoric materials as well as Traditional Cultural Properties. In the event that cultural materials are discovered, this plan shall be followed, and implemented in compliance with both NAGPRA and the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. § 470) as well as implementing regulations (36 CFR 800).

If archaeological or historic materials are encountered the following series of steps must be followed:

(1) Stop all work in the immediate vicinity of any cultural resources or suspected cultural resources.

(2) Mark the area in which the resources are located, as well as a minimum buffer area with a radius of 20 meters surrounding them. This buffer area may be larger if there is the possibility of more resources in the area or in the case of slopes or cut banks where ongoing work may impact the site. Make sure that all cultural materials are protected from possible impacts while contacting the appropriate parties[4].

(3) ARRC's Project Manager should contact the following people or agencies within 24 hours of discovering the resources.

(a) See previous list at A.1(4).

Notification of unanticipated discoveries should include available information regarding the nature and extent of the cultural resources and an accurate and precise location including GPS coordinates.

The discovery shall be investigated by a professional meeting the appropriate qualification standards, such as a consulting archaeologist, no longer than seventy-two (72) hours from discovery. The STB, SHPO, ARRC and land managing agency (as appropriate) shall consult, by telephone or other means, on the nature of the discovery and whether any additional investigation is warranted. The STB shall contact the appropriate Tribal representative if necessary. A decision shall be provided to ARRC within five (5) working days. If the parties agree that the discovery is not significant, verbal

[4] Options for protecting the cultural resources include: covering with a tarp or other protection from the elements; shoring up cut banks or trench walls so that no further exposure occurs; making sure that no water will collect on or around the site.

authorization to proceed may be given by the SHPO, and SHPO shall provide written confirmation to the parties within five (5) working days. A report of the investigation shall be provided by the investigator, following the guidelines for Monitoring described in Stipulation VII. If additional investigation is agreed to, the guidelines for Additional Investigations described in Stipulations IV(B) shall be followed, unless modified evaluation and reporting are agreed to.

A.3 List of contacts for Native Alaskan representatives

Common Name: Dot Lake
President, William Miller
Village of Dot Lake
P.O. Box 2279
Dot Lake, Alaska 99737
Voice: (907)-882-2695 Fax: (907)-882-5558

Common Name: Healy Lake
President, Fred Kirsteatter
Healy Lake Village
P.O. Box 60300
Fairbanks, Alaska 99706
Voice: (907)-876-5018 Fax: (907)-876-5013

Common Name: Minto
Chief, Roy Charles
Native Village of Minto
P.O. Box 26
Minto, Alaska 99758
Voice: (907)-789-7112 Fax: (907)-798-7627

Common Name: Nenana
Chief, Mitch Demientieff
Nenana Native Association
P.O. Box 356
Nenana, Alaska 99760
Voice: (907)-832-5461 Fax: (907)-832-1077

Common Name: Northway
President, Gerald Albert
Northway Village
P.O. Box 516
Northway, Alaska 99764
Voice: (907)-778-2311 Fax: (907)-778-2220

Common Name: Tanacross

Executive Director, Jerry Isaac
Native Village of Tanacross
P.O. Box 76009
Tanacross, Alaska 99776
Voice: (907)-883-4496 Fax: (907)-883-4497

Common Name: Tetlin
President, Bently Mark, Sr.
Native Village of Tetlin
P.O. Box TTI
Tetlin, Alaska 99780
Voice: (907)-324-2130 Fax: (907)-324-2131

Common Name: Eagle Village
President, David Howard
Native Village of Eagle
P.O. Box 19
Eagle, Alaska 99738
907-547-2271

The Upper Tanana Inter-Tribal Coalition (UTIC) consists of six Federally-recognized tribes:

Tribe: Village of Dot Lake
ANSCA Corporation: Dot Lake Native Corporation
Phone: 907-882-2695

Tribe: Native Village of Eagle
ANSCA Corporation: Hungwitchin Corporation
Phone: 907-547-2271

Tribe: Healy Lake Village
ANSCA Corporation: Mandas Chaag Native Corporation
Phone: 907-876-5055, 907-876-5018

Tribe: Northway Village
ANSCA Corporation: Northway Natives Incorporated
Phone: 907-778-2311

Tribe: Native Village of Tanacross
ANSCA Corporation: Tanacross Incorporated
Phone: 907-883-5024

4.27 Appendix C Tribal and Government-to-Government Consultation

There were no errata or other changes to this appendix.

