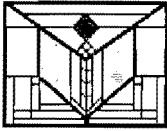


EO - 1418



David Navecky/STB
02/03/2010 03:46 PM

To "Kusske Floyd, Kathryn"
<kusske.floyd.kathryn@dorsey.com>
cc
bcc

Subject FD 35095, PDEIS Chapter 2

Kathryn -

Please find attached Chapter 2 of the Preliminary Draft EIS for the Applicant's verification of the purpose and need.

Thanks,

Dave Navecky



Chapter_2_Proposed_Action_and_Alts_Redacted_Feb_3_2010[1].doc

2. PROPOSED ACTION AND ALTERNATIVES

This chapter describes the Alaska Railroad Corporation (ARRC or the Applicant) proposed action for the Port MacKenzie Rail Extension; the development of potential rail line alignments; a reasonable range of alternatives for analysis in this Environmental Impact Statement (EIS), including the No-Action Alternative; and alternatives considered but not included for detailed study.

2.1 Proposed Action

Under the proposed action, ARRC would construct and operate a single-track rail line from Port MacKenzie to a point on the existing ARRC main line between Wasilla and north of Willow, Alaska. The Federal Railroad Administration (FRA) establishes the standards for class of track and maximum operating speed for passenger and freight on each class of track (49 Code of Federal Regulations [CFR] 213). ARRC proposes to transport commercial freight on the rail line, and would construct and maintain the rail line to Class 4 standards because of its desired operating speed for freight service. ARRC would construct other facilities to support rail line operations. ARRC proposes a right-of-way (ROW) of approximately 200 feet for the rail line. Unless otherwise noted, this EIS assumes that all construction activities would occur within this 200-foot-wide ROW. ARRC might reduce the width of the ROW, as necessary, to minimize impacts to sensitive resources or accommodate the terrain. The ROW could contain an above-ground power line, buried utility lines, and an access road (see Figure 2-1). In addition, ARRC would construct one rail line siding within the existing main line ROW at the tie-in location with the rail extension. The area in the ROW that is cleared of vegetation for construction, but not needed for permanent structures, would be restored to natural conditions, to the extent practicable, consistent with rail line operating requirements. ARRC would need to acquire public and private lands to establish the linear ROW.

In addition to the rail line, ARRC would construct associated facilities. The locations of some of the associated facilities, such as construction staging areas and communication towers, would vary depending on which alternative segments, if any, the Board authorizes for construction and operations. ARRC would also build temporary associated facilities to support construction and would remove them after the completion of construction of the rail line and associated facilities. Most associated facilities would require permanent or temporary access roads. Locations for communications towers and terminal reserve areas (rail yards and maintenance facility at the southern terminus of the proposed rail line) have been identified. The locations of other associated facilities would be determined during final design. Where practicable, ARRC would site construction staging areas inside the 200-foot ROW.

2.1.1 Proposed Rail Line Construction

This section describes proposed rail line construction, including ROW needs, construction components and materials, roadways, bridges, and permanent and temporary facilities. This section also describes the general construction process and schedule.

