



SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

MEMORANDUM

TO: Daniel Elliott, Chairman
Ann Begeman, Vice Chairman
Francis Mulvey, Commissioner

CC: Rachel Campbell
Director, Office of Proceedings

FROM: Victoria Rutson
Director, Office of Environmental Analysis

DATE: October 11, 2011

SUBJECT: Docket No. FD 35095, Alaska Railroad Corporation – Construction and Operation Exemption – A Rail Line Extension to Port MacKenzie, Alaska: OEA’s Response to Comments on the Final EIS and OEA’s Final Environmental Recommendations

1.0 SUMMARY

On December 5, 2008, Alaska Railroad Corporation (ARRC or Applicant) filed a petition for exemption with the Board seeking approval to construct and operate approximately 31 to 46 miles of new rail line. The new rail line would extend from Port MacKenzie, an existing deep-water port across the Knik Arm from the Port of Anchorage, to a point on the existing ARRC main line that would allow goods to move to and from the interior of Alaska. The Board’s Office of Environmental Analysis (OEA) prepared an Environmental Impact Statement (EIS), working with a number of cooperating agencies (the Federal Railroad Administration, the U.S. Army Corps of Engineers (USACE), and the U.S. Coast Guard). OEA issued the Draft EIS on March 16, 2010 and received 162 comments during the public review and comment period.

Over several months, OEA conducted additional analysis and carefully assessed and responded to the comments received on the Draft EIS. On March 25, 2011, OEA issued the Final EIS. The Final EIS set forth OEA’s additional analyses, responded to the comments received, identified the environmentally preferable alternative, and set forth OEA’s final recommended mitigation measures for the Board.

Starting on April 21, 2011, OEA began to receive comments on the Final EIS, despite the fact that no comment period was provided and the document specifically noted that the Final EIS represented the conclusion of the environmental review process for the proceeding. In total, OEA received 8 comments following the issuance of the Final EIS. The comments fell into one of four categories:

- First, some comments stated that the action proposed by ARRC had changed and that the changes in the proposal warranted preparation of a Supplemental EIS (“Changes to the Proposed Action”);
- Second, some commenters raised the same concerns that had already been received and addressed in the Final EIS, but argued that the EIS did not adequately assess these issues (“Same Issues Raised Again”);
- Third, some commenters chose to raise issues for the first time despite the fact that the issues could and should have been raised earlier in the environmental review process (“Issues Raised Late”), and
- Fourth, some commenters disagreed with a new alternative segment—the Mac East Variant Segment—which OEA discussed for the first time in the Final EIS as a component of a “reasonable and feasible” alternative (“Mac East Variant Segment”).

To assist the Board in responding to these post-Final EIS comments, OEA prepared a letter to ARRC, asking the Applicant to respond both to the comments asserting that the proposed action had changed and the comments alleging that the EIS had not assessed all the issues raised during the environmental review process adequately. OEA mailed and faxed the letter to ARRC’s legal counsel on June 13, 2011 and asked for a reply by Friday, June 24, 2011. OEA placed its letter to ARRC on the Board’s Web site in the Environmental Correspondence Tracking section.

After requesting and receiving a short extension, ARRC filed its response with the Board on June 27, 2011. ARRC served its response on all parties of record to the proceeding, which included all of the post-Final EIS commenters. In its response, ARRC addressed each of the comments submitted after issuance of the Final EIS. ARRC explained that it had made some minor changes to the proposed action that were not known to the Board when the Final EIS was issued. The changes consisted of:

- Relocating a terminal reserve area approximately 2.2 miles north from the end of the proposed rail line in the Port MacKenzie District to the Point MacKenzie Agricultural Project (PMAP) to reduce impacts to wetlands by 34 acres; and
- Straightening a remote 3-mile section of the Connector 3 Variant Segment and the southern end of the Houston Segment to shorten the length by .5 miles and reduce wetland impacts by 4 acres.

ARRC explained that it had made these changes as a result of ARRC's on-going consultation with the USACE and U.S. Environmental Protection Agency (EPA) to reduce potential wetland impacts. Citing the standard set by the President's Council on Environmental Quality (CEQ) for when a change in the proposed action warrants preparation of a Supplemental EIS, ARRC argued that the minor changes made to the proposed action would not result in any significant and substantial environmental effects, and that, therefore, no supplemental analysis was required.

ARRC also explained that the other concerns about the adequacy of the EIS raised by some post-Final EIS commenters had already been addressed in the EIS process. ARRC attached detailed information to its response, including the Section 404 permit application submitted to the USACE, and provided in-depth responses to the issues raised in the post-Final EIS comments.

OEA carefully reviewed the information set forth in ARRC's response. It then conducted its own, independent verification of the data to determine whether the changes to the proposed action would likely result in any significant and substantial environmental effects. OEA focused in particular on noise, prime farmland, wetlands, air quality, and biological resources. As part of its analysis, OEA studied effects to prime agricultural lands, noise sensitive receptors, wetlands and water resources, moose and fish. OEA concluded that ARRC's changes to the proposed action would not likely result in significant and substantial environmental effects.

The commenters that waited until after the Final EIS to raise issues that they could have raised earlier in the EIS process made many allegations of the EIS's inadequacy. These included criticizing various methodologies used during the EIS environmental analysis and stating that the EIS was inadequate in several respects (it failed to adequately assess impacts related to climate change and coal consumption; it failed to adequately assess impacts to air quality, the beluga whale, and winter moose; it failed to conduct long-term studies of fish, other aquatic resources, and water quality; and it failed to require mitigation requiring culverts to be designed in such a way as to allow fish passage).

OEA has assessed each of the late-submitted comments to ensure that the EIS took the requisite hard look at the issues and concerns raised by the commenters. After reviewing each of the issues, OEA concludes that none of the methodologies, analyses or conclusions in the EIS is flawed and that the allegations regarding the EIS raised by the commenters are without merit. In response to post-EIS comments, however, a few changes were made to OEA's final recommended mitigation

Finally, OEA has reviewed its rationale set forth in the Final EIS for concluding that a Supplemental EIS was not warranted for the Mac East Variant Segment. In the Final EIS (see Chapter 2, page 13), OEA explained that the Mac East Variant Segment had been developed from comments submitted on the Draft EIS, which suggested modifying the Mac East Segment to minimize potential environmental impacts. By shifting the Mac East Segment slightly (a maximum of 1 mile) west so it travelled along an existing north-south property line, OEA found that impacts to wetlands, water resources, habitat, and cultural resources would be reduced. In addition, OEA explained

in the Final EIS, if the Mac East Variant Segment were to be approved and constructed instead of the Mac East Segment, fewer structures would need to be taken and fewer trails in the Iditarod Dog Sledding Historic District would be crossed. The Final EIS also stated that the nature of the impacts that would result from both the Mac East Segment and the Mac East Variant Segment would be the same. The degree of impact, however, would be reduced. OEA therefore concludes that it had been correct in finding in the Final EIS that the Mac East Variant Segment was sufficiently similar to the Mac East Segment and that no Supplemental EIS is required.

To present the above issues and analyses to the Board, OEA has prepared this memorandum setting forth the issues raised in the post-Final EIS comments (including a specific description of ARRC's changes to its proposed action), ARRC's response, OEA's independent analyses, and OEA's final recommendations to the Board. OEA recommends that the Board adopt the EIS prepared in this proceeding, as well as the conclusions presented in this Environmental Memorandum, in its final decision.

OEA's Final Conclusions and Recommendations

- Through the EIS process in this proceeding, the Board has taken the requisite "hard look" at the potential environmental effects of ARRC's proposal to construct and operate a rail line from Port MacKenzie to a point on the existing ARRC mail line in order to provide freight rail services between the Port and Interior Alaska.
- OEA recommends that the Board adopt the Draft and Final EISs prepared in this proceeding, all comments submitted during the EIS process, and this memorandum discussing the post-Final EIS comments received.
- *Regarding Changes to the Proposed Action:* Comments stating that a Supplemental EIS should be prepared to assess changes in the proposed action, which were made by ARRC prior to OEA's issuance of the Final EIS but that ARRC had not disclosed to OEA, have not shown that the changes would result in significant and substantial environmental impacts warranting preparation of further environmental documentation. Rather, the changes would minimize potential environmental impacts, particularly to wetlands, considered during the EIS process.
- *Regarding the Same Issues Raised Again:* Commenters raising the same or similar issues that they had raised previously in the EIS process (i.e., the specific location of staging areas, whether alternatives including a rail route with no access road and an elevated rail line should have been considered, and whether additional data regarding moose and fish should have been collected) have failed to demonstrate that the EIS was inadequate. OEA reviewed, assessed, and properly responded to these comments in the Final EIS. Nothing in the resubmission of these comments introduces matters that have not been thoroughly addressed. Therefore, no supplemental analysis is warranted.

- *Regarding the Issues Raised Late:* Comments submitted following the Final EIS that could and should have been raised earlier in the EIS process (after the Draft EIS was issued) allege that the EIS is inadequate in some of its methodologies, analyses, and mitigation. Commenters have not supported their claims that the EIS is inadequate.
- *Regarding the Mac East Variant Segment:* Comments alleging that OEA erred by discussing the Mac East Variant Segment as a component of a reasonable and feasible alternative in the Final EIS rather than preparing a Supplemental EIS are without merit. The Mac East Variant Segment is a modification to the Mac East Segment that minimizes environmental impacts of the Mac East Segment by paralleling an existing property and section line, thus reducing disruptions to farmland.
- In any decision granting ARRC the authority to construct and operate the proposed rail line, OEA recommends that the Board approve OEA's environmentally preferable alternative and impose all 100 of the recommended mitigation measures contained in Attachment 1, Part I, to this memorandum.
- OEA is recommending the following changes to the mitigation recommended in the Final EIS.¹ These changes, which are reflected in the mitigation in Attachment 1, Part I, consist of:
 - Adding new Mitigation Measure 79, addressing buried utility lines;
 - Revising Mitigation Measure 47, requiring ARRC to develop a moose mitigation strategy prior to final engineering and the start of construction;
 - Revising Mitigation Measures 84 and 92 permitting the use of at-grade crossings for officially recognized trails; and
 - Revising Mitigation Measures 94, 95, and 96 to address potential visual impacts of the relocated terminal reserve.

2.0 COMMENTS AND REPLIES ON THE FINAL EIS AND OEA'S RESPONSE

The EPA, Alaska Department of Natural Resources (ADNR), Sierra Club (in cooperation with Cook Inletkeeper), ARRC and several citizens submitted comment

¹ Should the Board disagree with OEA's recommended changes to the mitigation, it may choose to impose the original mitigation measures set forth in the Final EIS. If the Board disagrees with OEA's environmentally preferable alternative, OEA's recommended mitigation from the Final EIS for the other alternative segments is provided in Attachment 1, Part II.

letters on the Final EIS.² In a June 13, 2011 letter to the Applicant, OEA requested that ARRC reply to the agency and public comment letters on the Final EIS, and ARRC provided its reply in a June 27, 2011 letter to OEA. OEA also received a July 13, 2011 letter from a coalition of environmental groups (hereafter the Coalition).³ Although the July 13, 2011 letter is addressed to the USACE and primarily conveys comments on the USACE's Clean Water Act, Section 404 permitting process for the proposed rail line, the letter also includes new comments on the Final EIS and replies to ARRC's June 27, 2011 letter to OEA. This OEA memorandum addresses the substantive comments and replies pertaining to the Draft and Final EISs.

2.1 Changes to the Proposed Action

EPA, ADNR and several citizens (i.e., Mr. Sims, Mr. Shumaker, and Ms. Faulkner) express opposition and concerns related to the relocation of the terminal reserve and realignment of the Connector 3 Variant Segment and a portion of the Houston Segment that were not addressed in the Final EIS because information about them was not available at that time. The commenters state that the Board cannot issue its final decision without being aware of and disclosing the potential environmental impacts of these changes, and indicate that a Supplemental EIS is necessary to accomplish this. Mr. Sims also inquires as to why the terminal reserve was relocated to the PMAP for the Mac East Variant Segment but the terminal reserves for the Mac East and Mac West segments remain within the Port MacKenzie District.

In its reply, ARRC argues that no supplement is required. It notes that in determining whether a “change[] in the proposed action” requires supplementation of an EIS, courts consider (1) whether the environmental impacts associated with the change may be “substantial” or “significant” and (2) whether the impacts are different from those considered in the existing NEPA [National Environmental Policy Act] analysis or are uncertain. *North Idaho Comm. Action Network v U.S. Dep’t of Transp.*, 545 F.3d 1147, 1153-54, 1157 (9th Cir. 2008) (requiring supplement if change “may result in significant environmental impacts in a manner not previously evaluated and considered”); see also *Price Rd. Neighborhood Assoc. v. U.S. Dep’t of Transp.*, 113 F.3d 1505, 1508-09 (9th Cir. 1997) (requiring supplementation if environmental impacts are “significant or uncertain” and not evaluated in earlier EIS).

ARRC further notes that when a change minimizes the project's impacts on the environment, the responsible agency “is not automatically required to redo the entire environmental analysis.” *Sierra Club v. U.S. Army Corps of Eng’rs*, 295 F.3d 1209, 1221 (11th Cir. 2002). Rather, “[a] supplemental EIS is required only when . . . changes in the project will have a significant impact on the environment that has not previously been covered by the original EIS.” *Id.* (internal brackets and quotation marks omitted). In other words, ARRC states that supplementation of an EIS is not required unless a change in the proposed action “may result in significant environmental impacts . . . not

² The citizens include Stephen M. Sims, Robert Shumaker, Todd Hecker, Audrey H. Faulkner, and Patrick L. Sharrock.

³ The Coalition includes the Alaska Public Interest Research Group, Appalachian Center for the Economy and the Environment, Cook Inletkeeper, and Sierra Club.

previously evaluated and considered.” *North Idaho*, 545 F.3d at 1157 (internal quotation marks omitted). As discussed below, OEA does not believe that the potential impacts of the relocated terminal reserve or realigned segments are significant or substantial enough to warrant preparation of a Supplemental EIS.

First, OEA believes that a Supplemental EIS is not required for the relocated terminal reserve or realigned Connector 3 Variant and Houston segments because the potential impacts from these changes are not significant or substantial.

At the time the Final EIS was issued, OEA had not been notified by ARRC that relocation of the terminal reserve and realignment of the Connector 3 Variant and Houston segments were under consideration by the Applicant. In its reply to the Final EIS comment letters, ARRC confirms that it has moved the proposed location of the terminal reserve from the Port MacKenzie District to the PMAP, and realigned the Connector 3 Variant Segment and the most southerly component of the Houston Segment, relative to their locations in the Final EIS.

ARRC states in its reply that the new terminal reserve location in the PMAP (approximately 2.2 miles north of the previous location) was identified while ARRC worked to obtain a Section 404 Clean Water Act permit from the USACE. In cooperation with USACE, the railroad determined that moving the terminal reserve would reduce potential impacts to wetlands and other waters of the U.S. by approximately 34 acres.⁴ Similarly, realignments of the Connector 3 Variant Segment and the most southerly component of the Houston Segment were identified as ARRC went through early permitting reviews. ARRC states it realigned the proposed route to a more direct and easterly location to lessen potential wetland and anadromous fish stream impacts. According to ARRC, the proposed realignment would reduce the length of the proposed rail line by 0.5 miles, reduce potential wetland impacts by approximately 4 acres, and provide a more suitable stream crossing location with fewer areas of sensitive, off-channel salmon-rearing habitat.

OEA concludes that the potential impacts of these post-Final EIS modifications are not “significant environmental impacts . . . not previously evaluated and considered” and that therefore, a Supplemental EIS is not required. On the contrary, the available information shows that the modifications would reduce the proposed rail line’s wetland impacts by 38 acres, which represents an approximately 25 percent reduction in the total wetland impact anticipated in the Final EIS for this build alternative. The modifications would also minimize potential impacts to an anadromous stream. The principal adverse impact of the modifications would be removing approximately 200 additional acres from existing agricultural use and covenants. But this acreage continues to represent a small fraction of the 14,843 acres in the PMAP.

As OEA acknowledged in Section 2.5.2 of the Final EIS, if the Board authorizes the proposed construction, ARRC would need to demonstrate to the USACE that any

⁴ OEA notes that any permitting level activities conducted by the Applicant on a specific alternative prior to the Board issuing a Final Decision in this proceeding were and continue to be conducted at the Applicant’s own risk.

alternative authorized by the Board could also be the least environmentally damaging practicable alternative (LEDPA). Implicit in this acknowledgement is that the Applicant and USACE might need to negotiate minor modifications to any Board-authorized alternative to identify the LEDPA, and that this would be accomplished through the use of alternative-specific design details and wetlands data that had not been available to OEA during the EIS process. However, these post-Final EIS modifications would result from the Section 404 permitting process and not the Board's NEPA review, which is fully adequate.

Air Quality

Mr. Shumaker expresses concern about potential adverse impacts on the PMAP from terminal reserve-related particulate emissions. In the Final EIS, OEA concluded that the estimated emission increases from construction and operation of the proposed rail line would be minimal in the context of existing conditions and that any potential impacts on air quality would be low. For the terminal reserve specifically, OEA estimated that terminal reserve operations would generate an estimated 0.48 metric tons per year of particulate matter (see Final EIS, Chapter 8, page 7). As the Final EIS explains, regardless of its location, terminal reserve particulate emissions would remain well below the EPA threshold of 100 tons per year for determining conformity of a project with the state's air quality plans, and would not be expected to adversely impact other nearby land uses. Mr. Shumaker has not cast doubt on OEA's conclusions in the Final EIS.

Noise

Messrs. Shumaker and Sims state that noise and vibration impacts from the relocated terminal reserve on the PMAP were not evaluated in the Final EIS. In its reply to the Final EIS comments, however, ARRC provided an analysis of terminal reserve noise impacts within the Point MacKenzie Agricultural Project. OEA has independently reviewed this analysis of potential noise impacts from rail operations and agrees with ARRC's conclusion that no noise sensitive receptors are anticipated to experience a 3-dBA increase and an Ldn of 65 dBA or greater as a result of the changes made to the locations of the Connector 3 Variant and Houston segments or relocation of the terminal reserve.⁵ Similarly, rail construction activity, including pile driving for bridges, in revised locations is not anticipated to result in noise levels at noise sensitive receptor locations that would exceed Federal Transit Administration (FTA) construction noise criteria or vibration levels that would exceed the FTA fragile building damage criterion.

Land Use

Agricultural Impacts. Ms. Faulkner expresses concern that the analysis of potential farmland impacts from the relocated terminal reserve and the Mac East Variant

⁵ ARRC's conclusion references the Board's threshold for determining whether a noise impact could be adverse; that is, when projected noise impacts are expected to include a 3-dBA or greater increase and a DNL of 65 or greater (49 C.F.R. § 1105.7(e)(6)).

Segment⁶ was not consistent with the Farmland Protection Policy Act (FPPA). However, pursuant to the regulations implementing the FPPA (7 C.F.R. Part 658), OEA coordinated with the Natural Resources Conservation Service (NRCS) to assess potential impacts to locally important soils from the proposed rail line (see Final EIS, Chapter 3, page 9). In conjunction with NRCS, OEA made scoring decisions in the context of each proposed build alternative by examining the alternative, surrounding area, and the programs and policies of the state and local governments. The computed score enabled OEA to identify the potential effects of the proposed project on locally important farmland. All of the build alternatives received a score of less than 160 in the Final EIS (see Chapter 3, page 9); and therefore, according to the FPPA, they did not require further consideration for protection and no additional alternatives needed to be evaluated.

In response to Ms. Faulkner's concerns on the Final EIS, OEA subsequently coordinated with NRCS regarding the Mac East Variant Segment and relocated terminal reserve. With the updated NRCS input, OEA revised the scoring for this alternative and determined that its revised score is 130, which remains below the 160 threshold. Therefore, no further action is required under the FPPA.

Mr. Sims objects to converting over 2,000 acres of land from agricultural use to railroad use within the PMAP. ADNR and several citizens (i.e., Ms. Faulkner and Mr. Shumaker) express general concerns about adverse impacts on agricultural lands in the PMAP as a result of the relocated terminal reserve and Mac East Variant Segment.⁶ As discussed in the Final EIS (see Section 13.1, page 7), however, the PMAP covers 14,893 acres. The 200-foot right-of-way of the proposed rail line would occupy approximately 173 acres in the PMAP, and the relocated terminal reserve would occupy approximately 246 additional PMAP acres. Therefore, the total land that would be converted from agriculture use to railroad use in the PMAP would be approximately 419 acres, or only 2.8 percent of the total PMAP lands. OEA does not consider this to be a significant shift in PMAP land use.

Hazards to Airstrips. Ms. Faulkner also contends that the relocated terminal reserve and overhead power lines associated with the proposed rail line would create a safety hazard to several private runways in the vicinity of Falcon Lake. In its reply to OEA concerning Ms. Faulkner's comment, however, ARRC notes that all utility lines would be buried, and therefore, would not impact airstrip operations. ARRC also explains that the subject airstrips would be at least 1,400 feet from the terminal reserve and would have a minimum of 70 feet of clearance above the terminal reserve. In these circumstances, ARRC concluded that there would be no impact to aviation. OEA has reviewed ARRC's information, and concurs that the relocated terminal reserve would not have adverse impacts on nearby private airstrips. OEA's conclusion is based in part on ARRC's statement that utility lines would be buried. In previous descriptions of the proposed action, ARRC had indicated that project-related utility lines would be aboveground. To ensure that utility lines would in fact be buried, OEA is recommending

⁶ See Section 2.4 below for a detailed discussion of other issues related to the Mac East Variant Segment.

new mitigation measure 79 (see Attachment 1, Part I), which would require the Applicant to bury project-related utility lines.

Future Land Use. Mr. Sims notes the PMAP's level terrain, decent climate, abundant water supply, proximity to Anchorage, and other factors. Mr. Sims states that these characteristics make the PMAP the best piece of developable land in Alaska. He raises concerns that construction of the relocated terminal reserve and Mac East Variant Segment within the PMAP could hinder future development opportunities in the PMAP, including the potential construction of up to 11,000 one-acre residential lots or a new air freight terminal and runways for the Anchorage airport.

Determining if the large tract of land consisting of the PMAP can or should be developed with other than agricultural land uses, or determining whether the proposed rail line could hinder future land use within the PMAP, are land use issues to be resolved by the State of Alaska and the Matanuska-Susitna Borough (MSB). The Board has no role in developing or updating state or local land use plans or zoning that might be needed to facilitate the as-of-yet speculative land uses suggested by Mr. Sims. The agency, however, has to complete its environmental review of proposals to construct and operate rail lines in a timely manner. It would be inappropriate to delay completion of a proceeding because a commenter believes a more lucrative or higher land use for a proposed rail line corridor could develop sometime in the future. OEA did consider reasonably foreseeable future land use actions in its cumulative impacts analysis in the EIS. But, OEA does not consider any of the potential developments cited by Mr. Sims to be reasonably foreseeable. Accordingly, NEPA does not require that they be considered.

Visual Resources

Mr. Shumaker comments that the potential visual impacts of the relocated terminal reserve were not addressed in the Final EIS. In its reply, ARRC states that it would construct a single passing track, 3 short sidings and a crew-change/maintenance building. For the foreseeable future, ARRC anticipates that the activities in the terminal reserve would be infrequent, and that the sidings would be used primarily for the storage of excess unit-train equipment rather than for the active classification of freight. ARRC adds that the remainder of the terminal reserve would serve as a buffer zone for adjacent properties.