4.28 Appendix D Alternatives Development and Elimination

Page D-9, fourth paragraph
The potential effects of a single, longer bridge were found to be comparable to the bridge option examined here with the exception of a potential increase in impacts to fisheries associated with the increased fill that would be required for the shorter bridge. However, ARRC also found that a single bridge to span all the primary channels would be cost-prohibitive~~,~~; approximately $80 to $100 million more than the Salcha Alternative Segment 1 crossing. The Applicant estimates the cost of the Tanana River bridge in the range of $108 million to $132 million dollars. ~~Thus,~~ SEA did not retain the single-bridge concept shown in Figure D-4 [in the Draft EIS] for detailed analysis in the EIS. As an alternative approach, ARRC developed a crossing concept that involves the use of channel plugs, rock revetments, and fill to force the river flow toward the channel closest to Flag Hill to allow the use of a shorter bridge (see Figure D-5 [in the Draft EIS]). When the cooperating agencies reviewed an initial layout for this approach, ADNR stated that it was not a viable alternative for analysis due to potential impacts on anadromous fish and habitat; radio tagging data indicate spawning in the upstream of the south channel across from Flag Hill. As a result, SEA did not retain the design shown in Figure D-5 [in the Draft EIS]for detailed analysis in the EIS. At SEA's request, ARRC developed a revised plan for inclusion in the EIS analysis (see Chapter 2 [in the Draft EIS]).

Page D-12, Section D.2.3, heading
D.2.3 Parallel Richardson Highway

Page D-16, last paragraph
In its October 2006 review of the range of reasonable alternatives, the U.S. Army Corps of Engineers recommended that the EIS include analysis of an alternative connecting to the ARRC mainline in the vicinity of Healy and running along the foothills of the Alaska Range to the military TAs on the west side of the Tanana River~~, and that the EIS evaluate transportation alternatives other than rail~~. SEA did not include ~~these~~ this alternative~~s~~ in the EIS analysis because ~~they~~ it would not meet ~~one~~ two of the purposes of the proposed NRE—to provide passenger train service between Fairbanks and Delta Junction, and to provide common carrier rail service to Delta Junction.

Page D-16, inserted after last paragraph
D.2.9 Non-Rail Alignment

In its October 2006 review of the range of reasonable alternatives, the U.S. Army Corps of Engineers recommended that the EIS evaluate transportation alternatives other than rail. SEA considered a non-rail alternative that would follow a route from the vicinity of Healy to the military TAs; however, SEA did not include this alternative in the EIS analysis because it did not meet the purpose and need for the proposed NRE—to provide passenger train service between

Fairbanks and Delta Junction, to provide common carrier rail service to Delta Junction, and to provide common carrier service to the Donnelly and Tanana Flats TAs.

4.29 Appendix E Water Resources

Page E-2, first full paragraph, inserted after second sentence
During break-up, flows commonly mobilize sediment stored on banks and bars, resulting in relatively high suspended sediment concentrations and turbidity.

Page E-4, first full paragraph, sixth sentence
The Salcha (2,170 square miles) and Little Salcha (66 square miles) watersheds have the only two streams that drain from the Yukon-Tanana region in the vicinity of the proposed rail line.

Page E-6, third full paragraph, inserted after ninth sentence
Also as breakup develops, sediment loads typically increase as sediment stored on banks and bars is mobilized, resulting in relatively high suspended sediment concentrations and turbidity.

Page E-27, Table E-8, Disc column, inserted footnote
[2] Disc = Discontinuous

Page E-30, third paragraph, fifth sentence, and inserted after fifth sentence
~~Some of these sites coincide with the ones reported by Anderson.~~ The data presented in Anderson (1970) reflects water quality of some of the same stations or on the same river as reported by USGS (Table E-12 in the Draft EIS). Thus the data summarized by Anderson allows a general characterization of water quality of the large river systems in the project area.