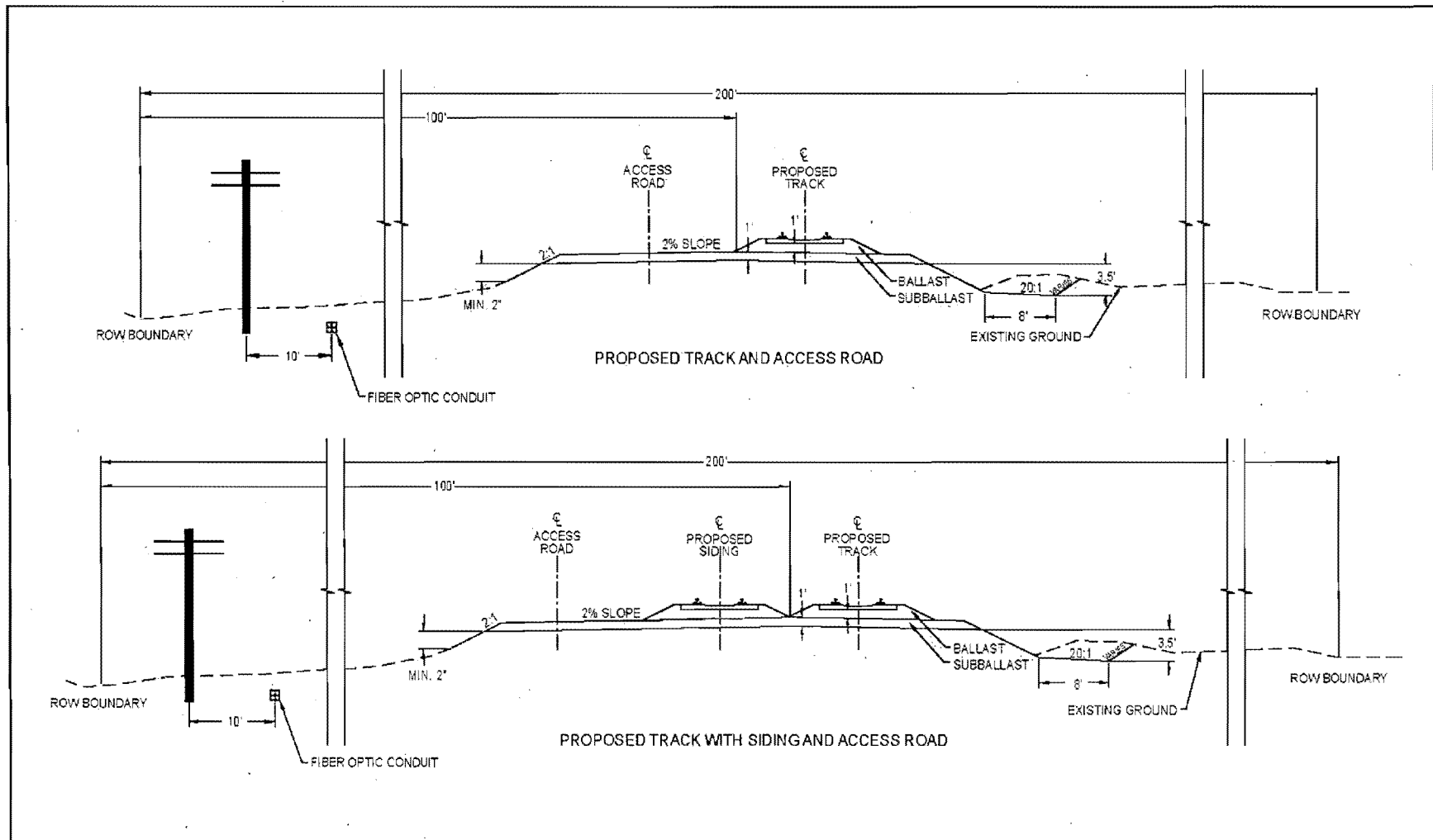


Figure 2-1. Cross-Sections of Rail Line Right-of-Way

2.1.1.1 Right-of-Way

Unless otherwise indicated, construction activities would occur within the 200-foot ROW. For purposes of analysis, SEA assumes that the entire ROW would be permanently cleared of vegetation for construction and then operations. However, some areas might not require full use of the ROW, and those areas would be restored after construction or left undisturbed if not needed.

2.1.1.2 Rail Line Access Roads

For rail line construction and post-construction operations, ARRC would build a permanent access road parallel to the rail alignment and within the 200-foot ROW. ARRC would construct the access road before the rail line and would use the access road for construction of the rail line. ARRC would not maintain the access road as a public road.

Based on conceptual engineering information, ARRC does not anticipate additional access roads. However, final engineering for the selected alignment could identify the need for new roads in certain areas to shorten haul distances for fill or track material.

2.1.1.3 Railbed Construction

Before any track could be placed, ARRC would construct a suitable railbed. The railbed would form the base upon which ARRC would lay the ballast, rail ties, and rail. Railbed construction would require clearing, excavating earth and rock on previously undisturbed land, and removing and stockpiling topsoil, where needed. Construction would require both cuts and fills. To the extent practicable, ARRC would adjust the design profile grade to balance cut and fill quantities. ARRC would remove excess fill material created during railbed construction and would transport and deposit it in an appropriate location. ARRC would store unsuitable railbed material on site for application to finished slopes and to facilitate revegetation and provide erosion control, or would remove unsuitable material from the area and dispose of it in an acceptable manner.

