



Re: Port MacKenzie Quarterly Report Outline 
 David Navecky to: johnson.jay
 Cc: kusske.floyd.kathryn

02/09/2012 02:53 PM

Jay -

I have reviewed the draft annotated outline for the quarterly reports. As written, the introductory text conveys confusion regarding which party will be preparing the quarterly reports for submittal to OEA. For example, the draft text refers to a "third-party contractor" that will prepare and submit the quarterly reports to OEA. However, the quarterly reports are to be prepared by ARRC (or contractor on behalf of ARRC), not the third-party contractor. The third-party contractor, in this case ICF Consulting, works under the direction, supervision and control of OEA, not ARRC. To clarify this issue, I have edited the text of the annotated outline using the track changes function of Word (see attachment).

I have no comments on the Mitigation Checklist at this time. This checklist format looks like a reasonable approach. However, its value and usefulness to OEA (in determining mitigation compliance) will largely depend on how thoroughly ARRC fills out the matrix.

Please let me know if you have any questions.

Thanks,

Dave Navecky
 202-245-0294



DraftAnnotatedOutline_OEAComments.docx

	Dave, As discussed, here is our outline for the q...	01/30/2012 11:24:23 AM
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From: <johnson.jay@DORSEY.com>
 To: <David.Navecky@stb.dot.gov>
 Cc: <kusske.floyd.kathryn@DORSEY.com>
 Date: 01/30/2012 11:24 AM
 Subject: Port MacKenzie Quarterly Report Outline

Dave,

As discussed, here is our outline for the quarterly report, along with a "Mitigation Checklist" for use with the outline.

We are happy to discuss further if you have any questions.

Let us know if there's a time this week that works for a meeting to discuss the Ninth Circuit petition.

Regards,

Jay



Jay C. Johnson

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Thank you.

[attachment "Quarterly Report Outline.doc" deleted by David Navecky/STB]



Quarterly Report: Annotated Outline

Point MacKenzie Rail Extension Project

January 2012

Purpose

On November 21, 2011 the Surface Transportation Board (STB) issued a final decision (Docket No. FD 35095) authorizing the Alaska Railroad Corporation (ARRC) to construct and operate approximately 35 miles of new rail line connecting Port MacKenzie to ARRC's existing main line near Houston, Alaska. In that decision, Mitigation Measure 98 STB requires ARRC to submit quarterly reports to the STB's Office of Environmental Analysis (OEA) on the progress of, implementation of, and compliance with all STB-imposed mitigation measures. Mitigation Measure 99 also requires ARRC to prepare and submit an annotated outline of the prepare a quarterly reports for OEA review and approval. The -outline ARRC intended to be used by a third party monitor during for the duration of, and through one year after, the construction of the new rail line is provided below.:

This draft annotated outline below is intended to serve as a guide for preparation of each quarterly report to be submitted by a ARRC third party contractor to the STB Office of Environmental Analysis (OEA). This outline specifies the required information for each quarterly report, including information that may assist in OEA's in its ongoing review of the project. If specific plans, monitoring metrics, or verification results appropriate for a particular construction phase or quarterly report are not yet available, they will be identified in the quarterly report and submitted when complete.

Also included below is a draft mitigation measure checklist that will guide for ARRC the third party monitor to consider during the preparation of each quarterly report (QR).

Quarterly Report Outline

PROJECT PROGRESS

- Describe the key construction activities/milestones conducted during the reporting period.
- Identify the start and end dates of the current quarterly report period.
- Identify the person responsible for preparing the quarterly report; include current contact information (phone, email, mailing address).
- Identify project mileposts, stationing, or other geographic landmarks that will help identify the extent of work completed during the reporting period.
- List any permit authorizations received during the past quarter; include permit modification submittals and approvals, as necessary.

PLANNED ACTIVITIES – Next Reporting Period

- Briefly describe any construction activities/milestones are planned for the next reporting period.

DISCUSSION

- Provide an additional discussion of relevant issues, as needed.

SCHEDULE

- Provide a concise project schedule.

Submittal

~~ARRC~~The third-party monitor will submit each quarterly reportthe QR, mitigation checklist, and any supporting documents under cover letter to the following address. In the ~~Subject Line~~, ARRC shallthe monitor should reference to the following: **Alaska Railroad Corporation, Port MacKenzie Rail Extension (STB Docket No. FD #35095) – Quarterly Report.**

David Navecky
Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, D.C. 20423-0012