Page E-43, Table E-19, second gray colored row heading
Crossings ~~Unique to~~ Common with the Eielson Alternative Segment 2

Page E-51, Table E-22c inserted rows under table title

Table E-22c
Summary of Impacts for Eielson Alternative Segment 3 – Long-Term Operation

Type of Waterbody	*Stream*	*Floodplain Slough*	*Floodplain Slough*	*Drainageway*	*Overflow Channel*	*Wetland Flow-way*	*Adjacent to Water-bodies*	
Name of large waterbody (if applicable)	*Piledriver Slough*							

Page E-106, second full paragraph, fifth sentence
Many broadleaf scrub/shrub wetlands have either histosols or mineral soils with histic epipedons (a layer of mostly saturated, organic soil at or near the surface).

Page E-109, second paragraph, first and second sentence, and inserted after second sentence
The functional values of each vegetated wetland type within 500 feet ~~or~~ of the proposed rail line are presented in Table E-50 [of the Draft EIS]. ~~Functional capacities are evaluated as an index from 0 to 1, with 0 equivalent to providing no function and 1 providing full function.~~ Wetland functions were assessed using methods described in *A Rapid Procedure for Assessing Wetland Functional Capacity* (Hollands and Magee 1985). The model results are given on a scale of 0 to 1, with a 0 meaning the wetland does not have the potential to perform the function, while a 1 means the wetland has a high probability of performing the function. This point scale allows for functional capacities to be grouped into approximate low (0.33 and below), moderate (0.33 – 0.66), and high scores (0.66 and higher). Many of the wetlands in the project area score moderate or high for the eight functions assessed under this methodology.

Page E-110, second paragraph, first sentence
~~The aerial extent of wetlands that would be directly impacted by the proposed rail project was calculated by Geographic Information System (GIS) analysis of delineated wetland areas within the 200-foot wide rail ROW.~~ Wetland biologists utilized the USACE Wetlands Delineation manual during field assessments, and wetland boundaries and impact acreages for each segment's 200-foot ROW are based on: 1) preliminary mapping using National Wetland Inventory (NWI) data, 2) a field verification that consisted of wetland data collection and completion of standard Corps wetland determination forms for formal wetland/upland data plots, and 3) a final Geographic Information System (GIS) wetland mapping that reconciled the NWI and field efforts.

Pages E-113 through E-130, Tables E-53, E-54 E-55, E-56, E-57, E-58, E-59, E-60, E-61, E-62, and E-63, Regions column, inserted footnote
[1] Regions are equivalent to GIS polygons for wetland types crossed by the alternative segments.

Page E-131, inserted reference
Hollands, G.G., and D.W. Magee. 1985. A method for assessing the functions of wetlands. Pages 108-118 In J. Kusler and P. Riexinger (eds.), Proceedings of the National Wetland Assessment Symposium. Association of Wetland Managers, Berne, NY

4.30 Appendix F Biological Resources

Page F-8, first full paragraph, inserted before first sentence
Wide-scale changes in fire management for the area surrounding the rail line would be unlikely.

Page F-8, first full paragraph, last sentence
~~A fuel break along the Tanana River Valley could also be beneficial in the protection of late-succession riparian forests and private property.~~

Page F-15, Table F-8, Chinook Salmon row, Ecology column
Juveniles spend 1 to 3 years in streams and rivers, and smolt and outmigrate in the spring ~~following hatching, and outmigration~~. Outmigration appears to occur soon after breakup peaking in mid to late May. Extensive movement within the river system in the first years of life, adults return to spawn after 4 to 5 years marine residence.

Page F-15, Table F-8, Coho Salmon row, Spawning Habitats/Rearing Habitats column
Spawn in gravel areas of clearwater habitats-usually spring-fed; juveniles use ponds~~, lakes~~ and pools in streams and rivers or stream margins, usually amongst submerged woody debris and in scour pools.

Page F-15, Table F-8, Coho Salmon row, Ecology column
Spend 1 to 3 years in streams ~~and may spend up to five winters in lakes~~ before migrating to the sea, adults return after 18 months marine residence.