2.1.1.4 Track Construction

ARRC would place ties and rail using conventional construction and track-mounted equipment in successive application. In-place track construction would consist of placing ties, rail, and ballast on top of the railbed. First, ARRC would place the ties on the subballast. ARRC would weld rails together to form rail strings and then use special equipment to unload and secure the rail onto the ties, unload ballast from rail ballast cars or trucks, and dump ballast evenly along the skeleton track. ARRC would then use equipment to raise the rail line to achieve the proper ballast depth.

Alternatively, ARRC could decide to construct skeleton track panels at several of its facilities. These 40- to 80-foot-long panels would consist of rails, ties, and fastening systems constructed and loaded onto railcars for delivery to the construction site. At the construction site, the panels would be lifted from the railcars and placed in their final location. The panels would be fastened together to form the skeleton track.

2.1.1.5 Acquisition of Materials for Rail Line Construction

Ballast, subballast, fill material, rail ties, and rail would be required for construction of the proposed rail line. This section briefly describes the acquisition and use of these materials.

ARRC would obtain ballast from existing commercial quarries or its existing quarry in Curry, Alaska. ARRC would transport ballast from Curry to the project area by rail or by a combination of rail and truck, and anticipates that ballast from other sources would likely be trucked directly to the construction site.

ARRC would obtain subballast primarily from materials excavated during railbed construction, from existing commercial sources, and from borrow areas established along the rail line ROW. As part of the final design and permitting process, ARRC would perform geotechnical testing to identify borrow locations with suitable material. Consistent with other construction requirements, ARRC would maintain short intervals between borrow sites to minimize average haul distance. Any excess material (overburden) from these activities would be distributed evenly along the railbed as nonstructural fill to support revegetation.

ARRC would obtain fill material from cut-and-fill activities during railbed construction, and to the extent practicable, would adjust the design profile grade to balance cut and fill quantities. If needed, ARRC would obtain additional fill material from borrow sources within the ROW or off site.

ARRC would obtain rail ties and steel rail from commercial sources to create rail strings, and anticipates that these materials likely would be shipped to the project area by ship, rail, and truck. The rail would be delivered in short lengths individually, or as preconstructed track panels.

2.1.1.6 Construction Staging Areas

The proposed rail line might require construction staging areas to store material, weld sections of the rail line, and otherwise support rail line construction activities. The staging areas would be identified before construction began. ARRC has stated that it would attempt to locate staging areas within the proposed ROW at relatively flat, previously disturbed areas with established access to existing public roads. The project would either consume all stockpiled materials or ARRC would remove them from the staging areas following construction.

2.1.1.7 Bridges and Culverts

Rail and access road bridges and culverts would be required for crossing streams, rivers, and some wetlands. New culverts would extend across the combined width of both the railbed and access-road bed. Crossing structures the Applicant has identified as "drainage structures" would be determined during the final design process and could include culverts, pre-cast arches, and single or multiple short-span bridges. Existing culverts would also be extended and new bridges constructed for the new rail siding proposed along the existing ARRC main line where any of the alternatives would connect to the main line. The locations, types, and sizes of all proposed bridges and culverts are approximate and preliminary; the exact locations, types, and sizes would be determined during the final design and permitting process. In addition, the Applicant could

1 add culverts to maintain drainage and add equalization culverts through wetland areas. The need
2 for, locations, types, and sizes of these additional culverts would be determined during the final
3 design and permitting process.

4 Where it has not proposed bridges, the Applicant proposes to build culverts into the railbed and
5 vehicle roadbed to allow water to flow under the rail line and access road. ARRC proposes to
6 construct between 16 and 34 single culverts and between 2 and 7 drainage structures, depending
7 on alternative. The Applicant would design and construct culverts with a width greater than or
8 equal to 125 percent of the width of the stream at the mean high water line of anadromous fish
9 habitat. The Applicant would design and construct culverts so as not to impede fish passage.
10 Culverts used for anadromous stream crossings would be designed and constructed in accordance
11 with the National Marine Fisheries Service 2008 publication, "Anadromous Salmonid Passage
12 Facility Design," ADF&G Title 16 fish habitat permit requirements, or as otherwise specified in
13 permit conditions.