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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 seismic 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)	Review design criteria	Before construction	
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 a 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. • If weather or season precludes the prompt reestablishment of vegetation, temporary erosion control measures shall be implemented. (V)	SWPPP approval by ADEC	Before construction	
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 waterbodies. 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 Alaska Department of Environmental Conservation section 401 water quality certification). The Applicant shall incorporate stipulations into construction contract specifications. (V)	Permits issued; stipulations added to contract specifications	Before construction	
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)	Section 404 Permit is issued	Before construction	
5: The Applicant shall design and construct the proposed 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)	Review design criteria and Section 404 permit	Before construction	
6: The Applicant shall disturb the smallest area practicable around any streams and, as soon as practicable following project-related construction activities, revegetate disturbed areas using native vegetation. The Applicant shall disturb the smallest area practicable around any streams and, as soon as practicable following project-related construction activities, revegetate disturbed areas using native vegetation. (V)	Review design criteria and Section 404 permit	Before, during, and after construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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)	Review design criteria, Section 404, and Title 16 permits	Before and during construction	
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)	Permit Issued	Before construction	
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)	Permit Issued	Before construction	
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)	Review design criteria and Title 16 permits	Before construction	
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)	Review design criteria and Title 16 permits	Before construction	
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)	Review Title 16 permits	During construction	
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.	Review design criteria	Before construction	
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 proposed outside of the right-of-way.	Review 2010 Wetland Report	Before construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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 materials 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 matting, live siltation (a revegetation technique used to trap sediment), jute matting, and coir logs to stabilize soil and reestablish native vegetation	Permit issued	Before, during, and after construction	
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.	Review design criteria, Section 404, and Title 16 permits	Before and during construction	
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.	Review design criteria, Section 404, and Title 16 permits	Before construction	
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.	Review contract specifications	Before, during, and after construction	
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.	Review design criteria, Section 404, and Title 16 permits	Before and during construction	
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.	Review design criteria, ADNOR overland land use permit, Section 404, and Title 16 permits	Before and during construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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.	None at this time	Before and during construction	
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 ADNIR, 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 waterbodies shall be performed in accordance with the reasonable requirements of the ADNIR, ADF&G, and USACE.	None at this time	Before construction	
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).	Review geotechnical reports and permit conditions	Before, during, and after construction	
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.	SWPPP approval by ADEC	Before construction	
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.	None at this time	Before and during construction	
26: The Applicant shall direct the operators of project-related construction vehicles not to 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.	Review contract specifications, Section 404, and Title 16 permits	Before and during construction	
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.	Review contract specifications, Section 404, and Title 16 permits	During and after 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.	Review inspection reports as necessary	After construction	
29: The Applicant shall use contaminant-free embankment and surface materials in project-related construction.	Review design criteria	During construction	
30: The Applicant shall return all project-related stream crossing points to their preconstruction contours to the extent practicable.	Review contract specifications, Section 404, and Title 16 permits	During and after construction	
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.	Review contract specifications, Section 404, and Title 16 permits	During construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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)	Review contract specifications	During construction	
33: The Applicant shall obtain project-related state permits and authorizations, including the ADF&G Fish Habitat Permit. (V)	Permit Issued	Before construction	
34: The Applicant shall implement Essential Fish Habitat (EFH) conservation measures as agreed upon with the NMFES during the EFH consultation process for this project. (V)	Permit Issued	Before and during construction	
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)	Review contract specifications	During construction	
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.	Review contract specifications	During construction	
37: Subject to consultation with the ADF&G and ADNRR, the Applicant shall work with adjacent land managers to develop alternative preferred habitat away from the proposed 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)	None at this time	After construction	
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. 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)	Review Plan	During construction	
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.	Review Plan and reclamation activities as necessary	During and after construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
40: To reduce potential collision and electrocution impacts to birds resulting from project-related power lines and communication towers, the Applicant shall: • Consult with the U.S. Fish and Wildlife Service 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. 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.	Review design criteria	Before and during construction	
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 reestablishment of vegetation near the rail bed that would be attractive to moose.	Review contract specifications, Section 404, and Title 16 permits	During construction	
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.	Review Plan and monitor revegetation as necessary	During and after construction	
43: Unless otherwise approved by the Alaska Department of Fish and Game, 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 waterbody, 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.	None at this time	During construction	
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.	Review design criteria and Title 16 permits	During construction	
45: The Applicant shall not narrow an anadromous waterbody between its mean high water lines for the project, unless authorized in writing by the ADF&G prior to project-related construction.	Review design criteria and Title 16 permits	During construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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.	Review inspection reports as necessary	After construction	
47: The Applicant, in consultation with the ADF&G and the ADNR, 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.	Plan is submitted and approved	Before, during, and after construction	
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.	Review plan	During construction	
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.	If a bear den is discovered or identified, ARRC will comply with this condition	During construction	
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.	Review plan	During construction	
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)	Verify training has taken place	During construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
52: The Applicant shall comply with the Programmatic Agreement developed through the section 106 process under the National Historic Preservation Act. (V)	Verify PA has been complied with	Before, during, and after construction	
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)	Approved Erosion and Sediment Control Plan, review contract specifications	During construction	
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)	Review contract specifications	During construction	
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)	Review contract specifications	During construction	
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)	Review contract specifications	During construction	
57: Prior to initiating 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)	Interview the community liaison	During construction	
58: The Applicant shall not conduct pile driving associated with bridge construction on the Mac East Variant Segment during nighttime hours.	Review contract specifications	During construction	
59: The Applicant shall not conduct construction activities in the vicinity of West Holstein Avenue on the Mac East Variant Segment during nighttime hours.	Review contract specifications	During construction	
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)	None at this time	After construction	
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 proposed rail line into its existing emergency response process and shall update its Oil Spill Contingency Plan to include the proposed rail line. (V)	None at this time	After construction	
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)	Review contract specifications	During construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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)	Review contract specifications	During construction	
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)	Review contract specifications	Before construction	
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 proposed operations, schedules, and any site hazards or restrictions that could impact responders. (V)	Interview the community liaison	During construction	
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)	Section 9 permit issued	Before construction	
67: In coordination with the U.S. Coast Guard, the Applicant shall provide adequate clearances for navigation of recreational boats on navigable rivers. (V)	Section 9 permit issued	Before construction	
68: In conjunction with final engineering design, the Applicant shall consult with the ADNR and the 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. 5 38.05.127, Access to Navigable or Public Water). The Applicant shall submit the plan to OEA, ADNR, and ADF&G.	Review plan	Before construction	
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)	SWPPP approval by ADEC	Before construction	
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)	SWPPP approval by ADEC	Before construction	