Relocation of the terminal reserve to the PMAP would result in different potential visual impacts than had been expected with the terminal reserve in the Port MacKenzie District. In the Port MacKenzie District there would be minimal visual impacts from a terminal reserve because the surrounding port lands would provide a visual buffer to surrounding land uses and landowners. A terminal reserve in the PMAP would be more visible. However, the impacts would be similar to those discussed for the Mac East Variant Segment in the Final EIS (see Section 13.3, page 9). As discussed in the Final EIS, the Mac East Variant Segment would be visible from South Guernsey Road, Reddane Avenue, and Holstein Avenue where gaps in hedgerows and views across fields exist. Likewise, OEA's analysis shows that a relocated terminal reserve on the Mac East Variant Segment within the PMAP would also be visible from these roads through breaks

in the vegetation. Movement and sound of trains would also draw attention to the terminal reserve. To avoid or minimize these potential impacts, OEA has revised mitigation measures 94, 95 and 96 to address the relocated terminal reserve (see Attachment 1, Part I). These revised measures would require the Applicant to use directional lighting at the terminal reserve to minimize nighttime glare on adjacent properties, and to minimize vegetation clearing in a manner that provides a visual buffer between the terminal reserve and adjacent properties. With this mitigation, there would be no potentially significant visual impacts.

2.2 Same Issues Raised Again

Purpose and Need

As summarized in the Final EIS, the Applicant provided information on the purpose and need for the proposed rail line to the Board in its petition for exemption seeking authority to construct and operate the proposed rail line, and in other Applicant-supplied filings and information provided during the EIS process. Specifically, ARRC states that the purpose of the proposed rail line is to provide rail service to Port MacKenzie, connect the Port to the existing ARRC main line, and provide Port customers with rail transportation between the Port and interior Alaska. The existing Port is located in MSB. The MSB has been the principal advocate for the proposed rail line and has secured funding from the state legislature and governor's office to support planning, design and initial construction costs.

According to the Applicant, the Port is the closest deep-water port to interior Alaska and its market includes bulk commodities (such as wood chips, saw logs, sand/gravel, coal and cement), iron and steel materials (such as scrap metal), vehicles and heavy equipment, and mobile and modular buildings. The nearest other port in the area is the Port of Anchorage, which is an additional 35 road/rail miles from interior Alaska. Therefore, the Applicant contends that a rail-connected Port MacKenzie would primarily complement, not compete with, the Port of Anchorage.

As explained in more detail in the EIS (see Final EIS, Chapter 1, pages 3 and 4), Port MacKenzie is situated on nearly 9,000 acres of land, has an existing dockside bulk materials loading system, and is capable of accommodating deep-draft ocean vessels. Unlike similar port facilities with deep-draft vessel capabilities, Port MacKenzie currently does not have rail service. At present, trucks are the only mode of surface transportation of freight to and from the Port. The Applicant states that trucks, as compared to rail, are inefficient for bulk commodity movements, and that the cost of intermediate transloading from rail to truck and the additional truck ton-mile cost for final delivery, places Port MacKenzie at a significant disadvantage to other regional ports with rail service. The Applicant believes that by creating a rail connection to the Port, the proposed rail line would make the development of natural resources in interior Alaska more economically feasible.

ARRC also contends that the proposed rail line would support ARRC's statutory goal to foster and promote long-term economic growth and development in the State of

Alaska. It notes that, in support of this goal, the State of Alaska has appropriated a total of \$62.5 million for the MSB to support the design, environmental documentation, permitting and initial construction expenses of the proposed rail line.

Despite the information on purpose and need set forth in the Final EIS, EPA is concerned that the EIS does not present enough information on the project need and a clear demonstration of public necessity. EPA also requests a cost-benefit analysis. The Coalition also has criticized the purpose and need information set out in the EIS, but under a Clean Water Act standard. The Coalition's perspective on the USACE's Section 404 permitting responsibilities is that the unnecessary alteration or destruction of wetlands should be discouraged as contrary to the public interest. The Coalition then asserts that there has been no definitive showing that a rail link to Port MacKenzie would serve an important public or private function that cannot be met elsewhere. According to the Coalition, existing alternatives to the proposed rail line are the Port of Anchorage and the ice-free ports at Whittier and Seward, all of which are said to be serviced by existing ARRC rail lines in Alaska.

In response to these letters, OEA again reviewed the Applicant's filings on purpose and need. OEA notes that the analysis of a project's need depends upon the type of federal action that is involved in a particular project. Here, the proposed rail line involves a petition by a common carrier, ARRC, for a license or approval. It is not a federal government-proposed or sponsored project. In cases like this, courts have held that the project's purpose and need are to be defined by the private applicant's goals, in conjunction with the agency's enabling statute. *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).

Under 49 U.S.C. § 10502, the Board must exempt a proposed rail line construction from the prior approval requirements of 49 U.S.C. § 10901 when it finds that those procedures are not necessary to carry out the rail transportation policy of 49 U.S.C. § 10101, and either the proposal is of limited scope or the full application process is not necessary to protect shippers from an abuse of market power. Under 49 U.S.C. § 10901(c), the Board must authorize a rail line construction project "unless the Board finds that such activities are inconsistent with the public convenience and necessity." Therefore, the Board's enabling statute contains a presumption that rail construction projects are in the public interest and serve a public purpose. *Mid States Coalition for Progress v. STB*, 345 F.3d 520, 552 (8th Cir. 2003).

EPA and the Coalition have not shown that the discussion of purpose and need in the EIS is inadequate under NEPA. In addition, the Final EIS addresses 12 build alternatives that would meet the stated purpose and need. The alternative of using existing rail lines to other ports would not meet the Applicant's purpose and need; and thus, was not included in the range of reasonable alternatives.

As for EPA's request for a cost-benefit analysis of the proposed rail line, the CEQ regulations (40 C.F.R. § 1502.23) specifically state that cost-benefit analyses are not required in the preparation of an EIS. OEA further notes that EPA provided no compelling reason to support its request for a cost-benefit analysis in this proceeding.

Proposed Action and Alternatives

Staging Areas. EPA asserts that the Final EIS lacks an analysis of the impacts of the construction of staging areas along the proposed rail line. EPA provided similar comments on the Draft EIS, which OEA addressed in the Final EIS (see Final EIS, Chapter 23, page 74). In OEA's view, in both EPA's Draft and Final EIS comments, EPA failed to show that the analysis in the EIS is inadequate. It is true that the proposed rail line would require construction of staging areas to store materials, weld sections of the rail line, and support construction activities. But it is appropriate that the exact locations of material sites, construction camps, and staging areas be determined during final design and permitting if the proposed line is authorized and the Applicant proceeds with the project. Minor route adjustments also could be made during final design and permitting.

CEQ regulations state that the preparation of an EIS should occur early in the planning process for the proposed federal action and, for applications to an agency, that the EIS should "commence" no later than immediately after the application is received (40 C.F.R. § 1502.5). But in the process of pursuing this early consideration of potential environmental impacts, it is often not always feasible to have available the level of project detail necessary to meet final design and construction requirements. This is particularly true for long, linear projects with multiple alternatives. In rail line construction projects, the engineering of the rail line is often done only to a preliminary stage during the EIS process. This is because final detailed engineering on multiple alternative routes would be too burdensome on the rail applicant. And it would be impossible to assess the alternatives equally if only the preferred route were fully engineered. Also, the rail applicant often has not acquired the right-of-way necessary for final engineering to take place.

Despite the lack of final engineering of the project – such as the specific locations of the staging areas – the potential impacts of the construction of staging areas were considered in the EIS (e.g., see Final EIS, Chapter 3, page 3; Section 4.2, page 12; and Section 5.3, page 6). Furthermore, many of OEA's recommended mitigation measures would be applicable to any ARRC-proposed construction staging areas (see Attachment 1, Part I). For example, construction staging areas would be placed within previously disturbed sites (mitigation measure 31) and would be subject to vegetation clearing restrictions (mitigation measure 35), stormwater construction permitting restrictions (mitigation measure 2), and site reclamation requirements (mitigation measures 27 and 50). These measures should ensure that the potential impacts from staging areas would be temporary and minor. Accordingly, OEA believes the analysis of staging areas in the EIS is adequate.

Access Road. EPA claims that a build alternative without a full-length, permanent access road paralleling the proposed rail line should be addressed. However, the Applicant's need for a permanent access road is discussed in Section 2.1.1 of the Final EIS. ARRC elaborates on this need in its reply to EPA's comments on the Final EIS.

For example, ARRC has explained that an access road is needed to accommodate the very heavy loads carried by today's railroads, and to allow modern construction

techniques including an earth-filled embankment, upon which subballast, ballast, track and ties are placed. ARRC states that considering embankment, subballast and ballast requirements, the top of the embankment would need to be approximately 28 feet wide to accommodate the track structure. The equipment needed to construct embankments of this size is vastly different than that used to construct the original ARRC main line (much of which was built by hand and horse-drawn machinery according to ARRC), which does not have an access road. Moreover, ARRC explains, the equipment that would be needed to construct the proposed line includes very large earthmoving and track-laying machines. Even though rail construction typically proceeds in a linear fashion, ARRC states that there are specific steps, such as clearing, grading, rail bed construction, building and installing structures (e.g., culverts, bridges, trail crossings) that would be ongoing at the same time along different locations on the proposed rail line. Therefore, to accommodate the two-way movement of the large construction machinery as well as the movement of workers and construction materials, ARRC would need the access road. ARRC intends to accomplish this two-way traffic by adding approximately 12 feet to the top width to what would otherwise be a 28-foot-wide embankment, for a total top width of approximately 40 feet. Absent this expanded shoulder for the access road, ARRC states it would need to construct a temporary access road, separate from the rail bed embankment. To achieve two-way traffic, the temporary access road would require a minimum base width of 30 feet in order to achieve a 24-foot wide access road. ARRC believes, and OEA concurs, that constructing this temporary access road would likely have substantially greater impacts to the environment than widening the permanent embankment width from 28 to 40 feet to provide a permanent access road.

In its reply, ARRC also explains that a permanent access road would facilitate rail line maintenance and the ability to respond to emergencies and address potential safety concerns. Consequently, OEA continues to believe that construction of the proposed rail line without a permanent access road would not be reasonable and feasible. EPA has not cast doubt on OEA's conclusions.

Elevated Portions of the Rail Line. EPA and the Coalition also disagree with the conclusion in the Final EIS that elevating portions of the rail line would not be reasonable. Following receipt of similar comments on the Draft EIS, and at OEA's request, the Applicant provided additional information on the cost of elevating the rail line to avoid fill in wetlands and/or floodplains.⁷ That information, which OEA has independently verified, indicates that the cost of elevating lengthy sections of the proposed rail line over wetlands would be prohibitively expensive.⁸ EPA and the Coalition have not provided evidence that a 13-fold increase in rail line construction costs would be reasonable and feasible.

As discussed in the EIS (see Final EIS, Chapter 23, page 89), if the Board authorizes the proposed action and designates a preferred alternative, the Applicant

⁷ August 20, 2010 letter from Kathryn Kusske Floyd, Dorsey & Whitney LLP (legal counsel to Applicant) to Victoria Rutson, OEA. Available on the Board's Web site.

⁸ An elevated rail trestle would cost approximately \$13,000 per linear foot and standard rail line construction would cost approximately \$1,000 per linear foot.

would need to follow the standard Clean Water Act Section 404 mitigation sequence of first avoiding, then minimizing, and finally compensating for impacts to wetlands and other waters of the United States that would result from rail line construction. Depending on alternative, this mitigation could include very limited use of elevated track. However, alternative-specific mitigation of this nature would be determined and imposed by the USACE as part of its Section 404 permitting process.

Water Resources

Clean Water Act Permitting and Compliance. EPA and the Sierra Club argue that the project's potential impacts to waters of the U.S. and aquatic resources are not adequately addressed because the Final EIS does not demonstrate that the environmentally preferable alternative can be authorized by the USACE under its Clean Water Act permitting authority.

OEA notes that the USACE has been a cooperating agency throughout the entire EIS process, including the development of a reasonable range of alternatives. If the USACE had determined that an alternative could not be authorized, considering the wetland and preliminary design data available for the EIS, the USACE would not have deemed that alternative reasonable and would have objected to it.

OEA acknowledges the importance of interagency cooperation and coordination during the NEPA process. However, OEA is not aware of any CEQ requirement that an EIS must provide all of the detailed information necessary to comply with subsequent construction permits, should the initial federal action be approved. CEQ provides guidance on this topic in its often-quoted *NEPA's Forty Most Asked Questions* regarding applicants who need permits (see question number 9 of that guidance). This guidance notes that "[40 C.F.R.] Section 1502.25(b) requires that the EIS list all the federal permits, licenses and other entitlements that are needed to implement the proposal." The guidance also states that "These provisions create an affirmative obligation on federal agencies to inquire early, and to the maximum degree possible, to ascertain whether an applicant is or will be seeking other federal assistance or approval, or whether the applicant is waiting until a proposal has been substantially developed before requesting federal aid or approval." This clearly indicates that EISs are not required to contain permit-level information. If the Board authorizes construction and operation of the proposed rail line, the Applicant would be responsible for obtaining any necessary permits and providing information required for the permitting processes of other agencies at that time.

Perched Culverts. ADNR objects to OEA's failure to include a new mitigation measure related to ensuring that perched culverts do not prevent fish passage that was recommended by ADF&G in comments on the Draft EIS. In fact, OEA includes such a measure in recommended mitigation measures 28 and 46 (see Attachment 1, Part I), which would require culvert inspections and corrective measures. In addition, recommended mitigation measure 10 (see Attachment 1, Part I) would require the Applicant to design, construct, and maintain the conveyance structures in accordance with the National Marine Fisheries Service (NMFS) 2008 publication, "Anadromous

Salmonid Passage Facility Design.” This NMFS document “requires facility operators to commit to long-term responsibility for operations, maintenance, and repair of fish facilities described herein, to ensure protection of fish on a sustained basis.” Thus, OEA believes that ANDR’s concern regarding perched culverts and related conditions is adequately addressed by OEA’s final recommended mitigation measures.

Wetland Impacts. The Sierra Club and Coalition criticize the wetlands impacts analysis in the EIS by asserting that an inappropriate tool for measuring wetland functions was used, and as a result, an inadequate baseline of existing wetlands structure and function was presented. The Coalition then argues that without an adequate baseline of existing wetlands structure and function, it is impossible to compensate for the wetlands that would be filled or establish permit performance standards that assure that wetland structure and functions that are lost would be replaced.

During the EIS process, OEA was aware of the need to delineate the potentially affected wetlands in a manner that met the Board’s NEPA compliance needs while accommodating the USACE’s possible future permitting requirements. Accordingly, during scoping for the EIS, OEA and the USACE met with the Applicant and discussed the methods to be used for wetland delineation and evaluation. The USACE agreed with the methods proposed and used by the Applicant, which OEA independently verified. Additionally, in the Final EIS, OEA refined the wetland impact analysis to use the rail line footprint anticipated by ARRC, which includes the rail bed, terminal reserve area, access road, and associated facilities. OEA anticipates that the Applicant could be required to conduct additional wetland delineations and hydrologic analyses for purposes of final design and/or permitting by the USACE, but as discussed above, that level of detail was not required by NEPA or CEQ regulations for this EIS.

In terms of the stated mitigation concern, OEA is recommending that the Board impose mitigation measures 3 and 4 (see Attachment 1, Part I) in any decision granting authority to construct and operate. These measures would require the Applicant to avoid and minimize fill in wetlands and to obtain a permit as required by Section 404 of the Clean Water Act prior to construction activities in wetlands. In addition, recommended mitigation measure 15 provides for implementation of best management practices to minimize project-related impacts to waters of the United States, including wetlands. The recommended mitigation measures provide flexibility for refinement during permitting or subsequent consultation with other agencies. For example, during the process of the Applicant obtaining required federal and state permits and authorizations, such as the Clean Water Act Section 404 permit and the Alaska Department of Fish and Game (ADF&G) Fish Habitat Permit, more specific mitigation and monitoring measures could be specified based on the Applicant’s final plans and specifications should ARRC’s project be approved. OEA believes that the recommended mitigation measures, as well as the USACE’s independent permitting authority, would allow for any further refinement of the wetland assessment information that might be required to satisfy the requirements of the USACE under the Clean Water Act.

Biological Resources

The Sierra Club states that the Final EIS contains limited fishery studies and does not adequately examine impacts to fish and other aquatic resources such as Essential Fish Habitat (EFH)⁹ for anadromous salmon. The Coalition also states that the Final EIS does not require compensation for either fisheries or EFH.

However, OEA believes that the methodology used to determine fish presence and the computer analysis used to model fish habitat (see Final EIS, Section 5.4, pages 1 through 32) were sufficient to allow OEA to compare the level of potential impacts between segments, segment combinations, and alternatives, and therefore, met the requirements of NEPA.

OEA included streams, rivers, lakes, and ponds in the EIS analysis of potential fisheries impacts if: (1) they were cataloged as anadromous waters by the state, (2) they were connected to a state-cataloged anadromous water, (3) fish habitat was determined to be present during OEA's stream-crossing field investigations in 2008, or (4) a separate computer analysis (conducted for Section 4.2 of the Final EIS) showed stream connectedness and anadromous and/or resident fish habitat potential upstream of a project-related crossing. Therefore, the approach OEA used in identifying fish-bearing water bodies was conservative in that all water bodies currently supporting fisheries and water bodies with the potential to support fisheries, even if they currently do not or are not known to do so, were included in the analysis. Next, a computer-based geomorphic analysis (using a Geographic Information System) was conducted to estimate upstream habitat potential for selected fish species. This approach enabled OEA to compare potential (anadromous and resident) fisheries impacts among the alternatives at a microwatershed scale.

The potential impacts to fisheries resources from the proposed rail line are discussed in Section 5.4 of the Final EIS. As the Final EIS explains, all build alternatives would cross anadromous fish streams. Because OEA identified potential impacts to anadromous fish, including salmon, from the proposed rail line, OEA consulted with the NMFS as required by section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations at 50 C.F.R. part 600. OEA also consulted with the NMFS under section 7 of the Endangered Species Act to discuss potential impacts to the Cook Inlet beluga whale that could result from construction and operation of the proposed rail line. NMFS requested (and OEA prepared) a Biological Assessment (BA) (Appendix H of the EIS) to analyze the potential indirect impacts from the proposed project including an analysis of the potential effects of the rail line on salmon and salmon habitat (forage fish/habitat) that the beluga whale relies on as a food source. NMFS concurred with OEA that any of the alternatives for the proposed rail line "may affect, but is not likely to adversely affect" the Cook Inlet beluga whale or its designated Critical Habitat if salmon-bearing streams would be crossed with fish passable

⁹ Essential Fish Habitat (EFH) includes the water and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Fisheries Conservation and Management Act, 16 U.S.C. 1801 *et seq.*).

bridges and culverts per NMFS guidance and state permit requirements (see Appendix A of the Final EIS).

OEA's final recommended mitigation measures (see Attachment 1, Part I) would require the Applicant to: (1) design, construct, and maintain the conveyance structures of salmon-bearing streams using the National Marine Fisheries Service 2008 publication "Anadromous Salmonid Passage Facility Design" or equivalent and reasonable measures (mitigation measure 10); (2) obtain state permits and authorizations, such as the ADF&G fish habitat permit (mitigation measure 33); and (3) implement EFH conservation measures agreed upon with the NMFS during the EFH consultation process (mitigation measure 34). OEA is satisfied that its analysis was adequate and that these mitigation measures would provide adequate protection for EFH resources that would be affected by the proposed rail line.

Subsistence

Repeating one of its comments on the Draft EIS, EPA raises a concern about the potential impacts to residents, especially low-income residents who rely on trails for access to subsistence resources and for traditional activities. In preparing the EIS, OEA used the federal and state regulatory definitions of subsistence. Federal boundaries apply to where people live; if they live in a rural area, they can conduct subsistence hunting and fishing on federal lands. However, there are no federal lands in the project area. State subsistence boundaries apply to the area of the activity, and the project area is a "non-subsistence area" under state regulations. Hence, there are no federal or state-recognized subsistence uses in the project area.

Game Management Unit (GMU) 16B is the area nearest the proposed rail line that is managed for subsistence harvests, has subsistence resources that may migrate into the GMU from project area lands, and has subsistence users from study area communities that use the project area lands to access this GMU. As discussed in the Final EIS (see Chapter 7, pages 13 through 15), access to the subsistence resources in GMU 16B would not be materially affected by the proposed rail line due to the provision of crossings for officially recognized trails and other recommended mitigation measures, and EPA has not provided credible arguments to substantiate its stated concern. Except for GMU 16B, all other lands open to subsistence are far removed from the study area; and therefore, subsistence impacts are not expected from the proposed rail line.

Land Use

Officially Recognized Trails. ADNR objects to recommended mitigation measure 41 in the Final EIS (now mitigation measure 84 in Attachment 1, Part I of this memorandum), stating that the designation of an "officially recognized trail" is not consistent with the definition provided in the Glossary of the Final EIS and makes the criteria for designation of an officially recognized trail unclear. OEA disagrees. The definition of "officially recognized trail" in the Glossary of the Final EIS is consistent with the discussion of trail crossings that are part of the Applicant's proposed action (see Section 2.1.1.9 in the Final EIS) and the definition included in mitigation measure 41.

The criteria are clear – the trail must be a “recreational trail that has been specifically established within currently adopted plans by ADNR and/or MSB or is established within these plans at the time of construction or ROW [right-of-way] conveyance (whichever occurs first), and is located on state, MSB property, or whose location is provided for by recorded ROW or easement.”

ADNR further objects to the definition of “officially recognized trail” in Final EIS recommended mitigation measure 41 because all recorded easements, including undeveloped section lines, are not included in the definition and the measure would restrict trail crossings to current use. However, OEA believes that the trail plans adopted by ADNR and/or MSB provide a reasonable basis for establishing trail crossings of the proposed rail line and would provide adequate recreational trail access across the proposed rail line. These plans were developed after extensive public input with goals that, for example, include (1) “protecting reasonable/practical public access to public lands and public recreational resources” and (2) “ensuring future preservation of trails.” In part because some trails could be relocated as a result of the proposed rail line, the subject mitigation measure also provides for the potential establishment of additional crossings.

In the Final EIS, the applicable mitigation measures recommend that crossings of any officially recognized trails be grade separated. In an April 28, 2011 letter to the Board, however, the Applicant requested that mitigation measures pertaining to officially recognized trails be modified to permit the use of at-grade crossings of these trails. ARRC states that grade separation may not be feasible at all locations because of terrain or adverse impacts to other environmental resources. ARRC’s proposed change seems reasonable and no one has objected to it. OEA concurs with ARRC’s request and has revised recommended mitigation measures 84 and 92 so as to respond to ARRC’s concerns.

*Section Line Easements.*¹⁰ ADNR asserts that section line easements are not adequately addressed in the Final EIS, stating that they have been removed from the definition of an official trail. ADNR requests clarification of the status of section lines used for other than recreational purposes and notes that a section line easement attaches to a land transfer document as a valid right unless it is formally vacated.

In the context of section line easements, OEA notes that the definition of an “officially recognized trail” has not changed. As explained in the Final EIS (see Section 13.2, pages 5 and 12; and Appendix G, page 12), an officially recognized trail could occur within a section line easement, but not all section line easements would be considered officially recognized trails. Recommended mitigation measure 84 would require the Applicant to provide a crossing for each officially recognized trail regardless

¹⁰ Section line easements are established by the State of Alaska before state-owned land is passed into private ownership. The easements are placed on the boundaries of each section of land (“section”). A section is typically 1 square mile in size and contains 640 acres. The easements are reserved for potential future public highway use, which is broadly defined to include roads, trails and utilities.

of section line easement status. The Applicant's proposed rail line would also include grade crossings for existing public and private roads regardless of section line easement status.