14 In addition, the Applicant proposes to construct up to four rail bridge crossings along the rail
15 line, depending on alternative. Waterbodies that these bridges would cross include the Little
16 Susitna River, Willow Creek, Rogers Creek, and a tributary to Little Willow Creek. With the
17 exception of the tributary to Little Willow Creek, these crossings would likely consist of multiple
18 spans of 28-foot standard ARRC deck girder bridges because the widths of the channels exceed
19 the length of a single 28-foot span. The smaller crossing at the tributary to Little Willow Creek
20 would likely consist of a single 28-foot standard-span ARRC deck girder bridge.

21 At a minimum, ARRC would design rail bridges to pass the mapped 100-year flood. ARRC
22 would also design culverts for the 100-year flood event.

23 ARRC would start constructing bridges and large culverts before other infrastructure because
24 they would take longer to construct and would be needed for construction activity. Each bridge
25 would require a bridge construction staging area that could be within the 200-foot ROW.

26 **2.1.1.8 Construction Schedule**

27 Construction would be conducted throughout the year, although severe weather would limit
28 winter-time construction to land-clearing activities, material and equipment staging, most bridge
29 construction, and interior work associated with facility buildings. The specific timeframe and
30 sequence of construction would depend on funding, final design, and permit conditions, such as
31 requirements to avoid sensitive breeding periods for migratory birds and raptors and when
32 salmon are spawning, incubating, or rearing in specific areas.

33 ARRC anticipates that construction of the Port MacKenzie Rail Extension would be completed
34 in 24 months. To meet a 24-month construction schedule, there could be construction activities
35 24 hours a day (up to three crews working 8-hour shifts) along some portions of the rail line.
36 However, there would not be construction activities 24 hours a day along significant portions of
37 the project length because of environmental and human constraints. ARRC anticipates that the
38 construction work force would vary from 66 persons during grading and embankment
39 construction to 100 during ballast and track installation.

2.1.1.9 Grade Crossings

To maintain access to existing public and private roads across the rail line, ARRC would install grade crossings where the rail line would cross a roadway. 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. Where the rail line would cross public roadways with usage levels of 500 or more vehicles per day, the routes would cross at grade and the Applicant proposes active warning devices, such as flashing lights and gates. Where the rail line would cross public roadways with usage levels less than 500 vehicles per day, the routes would cross at-grade and the Applicant proposes passive warning devices, such as crossbucks and stop signs. Where the proposed rail line would cross a trail that is officially recognized, meaning specifically established within currently-adopted plans by ADNR and/or MSB or are established within these plans at the time of construction or ROW conveyance (whichever occurs first), and are located on state, MSB property, or whose locations are 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 could have to be relocated to accommodate a grade-separation, or multiple crossings within one mile might be consolidated. ARRC does not propose to provide crossings for unofficial trails. Unofficial trails would be blocked, and ARRC's trespassing regulations would prohibit crossing of the ROW. The following trails have been identified by ARRC for grade-separated crossings and/or relocation.

- | | |
|--------------------------------|------------------------------------|
| • Aurora Dog Musers Club Trail | • Iditarod National Historic Trail |
| • Crooked Lake Trail | • Iron Dog Trail |
| • Figure 8 Lake Loop Trail | • Lucky Shot Trail |
| • Flat Lake Connector | • Mud Lake Trail |
| • Flathorn Lake Trail | • Pipeline Trail |
| • Herning Trail | • West Gateway Trail |
| • Houston Lake Loop Trail | • Nancy Lake – Susitna Trail |
| • Iditarod Link Trail | |

2.1.1.10 Associated Facilities

The proposed action includes the construction and operation of several associated facilities. These permanent facilities would include a terminal reserve area, communications towers, and a track siding along the existing main line. ARRC would construct these facilities at the same time as the proposed rail line. Shippers could construct offloading facilities along the proposed rail line; however, neither the Applicant nor any potential shippers have proposed offloading facilities at this time.