Page F-20, last paragraph, last sentence
Groundwater upwelling was evident, and there was evidence of salmon and grayling spawning. (Noel, 2007b; Record 42, 117, 154) ~~Slough (Crossing 3; Noel, 2007b; Record 40)~~. Eielson Alternative Segment 1 and Eielson Alternative Segment 2 also cross Twentythreemile Slough (Crossing 3; Noel, 2007b; Record 40) just above its confluence with Piledriver Slough.

Page F-24, sixth paragraph, first sentence
Connector B would cross the Fivemile Clearwater River (Crossing 86), which serves as a migratory corridor for Chinook and coho salmon and resident fishes and provides juvenile rearing and summer foraging habitat.

Page F-24, seventh paragraph, first sentence
Connector C would cross ~~tributaries to~~ the Fivemile Clearwater River (Crossing~~s~~ 345 ~~and 346~~) and several tributaries (Crossing 342, 343, 344, and 396), which likely serve~~s~~ as ~~a~~ migratory corridor~~s~~ for Chinook and coho salmon and resident fishes, and also provide juvenile rearing and summer foraging habitat.

Page F-24, last paragraph
Connector E would cross the upper reach of the Fivemile Clearwater River at Crossing 351, where substrates ~~were sand and organic debris~~ included gravels in riffle habitats suitable for salmonid spawning. Habitats were also suitable for juvenile rearing, summer forage, and overwintering of anadromous and resident fish (Noel 2007b; Record 86 ~~85~~).

4.31 Appendix I Subsistence Methodology and Communities

Page I-16, third full paragraph
~~No ADF&G subsistence~~ Table I-1 in the Draft EIS shows the annual pounds of wild game harvest per person for the study communities. Per capita harvest data are not available for the community of Salcha ~~(See Table I-1)~~.

4.32 Appendix J Noise and Vibration

There were no errata or other changes to this chapter.

4.33 Appendix K Transportation Safety and Delay Methods

Page K-7, last paragraph
Table K-4 [in the Draft EIS] presents the estimated vehicle and rail traffic for the year 2012 and the results of the grade crossing delay analysis for the proposed action and alternatives.

4.34 Appendix L Identified Hazardous Material Sites and Regulated Facilities and Database Records

Page L-1, first full paragraph
Table L-1 [in the Draft EIS] lists and describes all known hazardous material sites and regulated hazardous facilities within one mile of the proposed alternative segments. Figures 13-10 through 13-20 in the Draft EIS show the locations of the 92 known sites. Table L-1 [in the Draft EIS] also identifies each site by ~~reference map~~ referring to the figure number and latitude/longitude. ~~Sites of concern~~ Known hazardous material sites and regulated facilities that could present environmental consequences related to construction (excavation) activities are identified with an asterisk.

Page L-2, Table L-1, Map No. 6 row, Notes column, inserted after last sentence
This is not considered a site of concern because it lies in proximity to a potential rock revetment staging area, where no excavation or ground disturbance is anticipated.

Page L-14, Table L-1, Map No. 86 row, Status column, inserted footnote
[1] *Conditional Closure* is the regulatory status of a site where there are conditional activities that must occur in order for the site to be considered closed; presenting negligible risk for contaminants that could affect the proposed rail project. *Closed* sites are those in which remediation activities have been completed to the satisfaction of the regulating agency such that they present a negligible risk for contaminants.

4.35 Appendix N Visual Inventory and Visual Contrast Analysis

Page N-23, fifth full paragraph, inserted after last sentence
These areas would likely be visible to passengers on the train until post-construction re-vegetation is complete.

4.36 Appendix O ANILCA 810 Report

Page O-5, first paragraph, seventh full sentence
Direct effects on subsistence uses and resources ~~are~~ would be most likely to occur for the communities of Delta Junction, Healy Lake, Nenana, and Tok due to more prevalent subsistence use overlaps in the project area and/or documented moose harvests within minor drainages that overlap the project area.