Furthermore, OEA has never intended for road or trail crossings to be constructed or reserved for future construction at undeveloped section line easements (i.e., those without existing public or private roads, or officially recognized trails) at the Applicant's expense. OEA does not consider these potential future uses to be reasonably foreseeable because it is not known if and when an undeveloped section line easement might be utilized for a public or private road, or officially recognized trail.

Non-recreational Trails, Easements and Rights-of-Way. ADNR questions how the project would affect crossings of non-recreational trails and easements/rights-of-ways that are used to access public and private property and if access would be prevented, how remnant lands would be addressed. This issue is adequately addressed in the Final EIS. As stated in Section 2.1.1.9 of the Final EIS, the Applicant's proposed action includes provision of grade crossings for existing public and private roads. Access over other rights-of-way would be addressed during rail line right-of-way acquisition, as required by OEA's recommended mitigation measure 87 (see Attachment 1, Part I). Further, in the discussion of potential land use impacts, the Final EIS states that some land adjacent to the right-of-way could be acquired to prevent the creation of uneconomic parcel remnants (see Section 13.1.5.1 of the Final EIS). The Final EIS also notes that additional crossings could be arranged through the right-of-way acquisition process (see Final EIS, Chapter 23, page 200).

Agricultural Covenants. ADNR questions what authorities would be used to reverse agricultural covenants and states that the methods available are different for ARRC or MSB. Regarding the agricultural covenants, several citizens (i.e., Mr. Shumaker and Mr. Sims) express opposition to reversing these covenants to permit railroad use. Mr. Sims also suggests that only the Alaska State legislature has the authority to remove the agricultural covenants.

The Final EIS explains that the method used to remove the covenants would be the responsibility of the Applicant. Either ARRC, or MSB as project sponsor, could choose to work with the state legislature to have the covenants removed (see Final EIS, Section 13.1, page 12; Chapter 23, pages 159 and 162).

Rail Crossings. The Coalition raises concerns that the Final EIS does not sufficiently address and mitigate the potential impacts of rail crossings on wildlife, property owners in the PMAP, and the general public. However, Final EIS Section 5.3.4.1 presents anticipated potential impacts to moose from construction and operation of the proposed rail line based on available moose population and movement and train strike data. The same section also discusses potential impacts on other mammals. OEA has recommended mitigation measure 47 (see Attachment 1, Part I) that would require ARRC to consult with the ADF&G and ADNR and develop a strategy to reduce the frequency of moose-train collisions when moose cross the rail line. The number of anticipated train collisions with moose and other mammals is sufficiently low that OEA

believes that a mitigation measure to require provisions for mammals to cross under the rail line along stream banks is not warranted.

With respect to rail crossings that would be used by property owners and the general public, as described in Section 2.1.1.9 of the Final EIS, ARRC would install crossings where the proposed rail line would cross a roadway to maintain access to existing public and private roads, including driveways to private residences. For the travelling public, in places where the rail line would cross Parks Highway, Big Lake Road, Baker Farm Road, Holstein Avenue, or Hollywood Road, depending on the alternative, ARRC proposes grade-separated crossings. In other locations, where the rail line would cross public roadways with average usage levels of 500 or more vehicles per day, the routes would cross at grade and ARRC proposes active warning devices, such as flashing lights and gates. Where the rail line would cross public roadways with average usage levels less than 500 vehicles per day, the routes would cross at-grade and ARRC proposes passive warning devices, such as crossbucks and stop signs. These measures are consistent with, or exceed the requirements of Federal Highway Administration's *Manual on Uniform Traffic Control Devices* and the *Alaska Traffic Manual*. OEA believes that ARRC's proposed approach is reasonably tailored to meet potential access and safety concerns given the affected roadway's level of use or traffic, and would result in minimal potential impacts.

Right-of-way Acquisition. Mr. Hecker notes that a portion of his property within the PMAP would be taken by the proposed rail line, and that his property includes income-producing agricultural lands and two permanent structures. Mr. Hecker states that he wants to be treated fairly by ARRC and compensated for an anticipated loss in agricultural income, property and property improvements. Mr. Sims also states that neither the railroad nor the MSB has eminent domain authority, and that condemnation authority rests with the state. In reply, ARRC states that it is working with affected property to maintain access to lands that would be bisected by the relocated terminal and those that would be affected by the proposed closure of Reddane Avenue. If access could not be maintained, ARRC says affected property owners would be compensated.

There will be compensation to affected landowners for the fair market value of any property that is taken as a result of the proposed action. Recommended mitigation measure 87 (see Attachment 1, Part I) would require the Applicant to conduct project-related acquisition in conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 U.S.C. § 4601), regulations promulgated for that statute (49 C.F.R. Part 24), and all reasonable terms and conditions of the applicable Alaska statute (Alaska Stat. § 34.60.010 through 34.60.150, Relocation Assistance and Real Property Acquisition Practices).

2.3 Issues Raised Late

Water Resources

Analysis Methodology. The Final EIS describes the methodology used to identify surface water resources. This methodology utilized the U.S. Geological Survey 2-Arc-

second (30-Meter) digital elevation model. ADNR comments that MSB is acquiring elevation data with greater resolution than the data used in the Final EIS. However, OEA notes that new information is constantly being developed. The NEPA process would never be completed if new data had to be continually incorporated into environmental documents.

Design Standards. ADNR objects to the omission of Draft EIS mitigation measure 17 from the Final EIS. This measure would have required the Applicant to design and develop the proposed rail line according to reasonable requirements of ADNR and ADF&G. While acknowledging that ADNR and ADF&G do not have standards for rail design and construction, ADNR states that ADF&G has standards for bridge design and construction and erosion control. In reply, OEA notes that final recommended mitigation measures 3 and 33 (see Attachment 1, Part I) would require the Applicant to obtain appropriate project-related state permits and authorizations, including an ADF&G Habitat Permit. OEA believes that these mitigation measures would provide Alaska agencies with ample opportunity to apply applicable state standards to water crossing structure design and construction. Therefore, Draft EIS mitigation measure 17 is unnecessary.

The Coalition raises another water resource concern, stating that the Final EIS and the USACE fail to assure that existing surface water drainage patterns would be maintained. The basis for this claim is that the final locations and designs of culverts and other water conveyance structures for the proposed rail line have not yet been completed. Although detailed design information could be needed for the USACE permitting process, OEA notes that NEPA does not require that final design plans be completed for all build alternative being considered in an EIS. As discussed in the EIS (see Final EIS, Chapter 23, page 74), CEQ regulations state that the preparation of an EIS is expected to occur early in the planning process. Consequently, it is not always feasible to have available the level of project detail necessary to meet final design and permitting requirements. This is especially true for long linear projects with multiple route alternatives, such as the proposed rail line.

The Coalition complains that the EIS does not address stream crossing requirements beyond the 100-year flood in the face of the potentially higher precipitation rates and flooding associated with climate warming. However, Section 16.5.6 of the Final EIS specifically states that precipitation is projected to increase in the project area and that substantial shifts are expected in where and how precipitation occurs. Moreover, recommended mitigation measures 5, 7, 13 and 28 (see Attachment 1, Part I) would require the Applicant to design and construct the proposed rail line in such a way as to maintain natural water flow and drainage patterns to the extent practicable. The specific methods employed by the Applicant to address this requirement would be determined during final design and permitting, subject to the requirements of the permitting agencies, including the USACE. Thus, OEA expects that proposed stream crossing structures would be designed to current and accepted engineering standards and practices, and the proposed structures would convey flood waters appropriately.

Biological Resources

The Coalition also asserts that the Final EIS ignores impacts to aquatic invertebrates.¹¹ As discussed in the Final EIS, however, OEA consulted with USFWS to determine if any threatened or endangered species are present in the project area and found that no protected invertebrate species are known to be present. NMFS concurred with OEA that any of the alternatives for the proposed rail line “may affect, but is not likely to adversely affect” the Cook Inlet beluga whale or its designated Critical Habitat, including salmon. Notwithstanding OEA’s 29 final recommended mitigation measures related to surface water (see Attachment 1, Part I), the Final EIS acknowledges that there could be potential unavoidable impacts to surface water as a result of this proposal. Most of these impacts likely would occur during construction or in the vicinity of water crossings, but none would be expected to be significant. As a result, the Final EIS had an adequate basis to conclude that significant impacts to aquatic invertebrate species from project construction and operation are not expected.

The Coalition points out that the Final EIS does not evaluate indirect and cumulative impacts to the beluga whale from the future dredging of Port MacKenzie and the expansion of ship traffic at the Port. Although this is a correct observation in the abstract, there was no need for the Final EIS to address indirect impacts from the possible expansion of the Port. As the Final EIS indicates in Chapter 23, page 81, ARRC’s proposed action does not involve or require changes to or investment in Port MacKenzie. ARRC has estimated that ship traffic for export of commodities from Port MacKenzie would include 5 Panamax class ships per year. OEA does not anticipate that an increase of 5 ships, or the upper limit of 13 ships per year, given the current available berthing capacity at the Port, would require the Port’s expansion. Accordingly, should any expansion be contemplated, it would be independent from the proposed action. And furthermore, any future dredging of the Port to accommodate an expansion of ship traffic is not considered reasonably foreseeable by OEA.

It was also not necessary for the Final EIS to consider possible cumulative impacts on the beluga whale from Port MacKenzie expansion. As indicated in the EIS (see Final EIS, Chapter 16, page 1), OEA followed CEQ guidance in preparing the cumulative impact analysis. That guidance is contained in a handbook entitled *Considering Cumulative Effects under the National Environmental Policy Act*. The guidance points out that inconsequential impacts need not be carried forward for analysis within the cumulative impacts section. Because the consultation with the NMFS concluded that the proposed rail line is not likely to adversely affect the beluga whale, there was no need to address cumulative impacts to the whale in the EIS.

¹¹ Aquatic invertebrates is a diverse group of spine-free organisms that live in water for all or most of their lives, and includes creatures such as juvenile and adult insects, snails and mussels. The group is a principal food source for many freshwater fishes including juvenile salmon. Many aquatic invertebrate species are sensitive to changes in water quality; and therefore, they can serve as indicators of watershed health.

The Coalition claims that the Final EIS does not provide for long-term monitoring of water quality (or biological resources). OEA is satisfied that the monitoring of this project would be adequate. OEA notes that under recommended mitigation measure 60 (see Attachment 1, Part I), the Board's monitoring of the proposed rail line would extend until one year after ARRC has completed project-related construction activities. Moreover, given the numerous state and federal requirements that would apply to the proposed action, other agencies would be conducting monitoring over longer periods on the basis of their jurisdiction by law and with the assistance of a variety of experts. Additionally, under recommended mitigation measure 59 (see Attachment 1, Part I), if there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation measures, and upon petition by any party who demonstrates such material change, the Board may review the continuing applicability of its final mitigation measures, and adopt new mitigation or revise specific mitigation conditions, including a monitoring condition, if warranted.

Air Quality

The Coalition asserts that the EIS does not provide a "hard look" at coal dust issues and disagrees with the statement in ARRC's reply that Alaska's climate mitigates potential coal dust issues. In reply, OEA first notes that the potential impacts of coal dust were not specifically addressed in the Draft EIS because, as discussed in Chapter 1 of that document, the specific commodities that would be shipped were unknown when the Draft EIS was prepared, other than that they were expected to include bulk materials. Dust from the transport of coal by rail was identified in general terms as a potential source of impacts in comments on the Draft EIS, but commenters did not document any examples of dust releases from coal or other bulk materials currently being moved by ARRC on its existing rail lines. In preparing the Final EIS and responding to comments on the Draft EIS, OEA noted that it was not aware of any potential environmental problems associated with ARRC's current coal train movements to Seward, AK, nor were any specific concerns identified by the commenters. Therefore, OEA saw no reason to expect such problems in association with coal train movements on the proposed rail line.

Cumulative and Indirect Impacts Related to Coal

The Sierra Club and Coalition assert that there is no analysis in the EIS of the reasonably foreseeable cumulative and indirect impacts of additional coal mining and other resource extraction in Alaska, and subsequent increases in domestic and international coal burning, which allegedly would result from the proposed rail line. The Sierra Club asserts that all of these activities would serve as significant sources of greenhouse gas emissions.

The Sierra Club also notes that Alaska possesses roughly half the known coal resources in the U.S., and that increased mining of this coal would not be inconsequential and should have been analyzed in the EIS. Additionally, the Sierra Club claims that "it is widely acknowledged that the rail project [Port MacKenzie rail extension] would encourage the increased export and burning of coal in South America, Japan, China and other Asian countries by providing a link from Alaska's interior to the port . . ."

More specifically, the Sierra Club contends that the EIS fails to analyze the impact of at least 5 million tons of coal each year that would be exported and/or burned because of the proposed rail line. This allegedly would amount to roughly ten million tons of carbon dioxide (CO₂) emissions that were not accounted for in the EIS, which represents about one-fourth of the entire state of Alaska's annual CO₂ emissions as of 2007.¹² The Coalition complains that the Final EIS lacks mitigation measures for the assessment of long-term cumulative effects of increased CO₂ emissions.

OEA also recognizes that the Applicant believes that the proposed rail connection with Port MacKenzie would make the development of natural resources (e.g., coal, limestone, timber, and metallic minerals) along the existing ARRC main line corridor more economically feasible. The Applicant also states that the proposed rail line would support its statutory goal to foster and promote long-term economic growth and development in the State of Alaska.

Despite the Sierra Club's expectations for increased coal exports and/or burning as a result of the proposed rail line, and the Applicant's expectations that the proposed rail line would result in resource development activities and economic growth, OEA does not believe these potential outcomes meet CEQ's criteria for indirect and cumulative effects. CEQ considers indirect effects to "include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." However, as further defined by CEQ, these indirect or growth inducing effects must be "caused by the action" and "reasonably foreseeable". 40 C.F.R. § 1508.8. CEQ considers a cumulative impact to be "... the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions ..." 40 C.F.R. § 1508.7. OEA does not agree with the alleged relationship between the proposed rail line and future coal burning and does not anticipate cumulative and indirect impacts in connection with the proposed rail line.

First, OEA notes that the bulk commodity shipments through Port MacKenzie discussed in the EIS (see Final EIS, Chapter 2, page 8) are shipments that ARRC has suggested would be diverted from existing rail shipments of coal to the port at Seward, Alaska.¹³ As such, this coal would not represent additional coal mined and shipped in Alaska, or additionally burned in Alaska or elsewhere. Therefore, no net increase in Alaska or world CO₂ emissions would occur as a result of this coal being diverted to the proposed rail line and being shipped through Port MacKenzie.

Second, no specific future or additional coal or other mineral extraction activities that could be served by the proposed rail line are reasonably foreseeable. Exploration of coal reserves is ongoing in the Alaska interior, but OEA is not aware of any reasonably foreseeable plan to bring new coal mines into production or increase production at

¹² Table 8-6 on page 8-9 of the Final EIS estimates 3,141 metric tons of CO₂ emissions during rail construction and 2,606 metric tons of CO₂ emissions during rail operation.

¹³ June 25, 2009 letter from Kathryn Kusske Floyd, Dorsey & Whitney LLP (legal counsel to Applicant) to Victoria Rutson, OEA. Available on the Board's Web site.

existing coal mines in anticipation or as a result of the proposed rail line. In addition, the international coal market is complex and neither the Coalition nor the Sierra Club provides evidence to support its claim that the proposed rail line would lead to increased coal exports. To the contrary, for the foreseeable future the Applicant suggests that the proposed rail line would simply be used as an alternative for a portion of the coal currently being transported to the existing export port facility in Seward.¹⁴

Third, the Sierra Club provides two sources for its estimate of 5 million tons per year of coal being moved on the proposed rail line to Port MacKenzie (i.e., Metz and ISER).¹⁵ Metz assumes 1 million tons per year of coal exports through Port MacKenzie based on historical exports from Alaska of about 1 million tons of coal per year through the port at Seward.¹⁶ But as stated previously, the Applicant believes that some or all of these Seward-bound coal shipments would be diverted through Port MacKenzie. Therefore, these shipments would not likely result in any net increases in CO₂ emissions.

The other 4 million tons of coal that Metz assumed (in 2007) would move on the proposed rail line (but not exported) would be associated with a potential power plant at Port MacKenzie (to consume 1 million tons per year) and a potential fertilizer plant (to consume approximately 3 million tons per year). By the time the Draft and Final EISs were completed in 2010 and 2011 (respectively), and continuing to the present, there has been no proposed action for the power plant nor is a permitting process underway for any power plant at Port MacKenzie. In addition, plans for the fertilizer plant are now defunct. Therefore, the consumption of these 4 million tons of coal by the power and fertilizer plants is not reasonably foreseeable and was correctly omitted from the cumulative and indirect impact analyses in the EIS.

Fourth, the Sierra Club and the Metz report also point to the large amount of Alaska coal reserves. The Sierra Club fails to mention, however, that up to four-fifths of Alaska's coal is near or above the Arctic Circle, 500 plus miles from the northern terminus of ARRC's existing rail line. Even if this coal could be mined in spite of its remoteness and challenging climatic conditions, this mining activity would be unrelated to the proposed rail line. The Sierra Club provides no evidence to show that the proposed rail line would directly result in the Arctic Circle coal being mined, and the coal being trucked over 500 miles, and then loaded on to rail cars for movement on the proposed rail line.

Finally, OEA is not aware of any CEQ requirement that project mitigation assess or monitor long-term cumulative effects. See 40 C.F.R. § 1505.2(c). OEA recommended

¹⁴ *Id.*

¹⁵ Metz, P.A. 2007. *Economic Analysis of Rail Link, Port MacKenzie to Willow, Alaska, Phase II – Possible Rail Extension Users Analysis. Final Report.* Submitted to Matanuska-Susitna Borough, November. The ISER report is not addressed separately here because it is based on the information in the Metz report.

¹⁶ Metz presents an estimated transportation cost saving of between \$180,000 and \$560,000 per vessel shipment from Port MacKenzie rather than Seward but does not address whether all export shipments would occur from Port MacKenzie rather than Seward.

two air-quality-related mitigation measures, which pertain to dust and equipment emissions during project-related construction. Because estimated greenhouse emissions from operation of the proposed rail line would be minimal in the context of existing conditions, and OEA did not identify any significant new sources of greenhouse gas emissions from reasonably foreseeable future actions related to the proposed rail line, OEA concludes that the long-term air quality monitoring requested by the commenters is not warranted.

Environmentally Preferable Alternative

Mr. Sharrock, a resident of Anchorage, generally opposes the Houston Segment (a component of OEA's environmentally preferable alternative). He would prefer the Willow Segment and suggests it would maintain connectivity between wetland systems north of Big Lake. Mr. Sharrock also notes that cost savings would be realized if the proposed Alaska Stand Alone Pipeline Project (pipeline), sometimes referred to as the "in-state gas pipeline," and the proposed rail line were placed in the same corridor.

In reply, OEA notes that the proposed pipeline is a state-sponsored project that would move natural gas from Alaska's North Slope gas fields to markets in the Fairbanks and Anchorage areas through a 24-inch-diameter, high-pressure pipeline. The Alaska Gasline Development Corporation (AGDC), a state-owned corporation created to plan, construct and finance the project, has proposed a 737-mile route for the pipeline. The southern leg of AGDC's proposed route is generally similar to the Willow Segment considered in the Board's EIS. In 2009, the USACE, as lead agency, initiated the EIS process for the proposed pipeline. To date, the USACE has conducted scoping, analyzed preliminary alternatives and is in the process of preparing a Draft EIS.

As required by NEPA and CEQ's regulations implementing NEPA (40 C.F.R. § 1508.7), OEA considered the proposed pipeline in its cumulative impacts analysis. Until the USACE completes its EIS process, however, it will not be known if AGDC's proposed pipeline route will be found to be viable or if it will be identified by the USACE as its environmentally preferable alternative. OEA further notes that the Willow Segment would not be environmentally preferable for the purposes of constructing and operating the proposed rail line. As the Final EIS explains (see Chapter 2, page 54), the Willow Segment would have greater potential impacts on cultural resources, state recreational or refuge areas, and anadromous fish habitat than the Houston-Houston South Segment Combination, which is a component of OEA's environmentally preferable alternative.

Mr. Sims expressed support for the Mac West Segment with the terminal reserve in the Port MacKenzie District instead of the Mac East Variant Segment with the terminal reserve in the PMAP because it would impact substantially less private property and would have fewer at-grade public road crossings. But as explained in the Final EIS (see Chapter 2, page 54), OEA did not select the Mac West Segment as environmentally preferable because of potentially greater impacts to habitat continuity, moose forage habitat, anadromous fish, recreation trails, streams, wetlands, and state game refuge lands.

2.4 Mac East Variant Segment

Need for Supplemental EIS

Several commenters state that a Supplemental EIS is needed because of the addition of the Mac East Variant Segment to the Final EIS, and ARRC's relocation of the terminal reserve and realignment of the Connector 3 Variant and Houston segments after the Final EIS was issued.

First, several citizens (i.e., Mr. Sims, Mr. Shumaker, Mr. Hecker and Ms. Faulkner) object to the addition of the Mac East Variant Segment to the Final EIS, and contend that adjacent and affected property owners were not properly notified. Some characterize the addition of the Mac East Variant Segment to the Final EIS as a substantial change in the proposed action that gives rise to significant new circumstances relevant to environmental concerns, therefore, necessitating the preparation of a Supplemental EIS and corresponding opportunity for public review and comment. Ms. Faulkner also states that a segment comparable to the Mac East Variant Segment was eliminated during ARRC and MSB preliminary planning studies that preceded the EIS process because of the segment's potential impacts to private property and public opposition. She further states that because a segment comparable to the Mac East Variant Segment was once considered a separate alternative, it is indeed separate and distinct from the Mac East Segment.

First, OEA believes that a Supplemental EIS is not required for the Mac East Variant Segment because the potential impacts from these changes are not significant or substantial. As explained in the EIS (see Final EIS, Chapter 2, page 13), "... the Mac East Variant Segment was sufficiently similar to the Mac East Segment that it did not constitute 'substantial changes in the proposed action' or 'significant new circumstances or information' under CEQ's regulations implementing NEPA at 40 C.F.R. § 1502.9(c) (1). As the EIS explained (see Final EIS, Chapter 2, page 54), these similarities include a shared location within the PMAP and impacts to state-designated agricultural covenant lands. The addition of the Mac East Variant Segment to the Final EIS is also consistent with CEQ regulations, which specify that a Final EIS can 'modify alternatives including the proposed action' and 'develop and evaluate alternatives not previously given serious consideration by the agency' (40 C.F.R. § 1503.4(a))."

Moreover, OEA properly deemed the Mac East Variant Segment environmentally preferable in the Final EIS because it would have a lower impact to wetlands and waters of the United States, and a smaller impact on wildlife habitat; would affect a lower number of cultural resources; would require the taking of fewer structures within the 200-foot right-of-way; and would cross fewer trails that contribute to the Iditarod Dog Sledding Historic District. Although the Mac East Variant Segment (along with the Connector 3 Variant) would affect an additional 49 acres of state-designated agricultural covenant lands in the PMAP, OEA did not consider this impact to be significant or substantial because the impacts would be a very small fraction of the 14,893 total acres in the PMAP (see Final EIS, Chapter 2, page 54). For all these reasons, commenters have failed to show that a Supplemental EIS is required to consider the Mac East Variant Segment.