Terminal Reserve Area

ARRC would construct a terminal reserve area along the southern terminus of the rail line. This area would eventually consist of yard sidings, storage areas, and a terminal building to support

1 train maintenance. ARRC has proposed two terminal reserve areas, but would build only one
2 depending on which alternative the Board authorized, if any. The terminal reserve area would be
3 approximately 1,000 feet wide and approximately 9,800 feet long. The terminal reserve area for
4 the Mac East Segment would also include relocation of a portion of Baker Farm Road, including
5 construction of a grade-separated crossing of the rail line, to provide vehicle access to the
6 northern end of the terminal reserve area; construction of a road within the terminal reserve area;
7 and construction of an approximately 1,500 foot access road, with a grade-separated crossing,
8 between the terminal reserve area and Point MacKenzie Road along the northern edge of the
9 Chugach Electrical Association transmission line ROW.

10 **Communications Towers**

11 ARRC has identified five locations for communications towers throughout the project area; two
12 or three new towers, depending on the alternative, are anticipated to be constructed to support
13 rail line operations. Tower locations would depend on which alternative the Board authorized, if
14 any. The tower locations include one near Port MacKenzie, one in the central area of the
15 proposed project, and three in the northern portion of the proposed project area near the existing
16 ARRC main line track. Tower sites could require new access roads if they would not be
17 accessible via existing roads.

18 **Track Sidings**

19 ARRC would construct one 8,000-foot double-ended siding to the north of the proposed tie-in
20 point with the main line. The siding would allow train passage and access to rail services. The
21 arrangement of the track siding and tie-in would be a "wye" connection. The siding would be
22 placed, where possible, on tangent sections of the alignment and would be in the 200-foot ROW.

23 **2.1.2 Proposed Rail Line Operations**

24 After rail line construction, trains would transport commercial freight. The specific commodities
25 to be shipped are unknown at this time and would be dependent on the shippers that would make
26 use of the rail extension. Train frequency could vary, but ARRC anticipates an average of
27 approximately 2 freight trains per day (1 in each direction) with an average of 40 to 80 freight
28 cars each.¹ Train speeds would be a maximum 60 miles per hour.

29 ARRC would perform periodic maintenance and inspections to ensure safe and reliable rail line
30 operations. Primary maintenance activities would include signal testing and inspection; minor
31 rail, tie, and turnout replacement; and routine ballasting and surfacing tasks. Additional
32 maintenance activities would be performed on an as-needed basis and would include vegetation
33 control, snow removal, and vehicle and equipment maintenance.

¹ This estimated level of train traffic, which would be sufficient to fill approximately 13 Panamax class ships per year with bulk materials (such as coal) at Port MacKenzie, was based on market opportunities at the time of filing and the supply based infrastructure and equipment limitations. Based on current market opportunities, ARRC now estimates ship traffic for export of bulk commodities from the Port MacKenzie Rail Terminal would include five Panamax class ships per year. Thus, the estimated average of two trains per day used in the EIS analysis is conservative.

2.2 Alternatives Development

ARRC filed a petition with the STB for the authority to construct and operate approximately 30 to 45 miles of a proposed rail line between Port MacKenzie and the existing ARRC main line between Wasilla and north of Willow, Alaska. Prior to filing with the STB, ARRC identified and considered several potential alignments for this rail line extension. This section summarizes the process ARRC used to develop various alignments and SEA's review and consideration of those alignments as EIS alternatives.

2.2.1 Alignment Development Process

More than 10 years ago, Matanuska-Susitna Borough (MSB or the Borough) identified a potential need for rail transport from Port MacKenzie (which was not constructed at that time) to the ARRC main line north of Port MacKenzie. In 2003, MSB commissioned a constraints analysis study of rail and road access to Port MacKenzie to determine feasibility and potential impacts. The study identified 11 potential rail and road corridors.

MSB consulted the U.S. Army Corps of Engineers regarding potential impacts to wetlands, the Alaska Department of Natural Resources (ADNR) regarding potential impacts to state lands and coastal resources, and the Alaska Department of Fish and Game (ADF&G) regarding potential impacts to fisheries and other wildlife. Based on these agency consultations and potential impacts to private property and wetlands, ARRC eliminated 9 of the 11 potential corridors from further consideration for construction of a rail line.