Page O-6, third paragraph, first sentence
Harvests of moose, caribou, furbearers, and fish have been documented in Unit 20A (~~NRE~~ Draft EIS Chapter 7), and trails and routes crossing the Tanana River into Game Management Unit 20A are also documented (~~NRE~~ Draft EIS ~~Chapter 13~~ Table S-2).

Page O-7, second full paragraph, first sentence
Of the proposed action alternative segments (on Federal public land), Eielson Alternative Segment 3 and Donnelly Alternative Segment 1 would have the highest number of recreation access route intersections (six) (see Draft EIS Table S-2).

Page O-7, last paragraph
The Applicant has stated that ~~T~~the purpose of the ~~proposed NRE~~ project is to ~~extend~~ provide ~~current~~ freight and passenger rail service~~s~~ to ~~areas~~ the region south of North Pole, Alaska, including the Tanana Flats and Donnelly training areas and the Delta Junction, Alaska, area. The Applicant has stated that the proposed NRE would ~~, and to~~ provide an alternative to the Richardson Highway for ~~these services~~ commercial freight service for businesses, military, and communities in or near the rail line, including existing industries in the agricultural, mining, and petrochemical sectors in the Delta Junction region. At present, both the agricultural community and the mineral industries in this area receive their desired import materials indirectly. Such materials are first shipped by rail to or near Fairbanks, offloaded, and then transported by truck over Richardson Highway for approximately 90 miles to Delta Junction.

The Applicant has also stated that the proposed NRE would provide a transportation alternative to Richardson Highway for individuals traveling between Fairbanks and Delta Junction. At present, there is a coach service, operated by Delta Junction, between these two areas, which operates one round-trip per day Monday through Friday. According to ARRC, passenger service could also support area tourism and provide an opportunity for tourists to travel by rail beyond the existing Fairbanks terminal to a proposed passenger facility at Delta Junction.

At present, U.S. Army and U.S. Air Force ground access to the Tanana Flats and Donnelly training areas on the southwestern side of the Tanana River and the west side of the Delta River is limited to winter months by way of ice bridges. The construction of a combined road-rail bridge over the Tanana River for the rail line would provide U.S. Army and U.S. Air Force dependable year-round ground access to the training areas.

The proposed rail line alternatives follow a relatively direct route from the end of the existing rail line, north of Eielson Air Force Base (AFB), to south of Delta Junction. The alternative segments follow the existing highway and/or the Tanana River relatively closely. Various alternatives were considered, some of which were eliminated during the alternatives development process. Alternatives were chosen for further analysis based on considerations of engineering and environmental factors as well as on issues raised by agencies or the public. Because the purpose of the proposed NRE is to construct and operate a rail line between two points (North Pole and Delta Junction) and because constructing and operating a rail line outside of the project area could lead to greater adverse environmental impacts and engineering obstacles, lands outside of the proposed project area would not satisfy the purpose and need of the NRE.

Page O-10, second full paragraph, first sentence

The Applicant states that the purpose of the proposed NRE is to extend current freight and passenger rail services ~~to areas south of North Pole,~~ for businesses, military, and communities in or near the rail corridor, including the Tanana Flats and Donnelly training range complex, and to provide an alternative to Richardson Highway for these services.

Page O-12, second full paragraph, inserted after last sentence

In addition, a portion of the proposed Beluga to Fairbanks natural gas pipeline would run from Fairbanks to Delta Junction. Cumulative impacts related to the construction and operation of this pipeline would be similar to those discussed above for the Alaska natural gas pipeline.

Page O-12, last paragraph, fourth sentence

Alternative segments not on Federal public lands would intersect between zero and five recreation access routes, lower than some of the alternative segments on Federal public lands (see Draft EIS Table S-2).

Page O-13, second paragraph, first sentence

~~The purpose of the proposed NRE is to extend current freight and passenger rail services to areas south of North Pole, and to provide an alternative to Richardson Highway for these services.~~ The Applicant has stated that the purpose of the project is to provide freight and passenger rail service to the region south of North Pole, Alaska, including the Tanana Flats and Donnelly training areas and the Delta Junction, Alaska, area. The Applicant has stated that the proposed NRE would provide an alternative to the Richardson Highway for commercial freight service for businesses, military, and communities in or near the rail line.