Regarding concerns about notice concerning the addition of the Mac East Variant Segment to the Final EIS, neither CEQ's regulations nor the Board's environmental rules require that pre-notification be made to potentially affected or adjacent property owners of all planned changes that arise after issuance of a Draft EIS that might be addressed in a Final EIS. Moreover, extensive efforts were made to distribute the Final EIS to all potentially interested parties. Copies of the Final EIS were distributed to approximately 6,600 agencies, organizations and interested parties. Copies of the Final EIS were also provided to 26 public libraries throughout the project area and State of Alaska, and the document was posted on the Board's Web site for review and downloading. And although there is no formal public comment period on Final EISs, OEA has considered all substantive written comments on the Final EIS, as reflected in this memorandum, and the Board will take them into account in reaching its final decision.

Ms. Faulkner comments that the Mac East Variant Segment had been eliminated "from its inception," and therefore, should not have been considered by OEA in the Final EIS. OEA believes that the commenter is referring to previous rail corridor planning studies conducted by MSB and/or ARRC, which considered and eliminated corridor options similar in location as the Mac East Variant Segment.¹⁷ During the EIS process, OEA reviewed relevant rail corridor planning studies completed by the MSB and ARRC, but OEA was under no obligation to reach the same conclusions as the MSB or ARRC. It was OEA's responsibility to determine which alternatives to discard and which alternatives to carry forward for detailed analysis in the EIS. In this case, OEA properly deemed the Mac East Variant Segment a reasonable and foreseeable alternative segment.

Water Resources

Design Standards. Ms. Faulkner expresses a specific concern about potentially altered drainage patterns from the rail line embankment; and subsequently, potentially significant reductions in the quantity of water needed to sustain Falcon Lake. She also expresses concern regarding potential groundwater quality impacts from the proposed rail line.

OEA does not expect significant adverse impacts to Falcon Lake water levels as a result of the proposed rail line if the Board imposes recommended mitigation measure 5 (see Attachment 1, Part I). The measure would require the railroad to use bridges and culverts to maintain natural water flow and drainage patterns (such as that to Falcon Lake) and preventing water from flooding the upstream side of the proposed rail line. Implementation of this measure should ensure that surface water runoff patterns are not altered significantly.

Potential groundwater impacts are discussed in the EIS (see Final EIS, Section 4.3, pages 9 and 10). OEA recommends that the Board impose 10 mitigation measures related to groundwater, and concluded in the Final EIS that, with this mitigation,

¹⁷ For example, the *Preliminary Environmental and Alternatives Report for the Port MacKenzie Rail Extension Project* jointly prepared by the MSB and ARRC in 2008.

groundwater impacts from construction and operation of the proposed rail line would be negligible. OEA's conclusions have not changed as a result of the comments and are the same regardless of alternative or terminal reserve location.

Biological Resources

Ms. Faulkner expresses concerns about the potential spread of noxious and non-native weeds in the PMAP by open rail cars and requests appropriate mitigation. In response, OEA notes that Section 5.2.4.1 of the Final EIS thoroughly addresses the topic of invasive and noxious plants. The EIS recognizes that the proposed rail line (primarily during construction) could contribute to the spread of weed species. To minimize those impacts, OEA includes recommended mitigation measure 42 (see Attachment 1, Part I), which would require ARRC to consult with ADNR and then develop and implement a mitigation plan to address the spread and control of nonnative and invasive plant species prior to project-related construction. OEA believes that the recommended mitigation is adequate to address these potential impacts.

Ms. Faulkner also states that potential winter moose impacts associated with the Mac East Variant Segment were not properly addressed in the EIS, suggesting that OEA's conclusions on this topic relied solely on written comments OEA received on the Draft EIS from interested parties that favor the Mac East Variant Segment. However, the Final EIS quantitatively addresses potential moose impacts for the Mac East Variant Segment. For example, Final EIS Table 5.3.1 (see Section 5.3, page 14) provides data on moose habitat losses for the Mac East Variant Segment. Potential moose habitat impacts from the build alternatives that include the Mac East Variant Segment are also discussed (see Final EIS, Section 5.3, pages 28 through 30). In the Final EIS, OEA concluded that 3 to 17 moose would be killed annually through collisions with project-related train movements, depending on build alternative (see Final EIS, Section 5.3, page 10). These figures are unchanged from the data in the Draft EIS because the principal factors used in the calculation did not vary with the addition of the Mac East Variant Segment in the Final EIS. These principal factors include the total length of the build alternative (the build alternatives with the Mac East Variant Segment fall within the range of build alternatives addressed in the Draft EIS), reported annual mortality for moose on ARRC's existing 51.4 miles of rail line in the project area, and train frequency on the proposed rail line (the train frequency across all build alternatives is the same).

In any event, although important, potential wildlife and wildlife habitat impacts are just two of the many factors OEA considered in recommending a build alternative that includes the Mac East Variant Segment. OEA notes that the difference in total moose foraging habitat loss for alternatives with and without the Mac East Variant Segment is less than 10 percent. Further, annual moose mortality from train collisions did not change when considering the Mac East Variant Segment. OEA also notes that the calculated range of moose mortality from train collisions with the proposed rail line would be a small fraction of the hundreds of moose killed annually through collisions with motor vehicles in the project area (see Final EIS, Figure E-5). Nevertheless, in recognition of the importance of moose in the project area on multiple levels, OEA recommended a mitigation measure (See Attachment 1, Part I, measure 47), which would

require ARRC to consult with ADF&G and ADNR and then develop a strategy to reduce the moose-train collision mortality rate on the proposed rail line.

ADNR requests that the moose mitigation strategy (which is recommended by OEA in mitigation measure 47) should be developed prior to final engineering and the start of construction. ADNR's proposed timing would enable the Applicant to incorporate appropriate moose mitigation measures into the overall project design and implementation. OEA concurs with ADNR's proposal, and in response, has revised recommended mitigation measure 47 accordingly (see Attachment 1, Part I).

3.0 OEA'S FINAL ENVIRONMENTAL RECOMMENDATIONS

OEA has reviewed the comments and reply letters on the Final EIS, and reached the following conclusions:

- Through the EIS process in this proceeding, the Board has taken the requisite "hard look" at the potential environmental effects of ARRC's proposal to construct and operate a rail line from Port MacKenzie to a point on the existing ARRC mail line in order to provide freight rail services between the Port and Interior Alaska.
- OEA recommends that the Board adopt the Draft and Final EISs prepared in this proceeding, all comments submitted during the EIS process, and this memorandum discussing the post-Final EIS comments received.
- *Regarding Changes to the Proposed Action:* Comments stating that a Supplemental EIS should be prepared to assess changes in the proposed action, which were made by ARRC prior to OEA's issuance of the Final EIS but which ARRC had not disclosed to OEA, have not shown that the changes would result in significant and substantial environmental impacts warranting preparation of further environmental documentation. Rather, the changes would minimize potential environmental impacts, particularly to wetlands, considered during the EIS process.
- *Regarding the Same Issues Raised Again:* Commenters raising the same or similar issues that they had raised previously in the EIS process (i.e., the specific location of staging areas, whether alternatives including a rail route with no access road and an elevated rail line should have been considered, and whether additional data regarding moose and fish should have been collected) have failed to demonstrate that the EIS was inadequate. OEA reviewed, assessed, and properly responded to these comments in the Final EIS. Nothing in the resubmission of these comments introduces matters that have not been thoroughly addressed. Therefore, no supplemental analysis is warranted.
- *Regarding the Issues Raised Late:* Comments submitted following the Final EIS that could and should have been raised earlier in the EIS process

(after the Draft EIS was issued) allege that the EIS is inadequate in some of its methodologies, analyses, and mitigation. Commenters have not supported their claims that the EIS is inadequate.

- *Regarding the Mac East Variant Segment:* Comments alleging that OEA erred by discussing the Mac East Variant Segment as a component of a reasonable and feasible alternative in the Final EIS rather than preparing a Supplemental EIS are without merit. The Mac East Variant Segment is a modification to the Mac East Segment that minimizes environmental impacts of the Mac East Segment by paralleling an existing property and section line, thus reducing disruptions to farmland.
- In any decision granting ARRC the authority to construct and operate the proposed rail line, OEA recommends that the Board approve OEA's environmentally preferable alternative and impose all 100 of the recommended mitigation measures contained in Attachment 1, Part I, to this memorandum.
- OEA is recommending the following changes to the mitigation recommended in the Final EIS.¹⁸ These changes, which are reflected in the mitigation in Attachment 1, Part I, consist of:
 - Adding new Mitigation Measure 79, addressing buried utility lines;
 - Revising Mitigation Measure 47, requiring ARRC to develop a moose mitigation strategy prior to final engineering and the start of construction;
 - Revising Mitigation Measures 84 and 92 permitting the use of at-grade crossings for officially recognized trails; and
 - Revising Mitigation Measures 94, 95, and 96 to address potential visual impacts of the relocated terminal reserve.

¹⁸ Should the Board disagree with OEA's recommended changes to the mitigation, it may choose to impose the original mitigation measures set forth in the Final EIS. If the Board disagrees with OEA's environmentally preferable alternative, OEA's recommended mitigation from the Final EIS for the other alternative segments is provided in Attachment 1, Part II.

ATTACHMENT 1

FINAL MITIGATION MEASURES

PART I RECOMMENDED MITIGATION FOR OEA'S ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Topography, Geology, and Soils

1. The **Applicant** shall design project-related rail line and **associated facilities** in accordance with engineering criteria related to **permafrost**, **seismic** events, and other geologic hazards to comply with applicable design codes. For example, the **Applicant** shall design the project in accordance with the latest applicable **seismic** codes taking into account the region's potential for earthquake activity to mitigate potential damage to bridges and tracks. (V)¹

Water Resources

2. The **Applicant** shall be subject to Alaska Department of Environmental Conservation (ADEC) jurisdiction under the Alaska Pollutant Discharge Elimination System (APDES) for storm water discharges resulting from project-related construction activities. Requirements that are commonly part of a Stormwater Pollution Prevention Plan associated with an APDES Stormwater Construction Permit include the following:

- Ground disturbance shall be limited to only the areas necessary for project-related construction activities.
- During earthmoving activities, topsoil shall be reused wherever practicable and stockpiled for later application during reclamation of disturbed areas.
- Appropriate erosion control measures shall be employed to minimize the potential for erosion of soil stockpiles until they are removed and the area is restored.
- Disturbed areas shall be restored as soon as practicable after construction ends along a particular stretch of rail line and the goal of restoration shall be the rapid and permanent reestablishment of native ground cover on disturbed areas to prevent soil erosion.
- The bottom and sides of drainage ditches shall be revegetated using natural recruitment from the native seed sources in the stockpiled topsoil or a seed mix free of **invasive plant species**.

¹ A "V" after the mitigation measure indicates that it was originally developed and volunteered by the Alaska Railroad Corporation (ARRC or **Applicant**). ARRC would be bound to comply with all mitigation imposed by the Board regardless of origination (i.e., **Applicant** volunteered or developed by the Board's Office of Environmental Analysis or OEA).

Glossaries of terms and of the acronyms that appear in the mitigation measures are included at the end of Attachment 1. All mitigation terms that appear in bold in the text can be found in the glossary section.

- If weather or season precludes the prompt reestablishment of vegetation, temporary erosion control measures shall be implemented. (V)

3. The **Applicant** shall obtain Federal permits required by section 404 of the Clean Water Act and section 10 of the Rivers and Harbors Act from the U.S. Army Corps of Engineers (USACE) prior to initiation of project-related construction activities in **wetlands** and water bodies. The **Applicant** also agrees to obtain necessary state permits and authorizations (e.g., Alaska Department of Fish and Game (ADF&G) Fish **Habitat** Permit, Alaska Department of Natural Resources (ADNR) Land Use Permit, and an ADEC section 401 water quality certification). The **Applicant** shall incorporate stipulations into construction contract specifications. (V)

4. The **Applicant** shall avoid and minimize impacts to **waters of the U.S.**, including **wetlands**, to the extent practicable. The **Applicant** shall provide compensatory mitigation for unavoidable impacts to **wetlands** as part of the USACE section 404 permit, to the extent practicable in accordance with the reasonable requirements of the Clean Water Act. (V)

5. The **Applicant** shall design and construct the rail line in such a way as to maintain natural water flow and drainage patterns to the extent practicable. This shall include installing bridges or placing **equalization culverts** through the embankment as necessary, preventing impoundment of water or excessive drainage, and maintaining the connectivity of **floodplains** and **wetlands**. (V)

6. The **Applicant** shall disturb the smallest area practicable around any streams and, as soon as practicable following project-related construction activities and revegetate disturbed areas using native vegetation. (V)

7. The **Applicant** shall minimize the number of temporary stream crossings constructed to provide access for contractors, work crews, and heavy equipment to the extent practicable. Where needed, temporary structures shall be placed to avoid overly constricting active channels and shall be removed as soon as practicable after the crossing is no longer needed. (V)

8. The **Applicant** shall coordinate with the Matanuska-Susitna Borough (MSB) **Floodplain** Administrator to ensure that new project-related stream and **floodplain** crossings are appropriately designed. For crossings within the mapped **100-year floodplain**, drainage crossing structures shall be designed to pass a 100-year flood. (V)

9. The **Applicant** shall evaluate project-related construction water needs in relation to stream flow rates and **groundwater recharge rates**, as appropriate, and shall minimize effects on surface water and **groundwater**. Water withdrawals shall be subject to prior written approval by the ADNR Division of Mining, Land and Water, and also from the ADF&G Division of **Habitat** for withdrawals from fish-bearing waters. (V)

10. For all project-related crossings of fish-bearing waters that incorporate bridges or culverts, the **Applicant** shall design, construct, and maintain the **conveyance structures** in accordance with the National Marine Fisheries Service (NMFS) 2008 publication, "Anadromous Salmonid Passage Facility Design" (National Marine Fisheries Service. 2008. Anadromous

Salmonid Passage Facility Design. NMFS, Northwest Region, Portland, Oregon) or equivalent and reasonable requirements. (V)

11. The **Applicant** shall time project-related construction in **anadromous** streams to minimize adverse effects to salmon during critical life stages when practicable. The **Applicant** shall incorporate timing windows (i.e., those time periods when salmon are least vulnerable to disturbances) as specified by the ADF&G Division of **Habitat**, into construction contract specifications for in-stream work. The **Applicant** shall design and construct stream crossings so as not to impede fish passage or impair the hydrologic functioning of the water body. (V)

12. When project-related activities, such as culvert and bridge construction, require work in stream beds, the **Applicant** shall conduct activities, to the extent practicable, during either summer or winter low-flow conditions. (V)

13. The **Applicant** shall design, construct, and operate the rail line and **associated facilities**, including bridge abutments, to maintain existing water patterns and flow conditions and provide long-term hydrologic stability by conforming to natural stream gradients and stream channel alignment and avoiding altered subsurface flow to the extent practicable. Project-related supporting structures (e.g., bridge piers) shall be designed to minimize **scour** and increased flow velocity, to the extent practicable.

14. Prior to project-related construction, the **Applicant** shall complete **jurisdictional** delineations of **wetlands** and other surface waters that are subject to section 404 of the Clean Water Act for all **associated facilities** outside of the **right-of-way**.

15. The **Applicant** shall implement all reasonable **best management practices** imposed by the USACE under section 404 of the Clean Water Act to minimize project-related impacts to **waters of the U.S.**, including **wetlands**. Standard **best management practices** are specified in the USACE Alaska District's Nationwide Permits General Best Management Practice Guide (U.S. Army Corps of Engineers, 2007. "Nationwide Permits: General Best Management Practice." Alaska District, Regulatory Program. Online at: <http://www.poa.usace.army.mil/reg/NWPs.htm>) and could include the following:

- Containing sediment and turbidity at the work site by installing diversion or containment structures.
- Disposing of dredge spoils or unusable excavated material not used as backfill at upland disposal sites in a manner that minimizes impacts to **wetlands**.
- Revegetating **wetlands** as soon as possible, preferably in the same growing season, by systematically removing vegetation, storing it in a manner to retain viability, and replacing it after construction to restore the site.
- Using **fill** material that is free from fine material.
- Stockpiling topsoil and organic surface material, such as **root mats**, separately from overburden and returning it to the surface of the restored site.

- Dispersing the load of heavy equipment such that the bearing strength of the soil (the maximum load the soil can sustain) would not be exceeded. Suitable methods could include, but are not limited to, working in frozen or dry ground conditions, employing mats when working in wetlands or mudflats, and using tracked rather than wheeled vehicles.
- Using techniques such as **brush layering**, **brush mattresses**, live siltation (a revegetation technique used to trap sediment), **jute matting**, and **coir logs** to stabilize soil and reestablish native vegetation.

16. Prior to initiating project-related construction activities, the **Applicant** shall mark all stream channels and existing culvert locations in the project construction area before snowfall obscures their location to avoid damage to these areas.

17. During project-related design, the **Applicant** shall align road and track crossings of water bodies perpendicular or near perpendicular to water bodies, where practicable, to minimize crossing length and potential bank disturbance.

18. During project-related construction, the **Applicant** shall remove all project-related construction debris (including construction materials, soil, or woody debris) from water bodies, including **wetlands**, as soon as practicable during the open-water period, or prior to **break-up** for debris on top of or within ice or snow crossings.

19. The **Applicant** shall construct project-related water crossings in a manner that minimizes disturbances to stream beds, stream banks, and flow. Measures to meet these goals could include installing bridge piers during the winter, and initially constructing permanent project-related crossing structures, when practicable, to avoid the need to construct both temporary and permanent crossing structures.

20. During project-related construction, the **Applicant** shall perform all off-road travel and clearing in a manner that maintains existing surface and subsurface **hydrology** and water quality, to the extent practicable. Project-related off-road construction activities beyond the 200-foot **right-of-way** shall be approved by the land owner. Project-related wintertime off-road travel beyond the **right-of-way** shall be limited to areas where snow and ice depth are sufficient to protect the ground surface and vegetation. Summertime off-road travel beyond the **right-of-way** shall occur only if it can be accomplished without damaging vegetation or the ground surface, including stream banks that may be crossed.

21. The **Applicant** shall design, construct, and use winter roads in performing project-related construction so as to avoid degradation of water quality and to protect the road bed from significant rutting, ground disturbance, or **thermal erosion** of **permafrost** areas.

22. The **Applicant** shall not mine gravel required for project-related construction within the limits of **ordinary high water** of water bodies unless otherwise authorized by the ADNR, Division of Mining, Land, and Water, and the ADF&G. The **Applicant** also shall consult with the USACE prior to conducting these activities. Mine-site development and restoration within

the limits of **ordinary high water** of water bodies shall be performed in accordance with the reasonable requirements of the ADNR, ADF&G, and USACE.

23. The **Applicant** shall abandon project-related **geotechnical boreholes** in compliance with the reasonable requirements of ADEC requirements (Alaska Administrative Code 18 § 80.015(e), Well protection, source water protection, and well decommissioning).

24. The **Applicant** shall follow all applicable Federal regulations and standard protocols for transporting hazardous substances and other deleterious compounds to minimize the potential for a spill occurrence.

25. The **Applicant** shall comply with the reasonable requirements of the ADEC in the design, construction, operation, and maintenance of project-related tank storage facilities.

26. The **Applicant** shall direct the operators of project-related construction vehicles to not drive in or cross streams other than at crossing points reasonably established by the ADEC and USACE and, in the case of fish-bearing streams, the ADF&G.

27. During project-related construction, the **Applicant** shall minimize to the extent practicable, the duration and extent of activity at temporary construction facilities, such as **staging areas**, and provide surface treatments to minimize soil compaction (e.g., break up compacted soils during reclamation to promote infiltration) and promote vegetation regrowth after the facilities are no longer needed to support construction.

28. The **Applicant** shall ensure that all project-related culverts and bridges are sufficiently clear of debris to avoid blockages to free-fish passage (where applicable), stream-flow alteration, and increased flooding. The **Applicant** shall inspect all project-related bridges and culverts semi-annually (or more frequently, as seasonal flows dictate) for debris accumulation and remove and properly dispose of debris promptly.

29. The **Applicant** shall use contaminant-free embankment and surface materials in project-related construction.

30. The **Applicant** shall return all project-related stream crossing points to their preconstruction contours to the extent practicable.

31. During project-related construction, the **Applicant** shall use temporary barricades, fencing, and/or flagging in sensitive **habitats** to contain project-related impacts to the construction area. The **Applicant** shall locate **staging areas** in previously disturbed sites to the extent practicable, rather than in **sensitive habitat areas**.

Biological Resources

32. The **Applicant** shall restrict its project-related workers from (1) hunting or fishing while stationed at work camps; (2) harassing wildlife, including winter or calving concentrations of

moose (cows with yearling calves can be particularly defensive); (3) approaching known occupied bear dens; and (4) feeding wildlife. (V)

33. The **Applicant** shall obtain project-related state permits and authorizations, including the ADF&G Fish **Habitat** Permit. (V)

34. The **Applicant** shall implement **Essential Fish Habitat** (EFH) conservation measures as agreed upon with the NMFS during the EFH consultation process for this project. (V)

35. The **Applicant** shall clear vegetation in preparation for project-related construction before or after the typical migratory bird nesting season as identified by the U.S. Fish and Wildlife Service (USFWS) (typically May 1 to July 15), to the extent possible to ensure compliance with the Migratory Bird Treaty Act. If clearing is required during the nesting season, the **Applicant** shall conduct a nest survey and consult with the USFWS, prior to clearing the vegetation, to identify additional appropriate compliance measures. (V)

36. During the bald eagle nesting season (typically March through August), the **Applicant** and its contractor(s) shall use their best efforts to avoid bald eagle disturbance during project-related construction. Nests shall be protected in accordance with USFWS guidelines. (V)

37. Subject to consultation with the ADF&G and ADNR, the **Applicant** shall work with adjacent land managers to develop alternative preferred **habitat** away from the rail line and construct a widened embankment to allow moose a place to retreat on one side when a train passes in an effort to reduce the potential for moose strikes. (V)

38. The **Applicant** shall use appropriate methods to handle, store, and dispose of waste generated during project-related construction activities. Food and garbage shall be secured and disposed in a manner to prevent bears from gaining access to such materials and in accordance with applicable and reasonable Federal, state, and local regulations. (V)

39. In conjunction with developing a final engineering design for the project, the **Applicant** shall consult with the USFWS and the ADF&G to locate project-related facilities to minimize the size and degree of impacts to highly **sensitive habitat areas**. Disturbed areas shall be restored in accordance with a reclamation plan developed by the **Applicant** in cooperation with the USFWS, ADF&G, and/or other appropriate agency staff. The **Applicant** shall submit the reclamation plan for areas to be disturbed by project construction to the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA), USFWS, and ADF&G. The reclamation plan shall be developed in conjunction with final engineering design and clearly designate: (1) areas to be reclaimed; (2) reclamation materials, methods, and timing; and (3) monitoring schedule and contingency plans.

40. To reduce potential collision and electrocution impacts to birds resulting from any project-related power lines and communication towers, the **Applicant** shall:

- Consult with the USFWS for current guidelines on tower siting, marking, and **guy lines**.

- Incorporate standard, raptor-proof designs, as outlined in “Suggested Practice for Avian Protection on Power Lines: The State of the Art in 2006” (Avian Power Line Interaction Committee [APLIC]. 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, DC, and Sacramento, CA. Online at <http://www.aplic.org/>), into the design of electrical distribution lines in areas of identified bird concerns to avoid electrocution of eagles, owls, and other smaller raptors, including:
 - Use of marking techniques such as **balls or flappers** to increase transmission line visibility, especially in areas where sandhill cranes and bald eagles are likely to roost, forage, or nest.
 - Maintain a minimum 60-inch separation between conductors and/or grounded hardware and potentially use insulation materials and other applicable measures, depending on line configuration.
 - Incorporate standard raptor-proof designs (as outlined in “Avian Protection Plan Guidelines.” Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service. 2005. Online at <http://www.aplic.org>) into the design of the electrical distribution lines to reduce bird collisions.