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Mitigation Measure	Compliance Metric	Status	Comments
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)	Interview the community liaison	During construction	
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)	Interview the community liaison	During construction	
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)	Interview the community liaison	During construction	
74: The Applicant shall work with affected businesses or farms to appropriately address project-related construction activity issues affecting any business or farm. (V)	Interview the community liaison	During construction	
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)	Interview the community liaison	During construction	
76: During construction of the crossings over navigable rivers, 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)	Interview the community liaison	During construction	
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)	Interview the community liaison	During construction	
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)	Interview the community liaison, review contract specifications	During construction	
79: The Applicant shall bury all project-related utilities along the 200-foot right-of-way and within the terminal reserve. (V)	Review design criteria	During construction	
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, the USEPA, and the USFWS, to respond to, and remediate releases. (V)	SWPPP approval by ADEC	Before construction	

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Mitigation Measure	Compliance Metric	Status	Comments
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)	Interview the community liaison	Before construction	
82: Prior to project-related construction, the Applicant shall consult with Alaska Department of Natural Resources (ADNR) and other appropriate agencies, including the Alaska Department of Fish and Game (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. (V)	Review plan	Before and during construction	
83: The Applicant shall consult with the appropriate management agencies, including the ADNR and the 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).	Review plans	Before and during construction	
84: The Applicant shall consult with resource management agencies, including the ADNR and the ADF&G, appropriate user groups, and property owners regarding the location and design of crossings for trail easements that intersect with the proposed rail line.	Review plan	Before and during construction	

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Mitigation Measure	Compliance Metric	Status	Comments
84A: At a minimum, the Applicant shall provide at grade-separated or grade-separated crossings of all officially recognized trails crossed by the proposed 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 ADNR and/or MSB, or are established within these plans at the time of construction or right-of-way acquisition by the Applicant or the 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 recognized trails are crossed by the Mac East Variant- Connector 3 Variant - Houston-Houston South Alternative: • Crooked Lake Trail • Iditarod National Historic Trail • Houston Lake Loop Trail • Flat Lake Connector 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	Review plan	Before construction	
84B: 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).	Review plan	Before construction	
84C: 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 grade-separated trail crossing under mitigation measure 91 shall count as one trail in calculating the average crossing distance of 3.0 miles. Each grade-separated 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.	Review plan	Before construction	

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Mitigation Measure	Compliance Metric	Status	Comments
84D: If the applicant proposes to construct an at-grade crossing of any officially recognized trails, 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. - Specify the safety controls and devices that would be installed or implemented for the proposed at-grade crossing. - Identify the current principal users or user 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.	Review and approve plan	Before construction	
85: When project-related construction takes place on state and private land, the Applicant shall consult with the ADNDR 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 Sustina Forestry Guidelines.	Review form	Before construction	
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) that 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.	Review contract specifications	During construction	
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).	Interview ARRC of-way staff, confirm compliance	Before construction	
88: The Applicant shall consult with local airports in the vicinity of new project-related communication towers and the ADOT&PF and the 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.	Review design criteria	Before and during construction	
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 Sustina 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.	Review contract specifications	Before and during construction	
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 proposed rail line passes.	Interview community liaison	Before and during construction	
91: Project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties without the permission of the property owners.	Review contract specifications	Before and during construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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 grade-separated crossings; 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.	Review and approve plan	Before construction	
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.	Review and approve plan	Before construction	
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 to avoid shining lights toward residences, businesses, recreational areas, and down roadway or trail corridors.	Review contract specifications	During construction	
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.	Review design criteria and contract specifications	During construction	
96: Where practicable to reduce visual impact in areas of high visibility (such as residential areas, road and trail crossings, and 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.	Review Reclamation Plan and Invasive Species Control and Management Plan	During and after construction	

Mitigation Checklist

Mitigation Measure	Compliance Metric	Status	Comments
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.	Review project design, permits, and contract specifications	Before, during, and after construction	
98: The Applicant shall submit quarterly reports to the 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.	Review and approve reports	During and after construction	
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 the OEA for review and approval.	Review and approve outline	Before construction	
100: The Applicant shall retain a third-party contractor to assist the OEA in the monitoring and enforcement of mitigation measures until 1 year after the Applicant has completed project-related construction.	Confirm with ARRC	Before construction	

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