In 2007, the State of Alaska granted MSB an appropriation to perform conceptual engineering and environmental documentation for the Port MacKenzie Rail Extension. From September to December 2007, MSB and ARRC jointly conducted a constraints analysis based on engineering requirements and available environmental data to re-evaluate the alignments from the 2003 MSB study and develop alignments that could minimize potential impacts to the environment. MSB and ARRC then conducted public open houses and agency overview meetings to provide information about and receive comments on the proposed project. ARRC used feedback from stakeholders to refine potential rail alignments to reduce potential impacts and develop preliminary voluntary mitigation measures. Based on this information, in January 2008 ARRC issued the Preliminary Environmental and Alternatives Report (ARRC, 2008), which presented eight possible alignment configurations.

In early 2008, ARRC submitted the Preliminary Environmental Alternatives Report to SEA. Since then, ARRC has refined some of the potential alignments and SEA has evaluated those and other potential alignments during this environmental review process.

2.2.2 Alternatives Considered but Eliminated from Detailed Study

DELETED FOR PURPOSES OF REDACTION

2.3 Alternatives Selected for Detailed Study

SEA independently reviewed the Applicant's Preliminary Environmental Alternatives Report, conducted field studies, consulted various Federal and state agencies, reviewed scoping comments, and worked with cooperating agencies to determine a reasonable range of alternatives. Through this process, SEA and the cooperating agencies determined that the alignments described below are a reasonable range of alternatives for detailed study.

The alternatives are composed of southern and northern segments, with possible connector segments between. The southern segments, Mac West and Mac East, would run either east or west of the Point MacKenzie Agricultural Project.² There are three main sections north of the Point MacKenzie Agricultural Project – Willow, Houston, and Big Lake – with Houston having north and south variants. Connector segments link the north and south segments to create eight possible routes for the proposed rail line, as listed below and shown in Figure 2-2.

- Mac West, Connector 1, and Willow. This route would be 44.8 miles long.
- Mac West, Connector 1, Houston, and Houston North. This route would be 35.1 miles long.
- Mac West, Connector 1, Houston, and Houston South. This route would be 34.5 miles long.
- Mac West, Connector 2, and Big Lake. This route would be 35.8 miles long.
- Mac East, Connector 3, and Willow. This route would be the longest, 45 miles.
- Mac East, Connector 3, Houston, and Houston North. This route would be 35.3 miles long.
- Mac East, Connector 3, Houston, and Houston South. This alternative would be 34.7 miles long.
- Mac East and Big Lake. This alternative would be the shortest, 31.8 miles.

Although SEA and the cooperating agencies have examined the eight alternatives listed above in detail, the agencies note that some of these alternatives may not be eligible for funding from USDOT agencies such as the FRA. ARRC could seek Federal funding for the proposed rail line through programs offered by the FRA and, potentially, other Federal agencies. Publicly-owned parks, recreation areas, wildlife and waterfowl refuges, and public and private historical sites are protected under Section 4(f) of the Department of Transportation Act (DOT Act) of 1966, codified at 49 U.S.C. § 303. The DOT Act, as amended by Section 6009(a) of the Safe,

² The State of Alaska initiated the Point MacKenzie Agricultural Project in the 1980s. The Agricultural Project is an area of agricultural land sold or leased by the state with agricultural covenants. Owners are required to submit conservation plans for each parcel to the ADNRC Division of Agriculture to ensure that the agricultural resources in the area are preserved. While the area's designation as an agricultural project does not confer special status on these parcels beyond the parcel's agricultural restrictions, the area is the largest contiguous agricultural area in Alaska. There are easements specifically reserved for railroad development throughout the agricultural area; however, these easements are discontinuous and generally cut through the middle of the arable land.