41. To the extent practicable, the **Applicant** shall minimize project-related ground disturbance, clearing of established vegetation and removal of wildlife **habitats** and riparian vegetation during project-related construction. The **Applicant** shall also minimize the re-establishment of vegetation near the rail bed that would be attractive to moose.

42. Prior to any project-related construction, the **Applicant** shall consult with the ADNR and develop and implement a **mitigation** plan to address the spread and control of nonnative invasive plants during project-related construction. The **Applicant** shall submit this plan to OEA and ADNR. This plan shall designate appropriate: (1) planned seed mixes; (2) weed prevention and eradication procedures; (3) equipment cleaning protocols; (4) revegetation methods; and (5) protocols for monitoring revegetation.

43. Unless otherwise approved by the ADF&G, project-related detonation of explosives within, beneath, or in proximity to fish-bearing waters shall not result in **overpressures** exceeding 2.7 pounds per square inch unless the water body, including its substrate, is frozen solid. **Peak particle velocity** stemming from explosive detonation shall not exceed 0.5 inch per second during the **early stages of egg incubation**.

44. The **Applicant** shall comply with the reasonable requirements of Alaska Statutes (Alaska Stat. § 16.05.841, Fishway Required, and Alaska Stat. § 16.05.871, Protection of Fish and Game) regarding project-related winter **ice bridge** crossings and summer ford crossings of all anadromous and resident fish streams. If necessary for winter ice bridge crossings, natural ice thickness could be augmented (through snow removal and water to increase ice thickness, or other techniques) if site-specific conditions, including water depth, are suitable for a crossing that would protect fish **habitat** and maintain fish passage.

45. The **Applicant** shall not narrow an **anadromous** water body between its **mean high water lines** for the project, unless authorized in writing by the ADF&G prior to project-related construction.

46. The **Applicant** shall ensure that project-related culverts in fish-bearing waters (as identified at the time of final design) function properly and continue to accommodate fish passage. The **Applicant** shall inspect all project-related culverts on fish-bearing waters annually for **perched**, submerged, or other conditions that could prevent fish passage. A **wetland** scientist, fisheries biologist, or other qualified individual shall perform the inspections. If **perched**, submerged, or other conditions that prevent fish passage are identified, the **Applicant** shall notify the ADNR and ADF&G, and develop and implement a correction action plan in consultation with ADNR and ADF&G.

47. The **Applicant**, in consultation with the ADF&G, ADNR and other appropriate stakeholders shall evaluate, implement, and monitor various aspects of project-related rail design, maintenance, and operation to document moose mortality from collisions with trains, and to develop a strategy to reduce the moose-train collision mortality rate. The **Applicant** shall document the strategy in a Moose Mitigation Strategy Plan. A draft of the plan shall be prepared and submitted to ADF&G, ADNR and OEA for review and comment prior to completing final design and before the start of project-related construction. The strategy could include:

- Maintaining vegetation along the **right-of-way** in primary (e.g., grasses/**sedges**) or late (e.g., old-growth spruce) **successional** (developmental) **stages**. If vegetation is allowed to progress to the secondary successional stage (i.e., shrubs), maintaining it at the shortest possible height, not to exceed 0.5 meter, encouraging shrubs of non-preferred moose browse species (e.g., alder, dwarf birch), and minimizing re-growth of willow, paper birch, and aspen.
- Mowing vegetation in late summer before energy stores are transferred to the roots.
- In winter, plowing snow back from the track to the outer edge of the trackside clearing to allow moose easy access away from the tracks when a train approaches.
- Developing a plan in conjunction with the ADF&G to catalog all strikes (not just confirmed or suspected deaths) in a timely manner that shall include, but is not necessarily limited to: precise location (latitude and longitude), date and time; weather and other environmental conditions at the time and location of strike; and attributes associated with the train, such as horn use, speed, and track characteristics.
- Designing, constructing, and operating all aspects of the rail line to minimize significant alteration of moose and other wildlife movement and migration patterns.

48. The **Applicant** shall prepare and implement a **bear interaction plan** to minimize conflicts between bears and humans. In consultation with the ADF&G, the **Applicant** shall develop appropriate educational programs and management plans when project-related construction and operation plans are being prepared.

49. The **Applicant** shall not conduct project-related construction and land clearing activities within 0.5 mile of known occupied bear dens, unless alternative **mitigation** measures are approved by the ADF&G. The **Applicant** shall obtain a list of known den sites from the ADF&G Division of Wildlife Conservation prior to commencement of any project-related construction activities and shall report occupied dens encountered.

50. Prior to initiating project-related construction activities, the **Applicant** shall consult with the local offices of the Natural Resource Conservation Service and the Palmer Plant Center to develop an appropriate plan for restoration and revegetation of disturbed areas (including appropriate seed mix specifications). This would apply to areas that cannot be revegetated using natural recruitment from the native seed sources in the stockpiled topsoil. Development of the plan shall include consideration of the use of a variety of native grasses and wildflowers appropriate to the surrounding **habitat** to provide visual interest in areas where vegetation height must be limited due to safety or maintenance considerations.

Cultural Resources

51. The **Applicant** shall develop protocols to inform and prepare project-related construction supervisors of the importance of protecting archaeological resources, graves, and other cultural resources and how to recognize and treat the resources. (V)

52. The **Applicant** shall comply with the Programmatic Agreement developed through the section 106 process under the National Historic Preservation Act.² (V)

Climate and Air Quality

53. To minimize **fugitive dust** emissions created during project-related construction activities, the **Applicant** shall implement appropriate **fugitive dust** suppression controls, such as spraying water or other established measures. The **Applicant** shall also operate water trucks on haul roads as necessary to reduce dust. (V)

54. To limit project-related construction emissions, the **Applicant** shall work with its contractor(s) to ensure that construction equipment is properly maintained and that required pollution-control devices are in working condition. (V)

Noise and Vibration

55. The **Applicant** shall work with its construction contractor(s) to minimize, to the extent practicable, project-related construction **noise** disturbances near residential areas. Construction and maintenance vehicles shall be in good working order with properly functioning mufflers to control noise. (V)

56. The **Applicant** shall consult with affected communities regarding its planned construction schedule to minimize, to the extent practicable, project-related construction **noise** and vibration disturbances in residential areas during evenings and weekends. (V)

57. Prior to initiating project-related construction activities, the **Applicant** shall establish a Community Liaison to consult with affected communities, landowners, and agencies. Among other responsibilities, the Community Liaison shall assist communities or other entities with the process of establishing **quiet zones**, if requested. (V)

58. The **Applicant** shall not conduct pile driving associated with bridge construction on the Mac East Variant Segment during nighttime hours.

59. The **Applicant** shall not conduct construction activities in the vicinity of West Holstein Avenue on the Mac East Variant Segment during nighttime hours.

² The executed Programmatic Agreement is provided as Attachment 2.

Transportation

60. The **Applicant** shall establish a Diagnostic Team comprised of **Applicant** staff, community members, representatives of the Alaska Department of Transportation and Public Facilities (ADOT&PF) and other appropriate entities regarding project-related roadway/rail line crossings, in consultation with Federal Railroad Administration safety officials. This process shall result in appropriate safety measures for every roadway/rail line crossing. (V)

61. The **Applicant** shall coordinate with Federal, state and local emergency management officials in the project area. The **Applicant** shall provide, upon request, applicable **hazardous-materials** training and/or project-related information to enhance readiness. The **Applicant** shall incorporate the rail line into its existing emergency response process and shall update its Oil Spill Contingency Plan to include the rail line. (V)

62. During construction of project-related tracks across existing roads, the **Applicant** shall notify road users of temporary road closings and other construction-related activities. The **Applicant** shall provide for detours and associated signage, as appropriate, or maintain at least one open lane of traffic at all times to allow for the quick passage of emergency and other vehicles. The **Applicant** shall display signs providing the name, address, and telephone number of a contact person onsite to assist the public in obtaining immediate responses to questions and concerns about project activities. (V)

63. To the extent practicable, the **Applicant** shall confine all project-related construction traffic to project-specific roads within the **right-of-way** or established public roads. Where traffic cannot be confined to these roads, the **Applicant** shall make necessary arrangements with landowners to gain access. The **Applicant** shall remove and restore upon completion of project-related construction any temporary access roads constructed outside the rail line **right-of-way** unless otherwise agreed to with the landowners. (V)

64. The **Applicant** shall consult with appropriate state and local transportation agencies to determine the final design and other details of project-related grade crossings and warning devices. (V)

65. Before the start of project-related operations, the **Applicant** shall contact appropriate local, state, and Federal emergency response organizations and shall provide them with information concerning the project-related operations, schedules, and any site hazards or restrictions that could impact responders. (V)

Navigation

66. The **Applicant** shall obtain a section 9 Bridge Permit from the U.S. Coast Guard for construction of project-related bridges over **navigable rivers**. (V)

67. In coordination with the U.S. Coast Guard, the **Applicant** shall provide adequate clearances for navigation of recreational boats on **navigable rivers**. (V)

68. In conjunction with final engineering design, the **Applicant** shall consult with the ADNR and ADF&G and develop and implement a plan to ensure that project-related bridges and culverts placed on **navigable** or public waters are designed and installed to accommodate: (1) navigation by recreational boat users in a manner that shall not impede existing uses, to the extent practicable, and (2) public access and use of the statutory easements as established by the

reasonable requirements of Alaska Statute (Alaska Stat. § 38.05.127, Access to Navigable or Public Water). The **Applicant** shall submit the plan to OEA, ADNR, and ADF&G.

Land Use

69. The **Applicant** shall develop a spill prevention, control, and countermeasure plan for petroleum products and/or response plan for **hazardous materials**, as required by applicable Federal and state regulations, prior to initiating any project-related construction activities. These plans shall address methods for preventing discharges and spill control, and containment and cleanup should a release occur. Plans shall include a requirement to conduct weekly inspections of equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. The plan shall provide that, if leaks are found, the **Applicant** shall require the contractor(s) to immediately remove the equipment from service and repair or replace it. (V)

70. As part of the APDES Stormwater Construction Permit and Stormwater Pollution Prevention Plan, the **Applicant** shall:

- Restore land used for temporary **staging areas** during project-related construction to natural conditions if occurring on undeveloped ADNR land or to its former uses if occurring on private land.
- Restore public land areas that were directly disturbed by project-related construction equipment and not owned by the **Applicant** (such as temporary access roads, haul roads, and crane pads) to their original condition, as reasonable and practicable, upon completion of construction.
- In business and industrial areas, store project-related equipment and materials in established storage areas or on the **Applicant's** property. The **Applicant** shall prohibit parking of equipment or vehicles, or storage of materials along driveways or in parking lots, unless agreed to by the property owner.
- Prohibit project-related construction vehicles, equipment, and workers from accessing work areas by crossing business or agricultural areas, including parking areas or driveways, without advance notice to or permission from the owner. (V)

71. For each of the public grade crossings on the rail line, the **Applicant** shall provide permanent signs prominently displaying both a toll-free telephone number and a unique grade crossing identification number in compliance with Federal Highway Administration regulations (23 Code of Federal Regulations part 655). The **Applicant's** personnel shall answer the toll-free number 24 hours a day. (V)

72. The **Applicant** shall continue its ongoing community outreach efforts by maintaining a Web site about the project throughout the construction period of the rail line. (V)

73. In the event of any damage caused by project-related construction activities, the **Applicant** shall work with affected landowners to appropriately redress any damage to each landowner's property. (V)

74. The **Applicant** shall work with affected businesses or farms to appropriately address project-related construction activity issues affecting any business or farm. (V)
75. To the extent practicable, the **Applicant** shall ensure that entrances and exits for businesses are not obstructed by project-related construction activities, except as required to move equipment. (V)
76. During construction of the crossings over **navigable waters**, some short-term temporary restrictions of watercraft traffic could occur for safety purposes. In that event, the **Applicant** shall install warning devices to notify boaters of project-related bridge construction activities. The **Applicant** also shall display signs providing the name, address, and telephone number of a contact person onsite to help waterway users obtain immediate responses to questions and concerns about project activities. (V)
77. The **Applicant** shall make reasonable efforts to minimize disruptions to utilities by scheduling project-related construction work and outages to low-use periods. The **Applicant** shall notify residents and other utility customers in advance of project-related construction activities requiring temporary service interruptions. (V)
78. The **Applicant** shall make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the project-related construction within the **right-of-way** or that cross the **right-of-way**. The **Applicant** shall consult with utility owners during design and construction so that utilities are protected during project-related construction activities. The **Applicant** shall notify the owner of each such utility identified prior to project-related construction activities and shall coordinate with the owner to minimize damage to utilities. (V)
79. The **Applicant** shall bury all project-related utilities along the 200-foot **right-of-way** and within the terminal reserve. (V)
80. In accordance with the **Applicant's** Oil Spill Contingency Plan and Emergency Response Plan, the **Applicant** shall make the required notifications to the appropriate Federal and state environmental agencies in the event of a reportable **hazardous materials** release. The **Applicant** shall work with the appropriate agencies, such as the ADEC, USEPA and USFWS, to respond to, and remediate releases. (V)
81. At least one month before initiating construction activities in the area, the **Applicant** shall provide the information described below regarding project-related construction of the rail line, and other information, as appropriate, to fire departments within the project area, the Federal Emergency Management Agency, and the MSB Emergency Operations Department:
- The schedule for construction throughout the project area, including the sequence of construction of public grade crossings and approximate schedule for these activities at each crossing;
 - A 24-hour emergency telephone number to reach the **Applicant** in the event of an emergency;

- The name and number of the **Applicant**'s project contact, who shall be available to answer questions or attend meetings for the purpose of informing emergency-service providers about the project-related construction and operations; and
- Revisions to this information, including changes in construction schedule, as appropriate. (V)

82. Prior to project-related construction, the **Applicant** shall consult with ADNR and other appropriate agencies, including the ADF&G, and user groups to develop a plan to ensure construction activities occur during the most appropriate timeframe to limit, to the extent practicable, potential impacts on recreation activities. The plan shall be developed prior to completion of final engineering plans and following consultation with the ADNR, the ADF&G, other appropriate government agencies, and user groups to determine the location of all officially recognized trails that would be crossed by the rail line. The plan shall designate temporary access points if main access routes must be obstructed during project-related construction and include an agreed-upon number and location of access points as determined during consultation with applicable agencies.

83. The **Applicant** shall consult with the appropriate management agencies, including the ADNR and ADF&G to ensure that project-related bridges and culverts are designed, constructed, and maintained to accommodate travel by winter modes of transportation (snow machine, dog sled, etc.) on streams and rivers used for recreational access and subject to the provisions of Alaska Statute (Alaska Stat. § 38.05.127, Access to Navigable or Public Water).

84. The **Applicant** shall consult with resource management agencies, including the ADNR and ADF&G, appropriate user groups, and property owners regarding the location and design of crossings for trail easements that intersect with the rail line.

- a. At a minimum, the **Applicant** shall provide **at-grade** or **grade-separated** crossings of all officially recognized trails crossed by the rail line. As of the date of the Final EIS, a total of 8 officially recognized trails had been identified that intersect the Mac East Variant - Connector 3 Variant – Houston - Houston South Alternative. This number could change due to various factors including updates to trail plans, route selection, and final engineering. For the purposes of this mitigation measure, the **Applicant** shall adhere to the definition of an **officially recognized trail** provided below.

An **officially recognized trail** is one that is specifically established within currently adopted plans by the ADNR and/or MSB, or are established within these plans at the time of construction or **right-of-way** acquisition by the **Applicant** or MSB (whichever occurs first). In addition, an **officially recognized trail** is used primarily for recreational purposes. The locations of **officially recognized trails** may or may not be provided for by recorded easements or **right-of-way** instruments. In some cases, **officially recognized trails** may be adopted by or mapped in a recognized trail plan, but a recorded easement or **right-of-way** instrument may not exist. The presence of a recorded easement or **right-of-way** easement is not sufficient alone to make the property an **officially recognized trail**.

Based on the **Applicant's** January 2008 inventory of **officially recognized trails**, the following **officially recognized trails** are crossed by the Mac East Variant - Connector 3 Variant – Houston - Houston South Alternative:

- Crooked Lake Trail
- Iditarod National Historic Trail
- Flat Lake Connector Trail
- Houston Lake Loop Trail

Based on OEA's analysis, the following additional **officially recognized trails** are crossed by the Mac East Variant - Connector 3 Variant – Houston - Houston South Alternative:

- Big Lake Trail #1
- Big Lake Trail #2
- Big Lake Trail #5
- Big Lake Trail #14

- b. The **Applicant** shall design each crossing to accommodate existing trail users as determined at the time of construction, or **right-of-way** acquisition by the **Applicant** or MSB (whichever comes first).
- c. The **Applicant** shall provide a sufficient number of **at-grade** or **grade-separated** trail crossings to ensure that the average distance between trail crossings over the length of the rail line is not greater than 3.0 miles (i.e., length of the new rail line divided by total number of **Applicant**-supplied, trail crossings). Trail crossings provided by the **Applicant** to meet this minimum crossing frequency may be collocated with project-related stream and road crossings if the collocated trail reasonably and safely accommodates existing trail users as determined at the time of construction, or right-of-way acquisition by the **Applicant** or MSB (whichever comes first). Any trails that the **Applicant** proposes to combine at one trail crossing under mitigation measure 91 shall count as one trail in calculating the average crossing distance of 3.0 miles. Each trail crossing provided by the **Applicant** under mitigation measure 92 (i.e., the trails that contribute to the integrity of the Iditarod Sled Dog Historic District) can be included in the calculation of the average crossing distance of 3.0 miles, regardless of officially recognized status.
- d. If the Applicant proposes to construct an at-grade crossing of any officially recognized trail, the Applicant shall submit a report to OEA for review and concurrence prior to the start of project-related construction of the rail segment containing the proposed at-grade crossing. The subject report shall address the following items for each officially recognized trail at which an at-grade crossing is proposed:
 - Identify each officially recognized trail.

- Explain why a grade-separated crossing is not feasible or appropriate. Specify engineering constraints or potential environmental impacts of a grade-separated crossing, as applicable. Provide a comparison of trail-specific costs or environmental impacts for at-grade and grade-separated crossings at each location, as applicable.
- Specify the safety controls and devices that would be installed or implemented for the proposed at-grade crossing.
- Identify the current principal users or users groups of the proposed at-grade crossing, consult with these parties, and summarize their degree of acceptance of the proposed at-grade crossing and its proposed safety measures. Explain any substantive objections of the parties to an at-grade crossing or its safety measures.

85. When project-related construction takes place on state and private land, the **Applicant** shall consult with the ADNR Division of Forestry to salvage or dispose of commercial and personal use timber within the **right-of-way** in accordance with the reasonable requirements of the Alaska Forest Resources and Practices Act (Alaska Stat. § 41.17) and the Susitna Forestry Guidelines.

86. The **Applicant** shall ensure that field-work contractors engaged in project-related construction are provided with training for the identification of **hazardous materials**, including unexploded ordnance (UXO), which could be encountered during project-related construction. If unanticipated sources of hazardous or regulated materials, including UXO, or potentially contaminated areas are encountered during project-related construction activities, the **Applicant** shall immediately notify the ADEC and stop all work in the area until a response plan has been approved by ADEC. Handling, treatment, and disposal of any **hazardous materials** shall occur in full compliance with all Federal, state, and local requirements.

87. The **Applicant** shall conduct project-related right-of-way acquisition in conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (42 United States Code § 4601), regulations promulgated pursuant to that statute (49 Code of Federal Regulations part 24), and all reasonable terms and conditions of Alaska Statute (Alaska Stat. § 34.60.010 through 34.60.150, Relocation Assistance and Real Property Acquisition Practices).

88. The **Applicant** shall consult with local airports in the vicinity of new project-related communication towers and the ADOT&PF and Federal Aviation Administration to ensure that the towers are appropriately sited and that notice has been given to pilots of the construction and location of the new towers.

89. If the USACE completes a full-scale remedial investigation and feasibility study of the nature and extent of contamination or explosive hazards for the former Susitna Gunnery Range, and the USACE's study area encompasses portions of the project-related right-of-way, the **Applicant** shall observe the findings and recommendations of the study as approved by ADEC.

90. Prior to initiation of project-related construction activities, and for a period of 1 year following start-up of operations on the rail line, the **Applicant** shall establish a Community

Liaison to consult with affected communities, businesses, and appropriate agencies; develop cooperative solutions to local concerns; be available for public meetings; and conduct periodic public outreach. The **Applicant** shall provide the name and phone number of the Community Liaison to mayors and other appropriate local officials in each community through which the rail line passes.

91. Project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties without the permission of the property owners.

92. Prior to completing final project design, the **Applicant** shall prepare a draft report on any **officially recognized trails** that it proposes to relocate rather than provide grade-separated or at-grade crossings of the trails. The draft report shall address the rationale for the proposed trail relocations; describe potential impacts to existing trail users if the trails are relocated rather than being equipped with a crossing; and summarize the **Applicant's** discussions with user groups and other interested parties affected by the proposed relocations. The draft report shall identify all parties consulted with by the **Applicant** regarding proposed trail relocations. All consulted parties shall be provided a copy of the draft report for review and comment for a period not to exceed 30 calendar days. The **Applicant** shall prepare a final report and submit the final report to OEA and the parties. In addition to the contents required in the draft report, the final report shall summarize all substantive comments from the parties and the **Applicant's** comment responses.

93. Prior to completing final project design, the **Applicant** shall prepare a draft report that identifies the location and use of all trails contributing to the Iditarod Dog Sledding Historic District. The draft report shall identify the contributing trails, state of current use for dog sledding (if any), and information on sources and parties consulted pertaining to trail use. OEA and all consulted parties shall be provided a copy of the draft report for review and comment for a period not to exceed 30 calendar days. The **Applicant** shall prepare a final report and submit the final report to OEA and the parties. In addition to the contents required in the draft report, the final report shall summarize all substantive comments from the parties and the **Applicant's** comment responses. Based on the final report, all trails that are determined to be contributing to the integrity of the historic district, are in use for dog sledding, and are necessary to maintain the connectivity of the district, shall be provided with grade-separated crossings to allow for continued use.

94. To reduce glare from lighting used during nighttime project-related construction activities, and during operation of the **terminal reserve**, the **Applicant** shall require construction contractors to direct lighting onto the immediate area under construction only, and the **Applicant** shall design **terminal reserve** outdoor lighting, to avoid shining lights toward residences, businesses, recreational areas, and down roadway or trail corridors.

95. To minimize the visual impact of the cleared right-of-way including the **terminal reserve** for this project, the **Applicant** shall minimize clearing at road and trail crossings, which could be accomplished by leaving a few larger trees and some smaller trees and shrubs untouched, to reduce visual contrast and mimic natural clearings in the landscape, where practical and consistent with safety and maintenance requirements.

96. Where practicable to reduce visual impact in areas of high visibility (such as residential areas, road and trail crossings, crossings of the Little Susitna River, and the areas surrounding the **terminal reserve**) without increasing the project footprint and when appropriate given maintenance, access, safety considerations, and natural vegetation patterns, the **Applicant** shall:

- Plant native vegetation along the right-of-way and perimeter of the **terminal reserve** to reduce the contrast with line, color, and texture. Plant species that are preferred by moose as browse shall be avoided to the extent practicable.
- Plant native trees and bushes around the base of bridge supports located on land to reduce the visual prominence of such features and break up the uniform lines, colors, and smooth textures of the bridge supports. A variety of plant types native and indigenous to the project area shall be used to provide multiple layers, seasonality, and reduced susceptibility to disease. Plant species that are preferred by moose as browse shall be avoided to the extent practicable.
- In areas with hill **cuts**, shape slopes to reflect the natural landscape, where practicable, and plant with native materials to provide an amorphous and irregular form and rough texture.
- Dispose of excess material in a suitable **fill** location and not cast on downhill slopes.

Monitoring and Enforcement

97. If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board may review the continuing applicability of its final mitigation, if warranted.

98. The **Applicant** shall submit quarterly reports to OEA on the progress of, implementation of, and compliance with all Board-imposed mitigation measures. The reporting period for these quarterly reports shall begin on the date of a Board Final Decision authorizing the project until 1 year after the **Applicant** has completed project-related construction activities. The **Applicant** shall submit copies of the quarterly reports within 30 days following the end of each quarterly reporting period and distribute the reports to appropriate Federal and state agencies, as specified by OEA.

99. Within 60 days following a Board decision authorizing the project, the **Applicant** shall prepare and submit an annotated outline of the required quarterly report to OEA for review and approval.

100. The **Applicant** shall retain a third-party contractor to assist OEA in the monitoring and enforcement of **mitigation** measures until 1 year after the **Applicant** has completed project-related construction.

PART II ADDITIONAL MITIGATION MEASURES APPLICABLE TO THE OTHER BUILD ALTERNATIVES

1. If the Surface Transportation Board authorizes the Big Lake Segment, the **Applicant** shall mitigate impacts to the Su-Knik Mitigation Bank in accordance with the reasonable requirements of the U.S. Army Corps of Engineers.
2. If the Surface Transportation Board authorizes the Big Lake Segment, the **Applicant** shall not conduct pile driving associated with bridge construction on the segment during nighttime hours.
3. Based on the **Applicant's** January 2008 inventory of **officially recognized trails**, the following **officially recognized trails** are crossed by one or more of the build alternatives but not the Mac East Variant - Connector 3 Variant – Houston - Houston South Alternative (i.e., OEA's recommended environmentally preferable alternative):

- Aurora Dog Musers Club Trail
- Figure 8 Loop Trail
- Flathorn Lake Trail
- Herning Trail
- Iditarod Link Trail
- Knik Connector Trail
- Iron Dog Trail
- Lucky Shot Trail
- Mud Lake Trail
- Pipeline Trail
- West Gateway Trail
- Nancy Lake – Susitna Trail
- 16 Mile Trail

Subject to the requirements and exceptions of Mitigation Measure 84, the Applicant shall provide a grade crossing for any of these officially recognized trail crossed by a build alternative authorized by the Surface Transportation Board.

4. If the Surface Transportation Board authorizes the Mac West Segment, the **Applicant** shall consult with the Alaska Department of Fish and Game and Alaska Department of Natural Resources to develop and implement measures, including consideration of replacing refuge acreage used for rail right-of-way, to minimize impacts to the Susitna Flats State Game Refuge to the extent practicable.
5. If the Surface Transportation Board authorizes the Willow Segment, the **Applicant** shall consult with the Alaska Department of Fish and Game and Alaska Department of Natural Resources to develop and implement measures to minimize, to the extent practicable, impacts to the Nancy Lakes State Recreation Area, the Little Susitna State Recreation River, and the

Willow Creek State Recreation Area. Such measures could include replacing recreation acreage needed for rail line right-of-way with new acreage adjacent to the affected recreation area.

6. If the Surface Transportation Board authorizes the Houston North Segment, the **Applicant** shall consult with the Alaska Department of Fish and Game and Alaska Department of Natural Resources (ADNR) to develop and implement appropriate measures to minimize impacts to the Little Susitna State Recreation River and the Nancy Lake Creek Junction public use site. The **Applicant** shall replace any camping or other facilities within the right-of-way in accordance with reasonable recommendations of ADNR.

GLOSSARY OF MITIGATION TERMS

100-year flood	A flood event of such magnitude that it occurs, on average, every 100 years; this equates to a 1-percent chance of its occurring in a given year. A base flood might also be referred to as a 100-year storm. The area inundated during the base flood is sometimes called the 100-year floodplain.
Anadromous	Anadromous fish reproduce in freshwater and the offspring migrate to the ocean to grow and mature, and return to freshwater to reproduce.
Associated facilities	Facilities that are part of the proposed action and that would be constructed to support rail activities such as communications towers, a passenger facility, and sidings and are necessary for operation of the rail line.
Applicant	Any person or entity seeking Surface Transportation Board action whether by application, petition, Notice of Exemption, or any other means that initiates a formal Board proceeding.
At-grade crossing	The location where a local street or highway crosses rail line tracks at the same level or elevation.
Balls or flappers	Brightly colored balls are attached to transmission lines to provide greater visibility. Flappers are used to deter birds and other wildlife from landing on transmission lines.
Bear interaction plan	A plan to minimize the interaction between humans and bears; often details garbage management.
Best management practices	Techniques that various parties (e.g., the construction industry) use to minimize impacts to the environment.
Break-up	The process during which winter ice on the surface of rivers and streams begins to melt, break apart and move downstream in response to the warming temperatures of spring.
Brush layering	A revegetation technique that combines layers of dormant (living woody plants that are not actively growing) or rooted cuttings with soil to revegetate and stabilize streambanks and slopes; branches are placed to provide reinforcement to the soil.
Brush matting	A revegetation technique that provides a protective vegetative covering (in the form of a brush mat of dormant branches that will root and grow) to a slope.

Class 4 Standards	For Class 4 track, the maximum allowable operating speed is 60 miles per hour for freight trains and 80 miles per hour for passenger trains. Track class designation between 1 and 9 is determined by the Federal Railroad Administration and characterizes the quality and condition of track. The track geometry and type of track structure govern the allowable speed over the track and the level of upkeep to maintain the track.
Coir logs	Interwoven coconut fibers that are bound together with biodegradable netting and provide temporary physical protection to a site while vegetation becomes established; often used to secure the base or toe of a slope in low velocity areas.
Conveyance structure	A structure to convey water (e.g., a pipe, culvert, or bridge).
Cut	Cutting away from the top of a slope to fill in at the bottom, thereby providing a suitable grade for the rail roadbed. <i>See</i> fill.
Early stages of egg incubation	Could occur any time between spring and late fall depending on the fish species and location.
Emissions	Air pollutants that enter the atmosphere.
Equalization culvert	A culvert placed under the rail bed to allow for water flow at a location other than a water body.
Essential Fish Habitat	The waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Act, 16 U.S.C. 1801 <i>et seq</i>). Waters include aquatic areas and their associated physical, chemical, and biological properties and can include aquatic areas historically used by fish where appropriate; substrate includes sediment, hard bottom, structures underlying the waters, and associated biological communities; necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and spawning, breeding, feeding, or growth to maturity covers a species' full life cycle.
Fill	(1) The term the U.S. Army Corps of Engineers uses to refer to the placement of materials (e.g., soils, aggregates, concrete structures) within water resources under Corps of Engineers jurisdiction. (2) General term for materials (e.g., soils, aggregates) deposited in an area for construction purposes, such as to modify a grade.

Floodplain	The lowlands adjoining inland and coastal waters and relatively flat areas and flood-prone offshore islands, including, at a minimum, those areas that have a 1 percent or greater chance of flood in any given year (also known as a 100-year or a Zone A floodplain).
Fugitive dust	Particulate matter discharged to the atmosphere from the mechanical disturbance of granular material exposed to the air, but not discharged to the atmosphere in a confined flow stream.
Geotechnical borehole	A narrow shaft drilled into the ground to obtain information on the physical properties of the rock and soil below the ground surface.
Grade crossing	<i>See</i> at-grade crossing.
Grade separation	<i>See</i> grade-separated crossing.
Grade-separated crossing	The site where a local street or highway crosses rail line tracks at a different level or elevation, either as an overpass or as an underpass.
Groundwater	Water contained in pores or fractures in either the unsaturated zone or saturated zone below ground level.
Groundwater recharge rates	The pace (often expressed in inches per year) at which a body of groundwater is replenished. This typically occurs from precipitation infiltrating through the soil column and from surface waters seeping from wetlands, streams, rivers and lakes.
Guy line	A rope or cable used to provide support and stability to a structure.
Habitat	The place(s) where plants or animal species generally occur(s) including specific vegetation types, geologic features, and hydrologic features. The continued survival of the species depends on the intrinsic resources of the habitat.
Hazardous materials	Substances or materials the Secretary of Transportation has determined are capable of posing an unreasonable risk to human health, safety, and property when transported in commerce, as designated under 49 CFR Parts 172 and 173.
Hydrology	Study of the movement, distribution, and quality of water throughout Earth.
Ice bridge	A man-made bridge constructed of ice and large enough to facilitate the passage of vehicles.

Invasive plant species	An alien species, the introduction of which does or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112, <i>Invasive Species</i> , February 3, 1999).
Jurisdictional wetland	A wetland that the U.S. Army Corps of Engineers regulates under Section 404 of the Clean Water Act (33 U.S.C. 1344).
Jute matting	An organic geotextile that forms mulch that suppresses weed growth and increases moisture retention in the soil to promote revegetation.
Mean high water line	The point on a streambank at which surface water is so continuous that the streambank is marked by erosion, absence of woody terrestrial vegetation, or predominance of aquatic vegetation.
Mitigation	In an Environmental Impact Statement, an action taken to prevent, reduce, or eliminate adverse environmental effects.
Navigable [rivers] waters	Any body of water that may be publicly used for business or transportation; in the United States, each state determines what private uses may occur in intrastate navigable waters, but the Federal Government has authority over navigable interstate and international waters.
Noise	Any undesired or unwanted sound.
Officially recognized trail	A recreational trail that has been specifically established within currently adopted plans by ADNR and/or MSB or is established within these plans at the time of construction or ROW conveyance (whichever occurs first), and is located on state, MSB property, or whose location is provided for by recorded ROW or easement. ARRC proposed to provide public access by a grade-separated crossing where practicable, or the trail could be relocated to avoid crossing the rail line. The design of the crossing would accommodate existing trail users at the time of construction or ROW conveyance (whichever occurs first). ARRC would coordinate with the trail owner and consult with user groups as appropriate where the crossing location may have to be relocated to accommodate a grade-separation, or multiple crossings within one mile might be consolidated.
Ordinary high water	The elevation on a stream, river or lake shore established by the fluctuations of water and indicated by physical characteristics such as clear natural line impressed on the bank, shelving, changes in soil characteristics, destruction of terrestrial vegetation, and the presence of litter and debris

Overpressures	A pressure shock wave, usually resulting from the detonation of an explosive, which measures over and above normal air or water pressure.
Peak particle velocity	The measure of ground movements. Technically, the maximum instantaneous positive or negative peak of the vibration signal, measured as a distance per unit of time (such as millimeters or inches per second). Peak particle velocity is typically used to evaluate shock-wave type vibrations from actions like blasting, pile driving, and mining activities, and their relationship to building damage.
Permafrost	Ground (soil or rock and included ice and organic material) that remains at or below zero degrees Celsius for at least two consecutive years.
Perched	A culvert is considered perched when the bottom of the culvert is elevated above the downstream water surface. This condition requires fish that are migrating upstream to leap from the water surface into the culvert. When the elevation difference exceeds the leaping ability of the fish, the perched culvert can impede migration.
Quiet zone	An area in which locomotive warning horns are not sounded at at-grade highway-rail crossings. The Federal Railroad Administration has primary authority over quiet zones which can be established pursuant to the process in 49 CFR Parts 222 and 229, Use of Locomotive Horns at Highway-Rail Grade Crossings, Final Rule.
Right-of-way	The strip of land for which an entity (e.g., a railroad) has a property right (e.g., by fee simple ownership or easement) to build, operate, and maintain a linear structure, such as a road, rail line, or pipeline.
Root mats	A sediment control device consisting of intertwined masses of roots from herbaceous plants, shrubs or trees.
Scour	The destructive effect that flowing water has on a submerged object over time.
Sedges	A family of flowering plants that resemble grasses or rushes, often associated with wetlands or areas with poor soils.
Seismic	Pertaining to, characteristic of, or produced by, earthquakes or earth vibrations.
Sensitive habitat areas	Areas containing or supporting organisms that are rare or valuable; these areas are often designated by a governmental entity.
Staging area	A designated area where vehicles, supplies, and construction equipment are positioned for access and use at a construction site.

Successional stages	A natural progression of plant inhabitation of bare ground, often occurring in different stages; e.g., initially annuals and perennials, then small woody plants, and then trees.
Terminal reserve	An area consisting of yard sidings, storage areas and a terminal building to support train maintenance.
Thermal erosion	The <i>erosion</i> of ice-bearing permafrost through warming.
Waters of the U.S.	Streams, drainages, or washes under the jurisdiction of the U.S. Army Corps of Engineers under the Clean Water Act as defined at 33 CFR Part 328.3a. The Army Corps of Engineers and the U.S. Environmental Protection Agency regulate the placement of dredged or fill material into these waters. The definition incorporates channels with ephemeral and intermittent flow that exhibit specific physical features, including channel shape and surrounding vegetation, that would provide indications of an ordinary high-water mark.
Wetlands	According to 40 CFR Part 230.41, those “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions,” generally including swamps, marshes, bogs, and similar areas.

ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADOT&PF	Alaska Department of Transportation and Public Facilities
APDES	Alaska Pollutant Discharge Elimination System
APLIC	Avian Power Line Interaction Committee
ARRC	Alaska Railroad Corporation
ASAP	Alaska Stand Alone Pipeline Project
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
MSB	Matanuska-Susitna Borough
NMFS	National Marine Fisheries Service
OEA	Office of Environmental Analysis
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordinance

ATTACHMENT 2
PROGRAMMATIC AGREEMENT

**PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
ALASKA STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
A RAIL LINE EXTENSION TO PORT MACKENZIE, ALASKA
DOCKET NO. FD 35095**

WHEREAS, the Surface Transportation Board (STB)¹, the lead Federal agency, has received an application from the Alaska Railroad Corporation (ARRC or Applicant) to construct and operate approximately 30 to 45 miles of proposed rail line to connect the Port MacKenzie Industrial District in Matanuska-Susitna Borough (MSB) to a point on the existing ARRC main line between Wasilla and north of Willow, Alaska (Undertaking), and may approve the Undertaking pursuant to Title 49 United States Code (U.S.C.) § 10502; and,

WHEREAS, the STB has determined that the proposed project is an Undertaking subject to Section 106 of the National Historic Preservation Act, (Section 106) at Title 16 U.S.C. § 470(f) which may have an effect upon properties included in or eligible for inclusion in the National Register of Historic Places (NRHP), hereafter “historic properties”; and,

WHEREAS, the STB consulted with the Advisory Council on Historic Preservation (ACHP); and the Alaska State Historic Preservation Officer (SHPO), pursuant to Section 800.14(b) of the regulations at Title 36 Code of Federal Regulations (C.F.R.) Part 800 implementing Section 106; and,

WHEREAS, the ACHP participated in the consultation for this Undertaking following notification by STB pursuant to 36 CFR § 800.6(a)(1)(i); and,

WHEREAS, the ARRC is an Invited Signatory pursuant to 36 C.F.R. § 800.6(c)(2) because it is the Applicant for the Undertaking and has the same authority to amend or terminate this Agreement as Signatories; and,

WHEREAS, the Knik Tribal Council (KTC) is an Invited Signatory pursuant to 36 C.F.R. § 800.6(c)(2) because it is a Federally Recognized Tribe pursuant to Volume 73 *Federal Register* (Fed. Reg.) No. 66, has responsibilities under this Agreement, is recognized as the traditional people residing in the area being crossed by the Undertaking, has the authority to propose amendments to this Agreement to the STB, but does not have authority to terminate this Agreement; and,

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 Port MacKenzie Rail Extension Project.

WHEREAS, the MSB is an Invited Signatory pursuant to 36 C.F.R. § 800.6(c)(2) because it has responsibilities under this Agreement, is providing significant funding to ARRC for construction of the Undertaking, has the authority to propose amendments to this Agreement to the STB, but does not have authority to terminate this Agreement; and,

WHEREAS, the KTC and MSB have developed a positive and productive partnership while carrying out mitigation for other undertakings in the vicinity of this Undertaking and that MSB, KTC, ARRC are working together to continue that partnership for this Undertaking; and,

WHEREAS, the Native Village of Eklutna (NVE), Chickaloon Village Traditional Council, and the Native Village of Tyonek are Federally Recognized Tribes invited by STB to be Concurring Parties pursuant to 36 C.F.R. § 800.6(c)(3) concerning properties of traditional religious and cultural significance to them as part of STB's government-to-government consultation requirements for resources of Tribal interest off Tribal Lands; and,

WHEREAS, Knikatnu, Inc. and Eklutna, Inc., Alaska Native Village Corporations, and the Cook Inlet Region, Incorporated (CIRI), an Alaska Native Regional Corporation pursuant to the Alaska Native Claims Settlement Act of 1971 (ANSCA, Public Law [Pub. L.] 92-203) have been invited by STB to be Concurring Parties pursuant to 36 C.F.R. § 800.6(c)(3) concerning properties of traditional religious and cultural significance to them as part of STB's government-to-government consultation requirements for resources of Tribal interest off Tribal Lands; and,

WHEREAS, the STB has consulted with and continues to consult with other Indian Tribes and Alaska Native corporations (Tribes) listed in Attachment A.2 of this Agreement who may want to consult on ways to avoid, minimize, and mitigate effects on the Dena'ina archaeological sites that could be affected by the Undertaking and these Tribes have been invited to participate in this Agreement as Concurring Parties; and,

WHEREAS, the State of Alaska's Department of Natural Resources (ADNR) is a Concurring Party pursuant to 36 C.F.R. § 800.6(c)(3) because it is a major land holder in the study area and may need to grant rights-of-way associated with the Undertaking; and,

WHEREAS, the Happy Trails Kennels (HTK), Willow Dog Mushers Association (WDMA), and Iditarod Historic Trail Alliance (IHTA) are Concurring Parties pursuant to 36 C.F.R. § 800.6(c)(3) because they regularly use a historic property; and,

WHEREAS, the refusal of any party invited to concur with this Agreement does not invalidate the Agreement; and,

WHEREAS, the STB, in consultation with the SHPO, has established the Undertaking's Area of Potential Effects (APE), as defined at 36 C.F.R. § 800.16(d). The APE is outlined and identified in Stipulation II.C and Attachment D of this Agreement; and,

WHEREAS, the STB determined the Iditarod Dog Sledding Historic District eligible for listing in the NRHP under Criterion A at the national level of significance, and SHPO concurred with this determination for the period of significance of 1967-1978; and,

WHEREAS, the STB recognizes that the region encompassing the Undertaking is of great importance to the Dena'ina people. According to the KTC, the Dena'ina Athabascans have lived, traded, trapped, and subsisted in the area for thousands of years as shown in Attachment C, Figure C-3, and that Dena'ina descendants continue to reside in and use the area for hunting, gathering, fishing, and ceremonial purposes such as moose hunts for funeral potlatches; and,

WHEREAS, the STB, as lead Federal agency, in conjunction with the Federal Railroad Administration; the U.S. Army Corps of Engineers, Alaska District; and U.S. Coast Guard, Seventeenth Coast Guard District (i.e., cooperating agencies) has prepared an Environmental Impact Statement (EIS) in accordance with the requirements of the National Environmental Policy Act (NEPA, 42 U.S.C. § 4332) to address the potential impacts of the Undertaking on a variety of human and natural resources; and,

WHEREAS, the STB has identified 74 potential historic properties within the preliminary APE for the purposes of comparing impacts in the EIS and has summarized and mapped them in Attachment C; and,

WHEREAS, the STB has deferred, until after the STB licenses an alternative, the final determinations of eligibility for the NRHP, assessment of effect, and consideration of alternatives to avoid, minimize, or mitigate effects to historic properties that may be affected by this Undertaking; and,

WHEREAS, the STB shall use an independent third-party contractor, working under its supervision, direction and control, and at ARRC's expense, to assist in meeting the STB's responsibilities defined in the Stipulations below; and ARRC shall ensure that an independent third-party contractor is retained and available for STB use no later than 60 days after an alternative is licensed by the STB; and,

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.

STIPULATIONS

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

I. Administrative Considerations

- A. The 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 the STB authorization, and on its heirs, successors, and assignees.

- C. The 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 Signatories shall ensure compliance consistent with their legal authorities and consult with the other agencies, as needed.

II. Applicability of this Agreement and Area of Potential Effects

- A. This Agreement shall apply to the Undertaking licensed by the STB and all components of it, including the APE, actions specified in the EIS, permits and other approvals so long as they are within the jurisdiction of the Signatories.
- B. The STB shall ensure that all work carried out pursuant to this Agreement will be done by or under the direct supervision of historic preservation professionals who meet the appropriate Secretary of the Interior's Professional Qualifications Standards (36 C.F.R. Part 61, Appendix A).
- C. The STB, in consultation with the SHPO, has established the APE as follows: The APE for direct effects shall include the 200-foot-wide right-of-way as well as areas where the ground will be disturbed such as staging areas, work camps, cut and fill areas, material sources/gravel quarries, overburden disposal areas, associated buildings/structures (e.g., sidings, bridges, etc.) and associated infrastructure (e.g., communication towers, power lines, etc.). Indirect effects may include an APE larger than the 200-foot right-of-way, may include vibration, noise, and access to trails and traditional use areas, and are dependent on the frequency of railroad traffic and the sensitivity of the historic property. The APE for visual effects may extend beyond the 200-foot right-of-way, and is dependent on topography, vegetation and the built environment beyond the right-of-way, the visual sensitivity of the historic property, and whether that portion of the Undertaking would be constructed at-grade or above-grade. The preliminary APE, shown in Attachment D, was set at a maximum of 1 mile on either side of the rail line centerline to establish a broad study area for the identification of historic properties that could be sensitive to visual or noise effects. The final APE will be based on final construction plans for the alternative licensed by the STB, and may be much closer to the rail line centerline than 1 mile.
- D. Not later than 60 days after STB issues a license for the Undertaking, the Working Group developed in Stipulation III, and HTK, WDMA, and other Concurring Parties interested in the Iditarod Dog Sledding Historic District, shall review ARRC's final construction plans, apply the APE definition provided in subsection II.C of this Agreement, and delineate the proposed final APE for the Undertaking.
 - 1. ARRC shall submit the proposed final APE for the Undertaking to the STB and SHPO who shall have a 15-day review and comment period.
 - 2. ARRC shall incorporate STB and SHPO comments as appropriate, and submit the final APE to all Signatories, Invited Signatories, and interested Concurring Parties for their reference and records.

3. If the licensing or permitting processes result in any changes to the final APE, ARRC shall submit those changes to STB and SHPO within 30 days of ARRC's receipt of such license or permit. The STB and SHPO shall have a 15-day review and comment period. ARRC shall incorporate STB and SHPO comments as appropriate, and submit the changes to all Signatories, Invited Signatories, and interested Concurring Parties for their reference and records.
4. The location of sensitive archaeological sites shall not be shown on a map of the final APE because of its broad distribution to non-Tribal entities.

III. Tribal Coordination

The STB initiated consultation with the Tribes listed in Attachment A.2 of this Agreement regarding the Section 106 process, in conjunction with the *Government-to-Government Consultation and Coordination Plan* prepared for this Undertaking on June 18, 2009, and preparation of the EIS. Specific consultation will continue as the terms of this Agreement are carried out, as follows:

A. Development of a Working Group

1. A Working Group, consisting of representatives of ARRC, MSB and KTC, in consultation with STB and SHPO, shall develop a detailed draft Memorandum of Understanding (MOU) not later than 45 days after an alternative has been licensed by STB.
2. The draft MOU will be developed to facilitate or carry out Stipulations II.D (Delineation of the APE), III.C and IX (Training), III.C (Future Consultation), VI (Curation), and VII (Annual Reports), and to support Stipulation IV (Evaluation and Treatment of Historic Properties).
3. The MOU shall outline procedures for identifying and consulting other interested parties beyond those already identified as concurring parties or contacted during the development of this PA. The Working Group shall consult with and engage other interested parties while carrying out Stipulations II.D (Delineation of the APE), III.C and IX (Training), III.C (Future Consultation), VI (Curation), and VII (Annual Reports), and to support Stipulation IV (Evaluation and Treatment of Historic Properties). The Annual Reports shall identify the other interested parties consulted during that reporting period and summarize the outcome of those consultations.
4. Prior to execution, ARRC shall submit the draft MOU to STB and SHPO, who shall have a 15-day review and comment period. The ARRC shall incorporate comments, as appropriate, and submit the executed MOU to STB and SHPO for their reference and records. Following STB and SHPO review and comment, the MOU shall become effective upon execution by the ARRC, MSB and KTC.

5. Nothing in this Agreement shall prohibit the Working Group from beginning to work on non-mitigation activities prior to receiving comments on the draft MOU from the STB and SHPO.

B. Objectives and Tasks of Working Group

1. The objectives of the Working Group are to facilitate and continue the positive working relationship between ARRC, MSB and KTC; to facilitate communication among Working Group members and consultation among Working Group members, Signatories, Concurring Parties and other interested parties; and to facilitate avoidance, minimization, and mitigation of historic properties that could be affected by the Undertaking.
2. The MOU tasks shall include the following:
 - a. review of final construction plans to identify the proposed final APE for the alternative licensed by the STB;
 - b. identify roles and responsibilities of the Working Group;
 - c. develop review and consultation procedures;
 - d. establish level of effort for identification, evaluation, and mitigation efforts such as conducting additional surveys in moderate to high probability areas not previously surveyed; oral history interviews; and at least one workshop with the Tribes to assess potential effects on historic properties, including effects on current harvest areas such as the ceremonial moose hunt area.
3. ARRC shall document the results of work conducted under the MOU in the Annual Reports (see Stipulation VII.A), as appropriate.
4. Within 30 days of investigating any of the 74 previously identified sites or any newly surveyed sites (See Attachment C) located in the final APE, the Working Group will submit any information it develops about any of these sites to the SHPO and STB for their review, comment, and consideration under Stipulation IV.
5. All activities conducted and work products prepared pursuant to the MOU shall be carried out by the ARRC and are subject to the oversight, review, and approval by the Signatories to this Agreement, as the Signatories deem appropriate. Specific procedures shall be addressed as necessary in the MOU.

C. Training

The KTC, as part of the Working Group, shall participate in conducting training to be given to ARRC's construction and other project-related personnel.

D. Future Consultation

1. The KTC, NVE, CIRI, Knikatnu, Inc. and other Tribes in Attachment A.2 and any other concurring parties shall receive for their review and comment, the Annual Report(s) described in Stipulation VII.A for historic properties that would be affected by the alternative licensed by the STB.
2. KTC has volunteered to serve as a point of contact for all Tribes under Attachment A.2. If any Tribes in Attachment A.2 object to KTC being the point of contact, they shall notify STB in writing, and all future consultation will be carried out directly with that Tribe.
3. STB consultation with the Tribes will remain open throughout the duration of the Project and as the terms of this Agreement are carried out. If further research or analysis results in the identification of other Tribes with interests or cultural ties to the Project, they will also be added to the list of consulting Tribes. Consultation methods will vary depending on the requests from the Tribes. Consultation types may vary from letters, phone calls, on-site meetings and various levels of documentation for review, to jointly developing site specific treatment plans and/or agreement documents. Consultation may also vary according to the type of resource involved, the periods when the various tribes are known to have occupied the project vicinity, and which alternative is ultimately licensed by the STB.

E. Government-to-Government Actions

The STB plans the following Government to Government actions to facilitate carrying out the terms of this Agreement:

1. The STB shall send all Tribes this Agreement and their ideas and preferences will be solicited concerning all parts of this Agreement that are Tribal-related. The Tribes will be able to send comments via mail, Email, or phone.
2. As appropriate, the STB shall solicit Tribal review of all identification efforts, assessments of effect, and treatment plans via mail, Email, or phone in accordance with Stipulation IV of this Agreement and the list of contacts identified in Attachment A.2 of this Agreement.
3. The STB shall notify the Tribes of the Annual Reports being prepared in accordance with Stipulation VII of this Agreement.

IV. Evaluation and Treatment of Potential Historic Properties

Evaluation efforts for potential historic properties affected by the alternative licensed by the STB will be required as follows:

- A. The STB will review the efforts of the Working Group in Stipulation III.B.4. The STB shall make determinations of NRHP eligibility and effects, including boundary delineations of potential historic properties within the final APE of the alternative licensed by the STB and submit them to SHPO, who shall have a 30-day period to review and concur. The STB shall incorporate SHPO's comments as appropriate, and submit its findings to Signatories, Invited Signatories, and interested Concurring Parties, who shall have a 15-day review and comment period. The STB shall incorporate comments, as appropriate.
- B. If a potential historic property is identified in the final APE and the STB and SHPO agree it is eligible for the NRHP, the STB will consult with Signatories, Invited Signatories, and Concurring Parties to seek ways to avoid, minimize or mitigate adverse effects. If adverse effects to a historic property cannot be avoided, measures will be identified to minimize or mitigate effects to that historic property. The mitigation measures may include: data recovery, development of local historic preservation plans and ordinances, developing educational materials/curriculum and web sites, conducting interviews with tribal elders or other knowledgeable individuals, purchasing properties containing historic properties, or developing historic property management plans as a supplement to, or even in lieu of, standard mitigation.
- C. If a potential historic property is identified in the APE and the STB and SHPO do not agree it is eligible for the NRHP, or if the ACHP so requests, the STB shall follow the procedures set forth in 36 C.F.R. § 800.4(c)(2).

V. Treatment of Iditarod Dog Sledding Historic District

A. Workshop

1. Within 60 days after the STB licenses an alternative, ARRC, in consultation with the STB and SHPO, will hold a workshop with HTK, WDMA, KTC, MSB and other parties interested in the Iditarod Dog Sledding Historic District, to delineate the boundaries of contributing features within the APE of the alternative licensed by the STB; discuss which are still used for their historic function; and determine how that historic function could be maintained during and following construction of the Undertaking.
2. ARRC will submit plans for grade separation and other mitigation measures specified in the STB's licensing decision (i.e., ROD) for review and discussion during the workshop.

3. Any design changes, modifications, and refinements of the Undertaking proposed during the workshop shall endeavor to avoid, mitigate, or minimize adverse effects on historic properties.

B. Develop Implementation Plan

Within 60 days after the workshop is held under subsection V.A, ARRC will summarize the outcomes of the workshop, develop an Implementation Plan in consultation with the STB and SHPO, and submit this information to Signatories, Invited Signatories and interested Consulting Parties, who shall have a 30-day review and comment period. ARRC shall incorporate comments as appropriate.

C. ARRC Execution of Implementation Plan

For contributing elements of the Iditarod Dog Sledding Historic District, treatment could include grade separations or relocation of trails and other mitigation to keep historic long distance dog sled trails that are still used for their historic function intact and maintain access and connectivity. If recordation and documentation is described in the treatment plan, methods shall conform to the *Secretary of the Interior's Standards for Architectural and Engineering Documentation* (48 Fed. Reg. 44730-44734) or other standards specified by the SHPO.

VI. Curation

- A. The Working Group (see Stipulation III.A), in consultation with the STB and SHPO, shall develop a draft curation policy for artifacts, faunal remains, samples, records and field notes, and related materials collected during identification and evaluation activities conducted for the Section 106 and NEPA process as well as activities covered by this Agreement prior to ground-disturbing activity. The Working Group shall provide the draft curation policy to the STB and SHPO for a 30-day review and comment period. The Working Group shall provide a copy of the final curation policy to all parties to this Agreement and the curation policy shall be appended to this Agreement.
- B. 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 a curatorial facility that meets requirements found in 36 C.F.R. Part 79, Curation of Federally Owned and Administered Archaeological Collections and in Alaska Statutes Title 41 Chapter 35.
- C. The Working Group shall develop a curation agreement with its selected facility prior to ground-disturbing activity and provide the curation agreement to all parties to this Agreement. The curation agreement shall be appended to this Agreement.

- D. Consistent with 36 C.F.R. Part 79, collections shall be packaged in archival quality materials and in a manner appropriate to the material type. ARRC shall consult with the SHPO and curation facility in advance to ensure that collected materials are prepared and packaged appropriately.
- 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.

VII. Annual Reports

- A. ARRC shall prepare an annual report on the progress of implementation of the stipulations of this Agreement, including the actions of the Working Group, and shall distribute it to all parties to this Agreement. The Annual Report(s) shall include the following:
 - 1. A timeline under which work will be completed and milestones met for the Undertaking and any timeline and milestone changes proposed;
 - 2. A description of the tasks accomplished during the preceding year 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;
 - 3. A description of the progress of the Undertaking and any known or expected changes to the Undertaking;
 - 4. An evaluation of the effectiveness of this Agreement and whether any amendments or changes are needed based on deficiencies or project modifications.
 - 5. 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.
 - 6. Updates to the contact lists in Attachments A.2 and A.3.
- B. ARRC shall distribute copies of the Annual Report(s) with redacted passages pertaining to sensitive archaeological sites to Dog Mushing Organizations and other Interested Groups listed in Attachment A.3.
- C. STB shall place the Annual Report(s) on its website at <http://www.stb.dot.gov>, redacted for sensitive archaeological sites, for public review and comment.
 - 1. The STB's website shall provide directions on how the public can provide written comments to the STB. As appropriate, the STB shall distribute public comments to the parties to this Agreement along with STB-proposed comment responses or courses of action.

2. All written correspondence from the Parties (redacted, as necessary) and the public received by the STB during implementation of this Agreement shall be placed on the STB's website.

VIII. Inadvertent or Unanticipated Discoveries

- A. Upon the inadvertent discovery of a potential historic property, 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 (Attachment 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 Plan for Unanticipated Discoveries shall be followed (Attachment A.2).

IX. Training of Applicant's Employees and Contractors

- A. On an annual basis, ARRC shall 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. The training shall be developed with sensitivity to concerns of Tribes in Attachment A.2 and offer the opportunity for a tribal representative to meet in person with employees and contractors if a Tribe so requests. 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, ARRC shall submit the curriculum to the STB, SHPO, Tribes in Attachment A.2, and MSB for review and comment.
- D. Information provided during the training may be conveyed by supervisory level employees and contractors to staff unable to attend the training; however, to the extent possible, staff who are involved in surveying, grading, or ground disturbing activities shall attend the training.

X. Other Federal Agency Involvement

In the event that ARRC or other entity applies for additional Federal funding or Federal approvals for the Undertaking and the Undertaking remains unchanged, such funding or approving Federal agency may comply with Section 106 by agreeing in writing to the terms of this Agreement and notifying and consulting with SHPO and ACHP. Any necessary modifications will be considered in accordance with Stipulation XII (Amendments).

XI. Dispute Resolution

- A. Should any party to this Agreement object to any treatment plan, report, or action pursuant to this Agreement, the STB and SHPO shall consult with the objecting party to resolve the objection.
- B. If the STB and/or SHPO determine that the objection cannot be resolved, the STB shall forward all documentation relevant to the dispute and a plan to resolve the objection to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will either:
 - 1. Provide the STB with recommendations, which the STB will take into account in reaching a final decision regarding the dispute; or
 - 2. Notify the STB that it will comment pursuant to 36 C.F.R. § 800.7, and proceed to comment. Any ACHP comment provided in response to such a request shall be taken into account by the STB with reference to the subject of the dispute. The STB will provide a copy of its written response to the ACHP comments or final decision on any dispute to all parties to the Agreement before proceeding.
 - 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.
- C. 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, the SHPO, or the ACHP to resolve the objection.

XII. Amendments

Any Signatory or Invited Signatory to this Agreement may make a request to the STB that the other Signatories consider amending it, whereupon the parties shall consult to consider the amendment(s). STB may amend this Agreement by notifying all Signatories and Invited Signatories that it intends to do so. Amendments will be executed in the same manner as the original Agreement. Concurring Parties may suggest proposed amendments to the Signatories and Invited Signatories, who shall consult to consider them.

XIII. Termination

Any Signatory to this Agreement or the ARRC may terminate the Agreement by providing 30 days notice to the other parties explaining the reasons for the termination. The Signatory or ARRC 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 C.F.R. §§ 800.3 through 800.6 on remaining Undertaking components, activities, or outstanding issues.

XIV. Duration

- A. This Agreement shall become effective upon execution by the STB, 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.
- B.
- C. In the event that the Undertaking has not been initiated or the terms of this Agreement are not carried out within five years, the STB may extend this Agreement by notifying all Signatories and Invited Signatories before the five years has elapsed that it intends to do so. If the SHPO or ACHP object to the extension, the Agreement shall be considered null and void. In such an event the STB shall so notify the parties to this Agreement, and if it chooses to continue with the undertaking, shall re-initiate review of the undertaking in accordance with 36 C.F.R. Part 800.

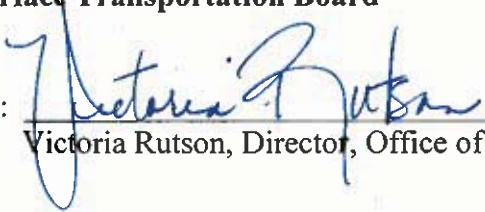
XV. Execution and Implementation

Execution and implementation of this Agreement evidences that the STB has satisfied its responsibilities under Section 106 of the National Historic Preservation Act pursuant to 36 C.F.R. Part 800.

**PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
ALASKA STATE HISTORIC PRESERVATION OFFICER
REGARDING
THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
A RAIL LINE EXTENSION TO PORT MACKENZIE, ALASKA
DOCKET NO. FD 35095**

SIGNATORIES (1 of 3)

Surface Transportation Board

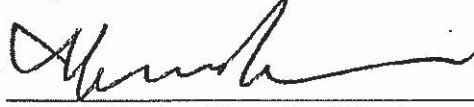
By:  Date: May 27, 2011
Victoria Rutson, Director, Office of Environmental Analysis

FINAL, May 25, 2011

PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
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REGARDING
THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
A RAIL LINE EXTENSION TO PORT MACKENZIE, ALASKA
DOCKET NO. FD 35095

SIGNATORIES (2 of 3)

Advisory Council on Historic Preservation

By: 

 John M. Fowler, Executive Director

Date: 6/15/11

FINAL, May 25, 2011

**PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
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REGARDING
THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
A RAIL LINE EXTENSION TO PORT MACKENZIE, ALASKA
DOCKET NO. FD 35095**

SIGNATORIES (3 of 3)

Alaska State Historic Preservation Officer

By: 
Judith E. Bittner, State Historic Preservation Officer

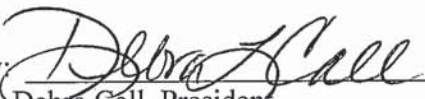
Date: May 26, 2011

FINAL, May 25, 2011

**PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
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THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
A RAIL LINE EXTENSION TO PORT MACKENZIE, ALASKA
DOCKET NO. FD 35095**

INVITED SIGNATORIES (1 of 3)

Knik Tribal Council

By: 
Debra Call, President

Date: 5/26/11

FINAL, May 25, 2011

**PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
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THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
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DOCKET NO. FD 35095**

INVITED SIGNATORIES (2 of 3)

Alaska Railroad Corporation

By: Christopher Aadnesen Date: June 9, 2011
Christopher Aadnesen, President and Chief Executive Officer

FINAL, May 25, 2011

**PROGRAMMATIC AGREEMENT
AMONG
SURFACE TRANSPORTATION BOARD,
ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND
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THE ALASKA RAILROAD CORPORATION CONSTRUCTION AND OPERATION OF
A RAIL LINE EXTENSION TO PORT MACKENZIE, ALASKA
DOCKET NO. FD 35095**

INVITED SIGNATORIES (3 of 3)

Matanuska-Susitna Borough

By: 
Borough Manager, John Moosey

Date: 5.26.11

CONCURRING PARTIES

Chickaloon Village Traditional Council

By: _____ Date: _____
Gary Harrison, Chief

Native Village of Eklutna

By: _____ Date: _____
Dorothy Cook, President

Native Village of Tyonek

By: _____ Date: _____
Frank Standifer, President

Cook Inlet Region, Inc.

By: _____ Date: _____
Margaret L. Brown, President and Chief Executive Officer

Eklutna, Inc.

By: _____ Date: _____
Curtis McQueen, Chief Executive Officer

FINAL, May 25, 2011

Knikatnu, Inc.

By: _____ Date: _____
Raymond Theodore, President

State of Alaska, Department of Natural Resources

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

Happy Trails Kennels

By: _____ Date: _____
Martin Buser

Willow Dog Mushers Association

By: _____ Date: _____
Erin McLarnon, President

Iditarod Historic Trails Alliance

By: _____ Date: _____
Lori Henry, Vice-President

ATTACHMENT A

PLAN OF ACTION FOR THE TREATMENT OF UNANTICIPATED DISCOVERY OF HUMAN REMAINS, GRAVES AND HISTORIC PROPERTIES

Human Remains and Graves

- A. The Native American Graves Protection and Repatriation Act (NAGPRA) regulations (43 C.F.R. Part 10), do not apply to the Undertaking because it would not occur on Federal lands. The following steps must be taken if human remains, or suspected human remains, are discovered:
- 1 Should human burials be encountered, work will be stopped at once in the locality and the STB, SHPO and Alaska State Troopers (AST) shall be contacted immediately. See below for contact numbers.
 - 2 If the human remains appear recent in the judgment of the archaeologists, the STB shall defer to the opinion of the AST and Alaska State Medical Examiner (Alaska SME) for a determination of whether the remains are of a forensic nature and /or subject to criminal investigation.
 - 3 If the racial identity of the human remains is in question, a physical anthropologist experienced in the analysis of human remains shall examine them. The physical anthropologist shall document, analyze, and photograph the remains so that an independent assessment of racial identity can be made. The physical anthropologist shall be afforded no more than 30 days time to conduct his or her analysis.
 - 4 If the human remains are on Federal land and determined to be of Native American origin, the STB will follow NAGPRA regulations and procedures set forth in 43 C.F.R. Part 10. If the human remains are not Native American, and a determination has been made by the AST and Alaska SME that a death investigation is not warranted, then the STB in consultation with the Alaska SME, will attempt to identify, locate and inform descendants of the deceased. If the human remains are to be moved, then the STB shall obtain any required permits from the Alaska State Bureau of Vital Statistics, and reinter the remains in a designated area.
 - 5 The ARRC Project Manager should contact the following people or agencies within 24 hours of uncovering the remains (notification should include available information regarding the nature and extent of the remains and an accurate and precise location including Global Positioning System coordinates):

State Historic Preservation Officer (SHPO)

Judith Bittner
State Historic Preservation Officer
Alaska Department of Natural Resources
550 W. 7th Ave., Suite 1310
Anchorage, AK 99501-3565
Phone: (907) 269-8721
Fax: (907) 269-8908

Federal Agency Official in Charge

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

Appropriate Land Managing Agency Contact for the Relevant Parcel

Responsible Native Representative for the Area of Discovery

Primary Point of Contact

Debra Call
President
Knik Tribal Council
PO Box 871565
Wasilla, Alaska 99687-1565
Phone: 907-373-7991
Fax: 907-373-2161

Dorothy Cook
President
Native Village of Eklutna
26339 Eklutna Village Road
Chugiak, Alaska 99567
Phone: 907-688-6020
Fax: 907-688-6021

Frank Standifer
President
Native Village of Tyonek
PO Box 82009
Tyonek, Alaska 99682-0009
Phone: 907-583-2201
Fax: 907-583-2442

Gary Harrison
Chief
Chickaloon Village Traditional Council
P.O. Box 1105
Chickaloon, AK 99674-1105
Phone: 907-745-0707
Fax: 907-745-0709

The Alaska State Troopers

Communications Center Manager
Phone: (907) 451-5100
Fax: (907) 451-5165

Matanuska-Susitna Borough

Fran Seager-Boss
Matanuska Susitna Borough Historic Commission
Matanuska Susitna Borough
Cultural Resources Specialist
350 East Dahlia Avenue
Palmer, Alaska 99645
Phone: (907) 745-9859
fseagerboss@matsugov.us

The ARRC Project Manager should contact the following people, though not necessarily within the first 24 hours:

a. Alaska State Medical Examiner's Office

Dr. Katherine Raven, Chief Medical Examiner
Phone: (907) 334-2200
Fax: (907) 334-2216
Email: Stanton.kessler@alaska.gov

Kenneth Cramer, Death Investigator
Phone: (907) 334-2200
Fax: (907) 334-2216
Email: Kenneth.Cramer@alaska.gov

b. Alaska Bureau of Vital Statistics

Phillip Mitchell, Chief
Phone: (907) 465-8643
Fax: (907) 465-3618
Email: Phillip.Mitchell@alaska.gov

c. Other Contacts

1. Curtis McQueen
Chief Executive Officer
Eklutna, Incorporated
16515 Centerfield Dr., Suite 201
Eagle River, AK 99577
Phone: 907-696-2828
Fax: 907-696-2845
2. Raymond Theodore
President
Knikatu, Incorporated
P.O. Box 872130
Wasilla, Alaska 99687-2130
Phone: 907-376-2845
Fax: 907-376-2847
3. Michaelene Stephan
President
Tyonek Native Corporation
1689 C St., Suite 219
Anchorage, AK 99501-5131
Phone: 907-272-0707
Fax: 907-274-7125
4. Edith Baller
President
Chickaloon-Moose Creek Native Association, Inc.
P.O. Box 875046
Wasilla, AK 99687
Phone: 907-373-1145
Fax: 907-373-1004
5. Gloria O'Neill
President and Chief Executive Officer
Cook Inlet Tribal Council
3600 San Jeronimo Dr.
Anchorage, AK 99508
Phone: 907-793-3600
Fax: 907-793-3602
6. Aaron Leggett
Dena'ina Cultural Historian
Phone: (907) 330-8029
Fax: (907) 330-8039
Aleggett2000@gmail.com

7. Margaret L. Brown
President and Chief Executive Officer
Cook Inlet Region, Inc. (CIRI)
2525 C Street, Suite 500
P.O. Box 93330
Anchorage, Alaska 99509-3330
Phone: 907-274-8638
Fax: 907-263-5183

A.1. Plan for Unanticipated Discoveries

In the event that cultural materials are discovered, this plan shall be followed, and implemented in compliance with the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. § 470) as well as implementing regulations (36 C.F.R. Part 800).

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

- A. Stop all work in the immediate vicinity of any historic properties or suspected cultural resources.
- B. Mark the area in which the resources are located, as well as a buffer area appropriate to the find and the terrain. 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 parties².
- C. ARRC's Project Manager should contact the people or agencies in the previous list at A.1(6)(a) through (e) within 24 hours of discovering the resources.

Notification of unanticipated discoveries should include available information regarding the nature and extent of the historic properties 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 of consultation. If the parties agree that the discovery is not significant, verbal authorization to proceed may be given by the SHPO. If additional investigation is agreed to, the provisions of Stipulation IV.B shall be followed, unless modified evaluation and reporting are agreed to.

² 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.

A.2. Tribes and Alaska Native Organization Contact List

Federally Recognized Tribes and Tribal Groups

Gary Harrison, Chief

Chickaloon Village Traditional Council

Send information to:

Jennifer Harrison, Executive Director

P.O. Box 1105

Chickaloon, AK 99674-1105

Phone: 907-745-0707

Fax: 907-745-0709

Other contact:

Gary Stevig, Transportation Assistant Director, (907) 745-0854

Dorothy Cook, President

Native Village of Eklutna

26339 Eklutna Village Road

Chugiak, Alaska 99567

Phone: 907-688-6020

Fax: 907-688-6021

Other contact:

Marc Lamoreaux, Land & Environment Director, cell (907) 242-6967

Debra Call, President

Knik Tribal Council

PO Box 871565

Wasilla, Alaska 99687-1565

Phone: 907-373-7991

Fax: 907-373-2161

dcall@kniktribe.org

dcall@alaskanative.net

Other contacts:

Richard Porter, Executive Director, Phone: 907-373-7991

Alfred Tellman, Council Member, Phone: 907-373-7991

Quentin Simeon, Education and Training Coordinator, Phone: 907-373-7991

Frank Standifer, President

Native Village of Tyonek

PO Box 82009

Tyonek, Alaska 99682-0009

Phone: 907-583-2201

Fax: 907-583-2442

Other contact:

Harriet Kauffman, Council member, Phone: 907 583-2115

Alaska Native Regional Corporations

Margaret L. Brown, President and Chief Executive Officer

Cook Inlet Region, Inc.

2525 C Street, Suite 500

P.O. Box 93330

Anchorage, Alaska 99509-3330

Phone: 907-274-8638

Fax: 907-263-5183

Other contacts:

Kim Cunningham, Director, Land and Resources, 907-274-8638

Cindi Bettin, Land Administrator, 907-274-8638

Alaska Native Village Corporations

Curtis McQueen, Chief Executive Officer

Eklutna, Incorporated

16515 Centerfield Dr., Suite 201

Eagle River, AK 99577

Phone: 907-696-2828

Fax: 907-696-2845

Other contact:

Jim Arnesen, Corporate Land & Regulatory Manager, 907-696-2828

Raymond Theodore, President

Knikatu, Incorporated

P.O. Box 872130

Wasilla, Alaska 99687-2130

Phone: 907-376-2845

Fax: 907-376-2847

Michaelene Stephan, President

Tyonek Native Corporation

1689 C St., Suite 219

Anchorage, AK 99501-5131

Phone: 907-272-0707

Fax: 907-274-7125

Other contacts:

Tom Harris, Chief Executive Officer, 907-272-0707

John D. McClellan, Tyonek consultant, 907-272-0707

Robyn Ray, 907-272-0707

FINAL, May 25, 2011

Edith Baller, President
Chickaloon-Moose Creek Native Association, Inc.
P.O. Box 875046
Wasilla, AK 99687
Phone: 907-373-1145
Fax: 907-373-1004

Gloria O'Neill, President and Chief Executive Officer
Cook Inlet Tribal Council
3600 San Jeronimo Dr.
Anchorage, AK 99508
Phone: 907-793-3600
Fax: 907-793-3602

Other

Aaron Leggett, Dena'ina Cultural Historian
Phone: (907) 330-8029
Fax: (907) 330-8039
aleggett2000@gmail.com

A.3. Dog Mushing Organizations and other Interested Groups Contact List

Dog Mushing Organizations

Erin McLarnon, President
Willow Dog Mushers Association
P.O. Box 858
Willow, AK 99688
Phone: 907-495-0671
Mushing@gci.net

Martin Buser
Happy Trails Kennels
P.O. Box 520997, Mile 4.5 West Lakes Blvd.
Big Lake, AK 99652
Phone: 907-355-7898 (cell)
Additional contact: Kathy Chapoton, kchap1@me.com

Vern Halter
Dream a Dream Dog Farm
P.O. Box 389
Willow, AK 99688
Phone: 907-495-1197
vhalter@mtaonline.net

Steve Charles, Chairman
Willow Trial Committee
Phone (907) 495-6368.
Fax: (907) 495-1924
scharles@mtaonline.net

Chas St. George
Iditarod Trail Committee
PO Box 870800
Wasilla, AK 99687
cstgeorge@iditarod.com

Lori Henry, Vice President
Iditarod Historic Trail Alliance
PO Box 2323
Seward, Alaska 99664
lbhenry@gci.net

Other Interested Groups

Fran Seager-Boss, Cultural Resources Specialist
Matanuska Susitna Borough Historic Preservation Commission
350 East Dahlia Avenue
Palmer, Alaska 99645
Fran.Seager-Boss@matsugov.us
(907) 745-9859

Additional Contacts:

Vickie Cole, Cultural Resources Assistant, (907) 745-9655, Victoria.Cole@matsugov.us
Dan Stone, Daniel.Stone@matsugov.us

Jim Barnett
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ATTACHMENT B

List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ADNR	Alaska Department of Natural Resources
ANCSA	Alaska Native Claims Settlement Act
APE	Area of Potential Effects
ARRC	Alaska Railroad Corporation
AST	Alaska State Troopers
C.F.R.	Code of Federal Regulations
CIRI	Cook Inlet Region, Incorporated
EIS	Environmental Impact Statement
Fed. Reg.	Federal Register
HTK	Happy Trails Kennels
IHTA	Iditarod Historic Trail Alliance
KTC	Knik Tribal Council
MOU	Memorandum of Understanding
MSB	Matanuska-Susitna Borough
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NVE	Native Village of Eklutna
OEA	Office of Environmental Analysis
POA	Plan of Action
Pub. L.	Public Lands
ROD	Record(s) of Decision
ROW	Right-of-way
Section 106	Section 106 of the National Historic Preservation Act
SHPO	State Historic Preservation Officer
SME	Alaska State Medical Examiner
STB	Surface Transportation Board
Tribes	Indian Tribes and Alaska Native corporations
U.S.C	United States Code
WDMA	Willow Dog Mushers Association

ATTACHMENT C

C.1. Historic Properties

The STB determined the Iditarod Dog Sledding Historic District eligible for listing in the NRHP under Criterion A at the national level of significance, and SHPO concurred with this determination for the period of significance of 1967-1978. (See Figure C-1).

C.2. Potential Historic Properties

Prehistoric Cultural Resources: Figure C-2 shows the documented cultural resources near the Undertaking and their generalized locations in relation to the proposed rail line alternatives. There are 56 known prehistoric sites within 1 mile of the right-of-way (ROW), 29 of which were discovered during OEA's field surveys in September and October 2008 (Table C-1). Most of the sites consist of what are called cache pits, which were used for storage, processing, or freezing foods, and large semi-subterranean house pits, called *nichil* in Dena'ina, used for permanent or winter homes. A determination of eligibility for inclusion in the National Register has not been conducted for any of the prehistoric sites.

Historic Cultural Resources: There are 18 historic cultural resources within 1 mile of the proposed ROW (Table C-1). Most of the historic cultural resources consist of historic structures, including bridges, roadhouses, cabins, and railroad stations. Five of the historic sites listed were discovered during OEA's surveys for the proposed rail line. These sites include 2 cabins, 1 shooting blind, and 2 trails. A determination of eligibility for inclusion in the National Register has not been made for any of the existing historic sites.

Table C-1: Alaska Heritage Resources Survey Sites in the Project Area

	Prehistoric	Historic	Total
Previously Documented Alaska Heritage Resources Survey Sites ^a	27	13	40
2008 Port MacKenzie Rail Extension Survey Documented Alaska Heritage Resource Sites	29	5	34
Totals	56	18	74

^a Source: ADNOR OHA, 2008a.

C.3. Dena'ina Place Names and Trails

There are a number of Dena'ina trails and numerous Dena'ina language place names near the Undertaking. Place names indicate the history of Dena'ina land use for those who used the lands and survived to be interviewed by linguists. Trails in the study area also include later Euro-American trails, which often were based on Dena'ina trails that preceded them. Trails to mineral lodes and claims often branched off existing Dena'ina trails, but in some cases were completely new trails cut and improved by miners and explorers. (Figure C-3).

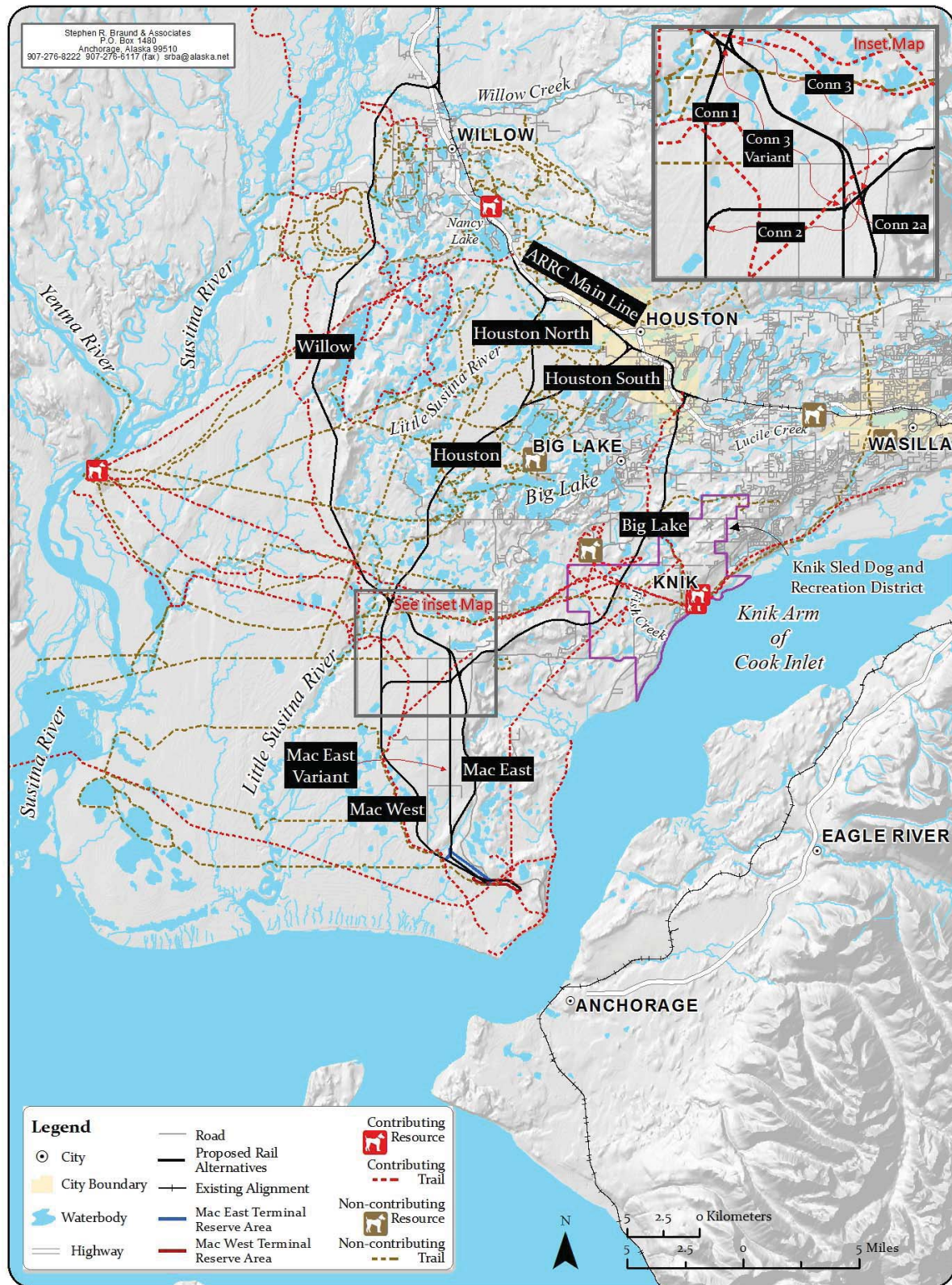


Figure C-1. Iditarod Dog Sledding Historic District

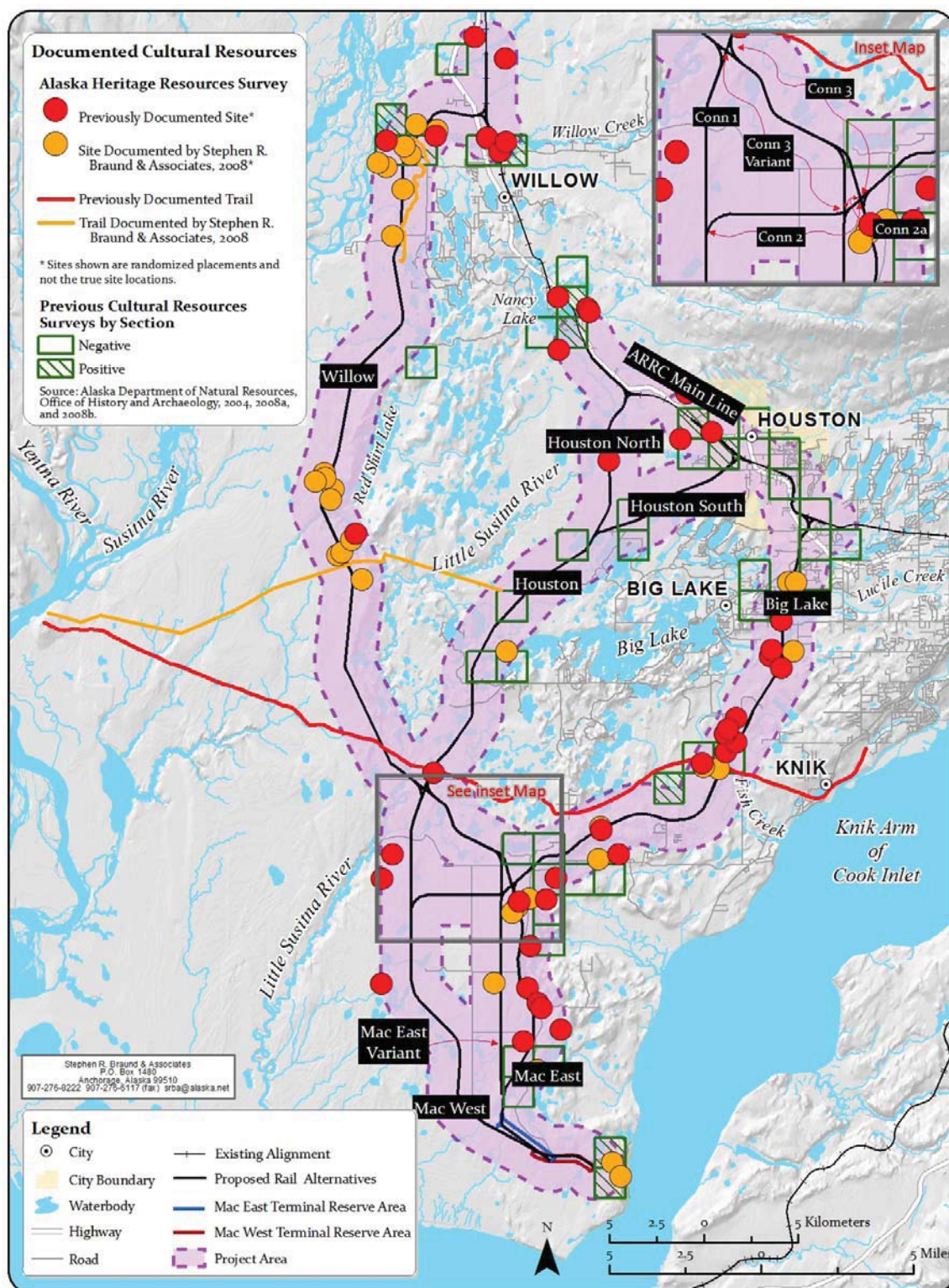


Figure C-2. Documented Cultural Resources near the Proposed Port MacKenzie Rail Extension Project

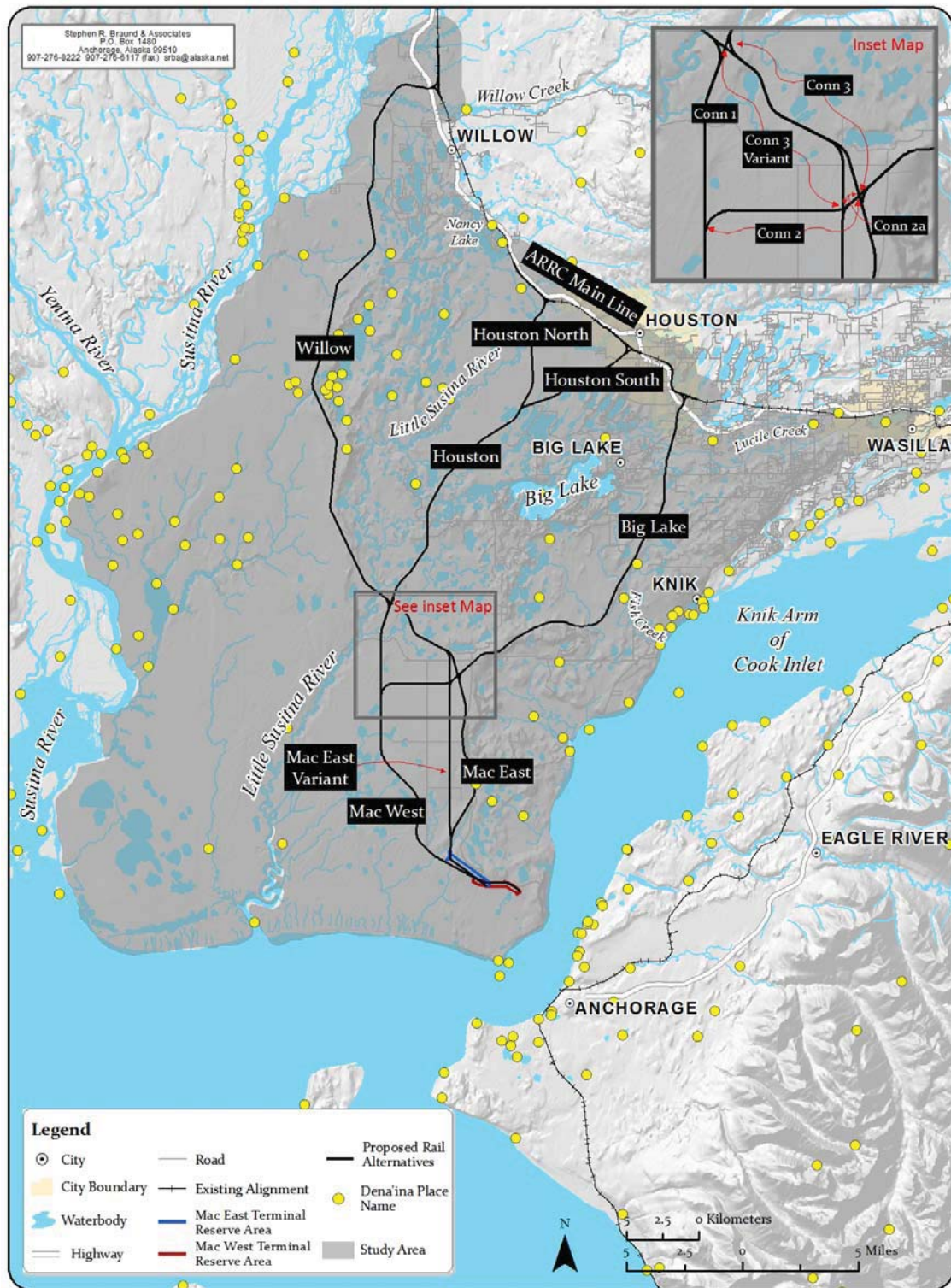


Figure C-3. Locations of Dena'ina Place Names near the Proposed Port MacKenzie Rail Extension Project

ATTACHMENT D

PRELIMINARY AREA OF POTENTIAL EFFECTS MAP

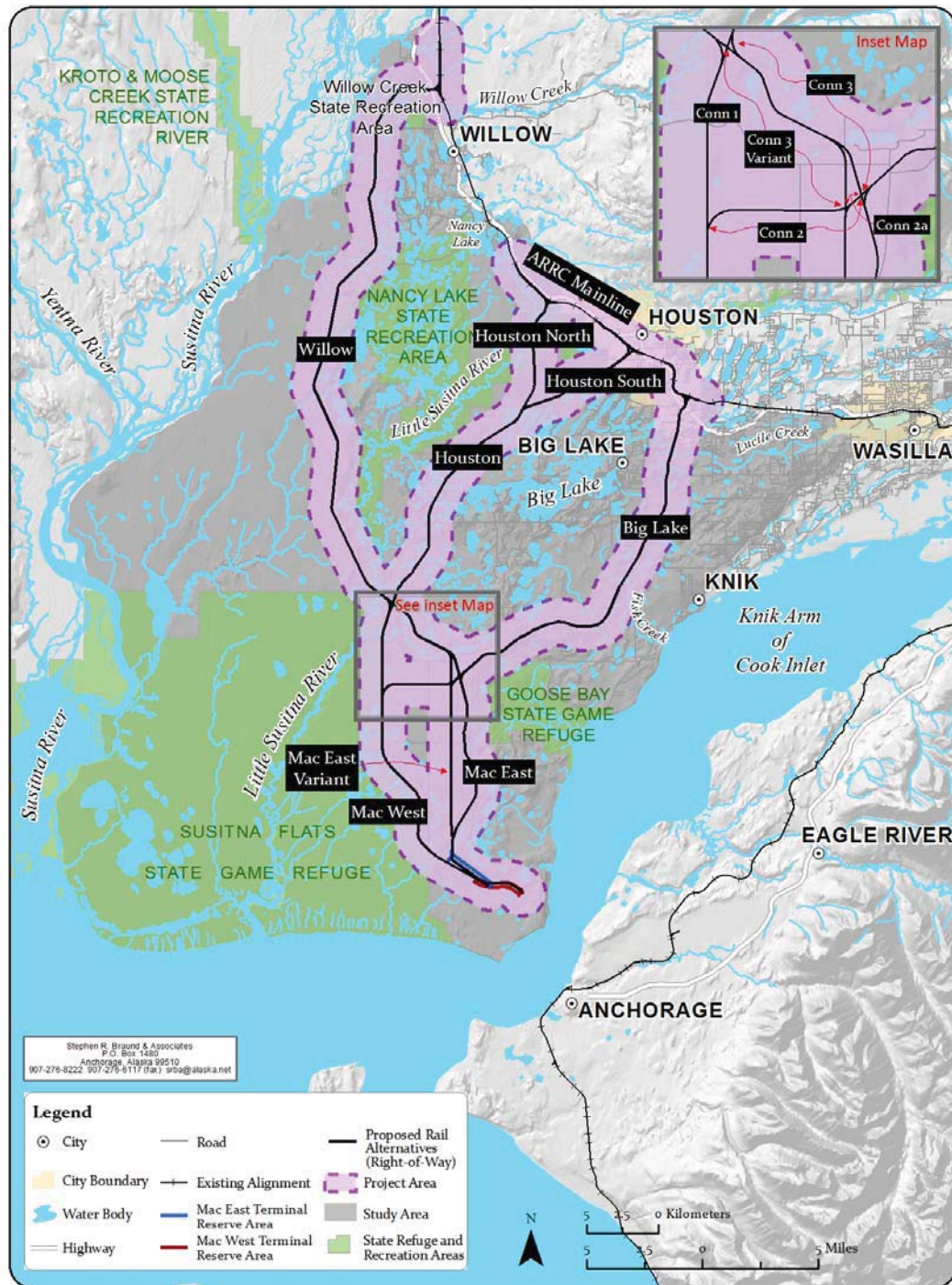


Figure D-1. Preliminary Area of Potential Effects Map