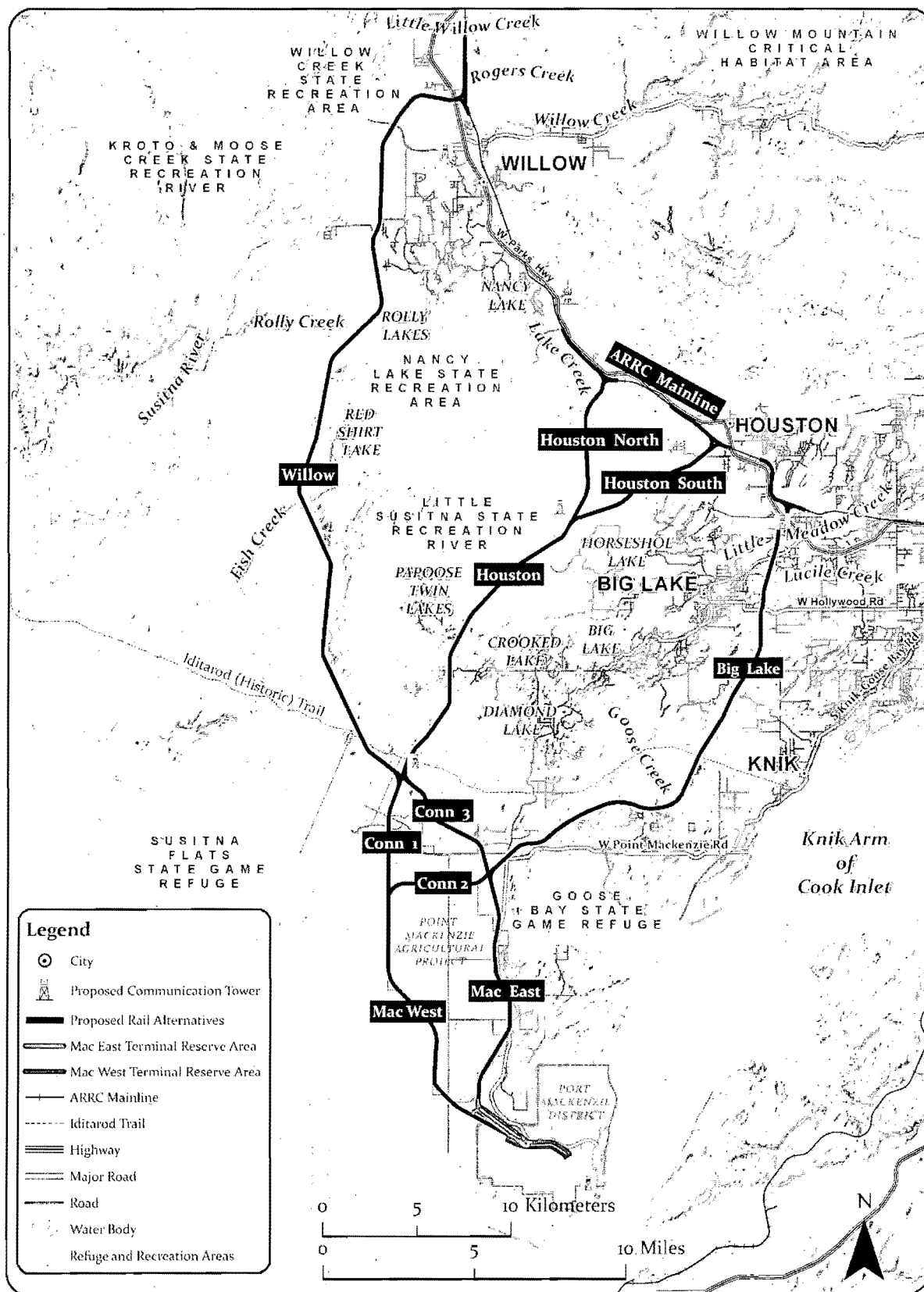


Figure 2-2. Alternatives Considered for the Port MacKenzie Rail Extension

Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, provides that USDOT agencies³ such as the FRA cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites – referred to as Section 4(f) resources – unless:

- There is no “prudent and feasible alternative” to the use of the land, and the project includes “all possible planning to minimize harm” to the protected property resulting from use, or
- The use would result in *de minimis* impacts to Section 4(f) resources.

The Willow, Mac West and Houston North segments would traverse the Willow Creek State Recreation Area, Nancy Lake State Recreation Area, Little Susitna State Recreation River, and/or Susitna Flats State Game Refuge. These recreation and refuge areas are all Section 4(f) resources. It is therefore unlikely that FRA or any other USDOT agencies subject to Section 4(f) could provide funding for the project if the Board authorizes construction and operation of an alternative that includes any of these three segments because there are prudent and feasible alternatives that do not use Section 4(f) resources. This EIS provides the information necessary for any decisions required under Section 4(f). Appendix M provides additional detail about Section 4(f).

2.3.1 Southern Segments

2.3.1.1 Mac West

The Mac West Segment would begin in the terminal reserve area and would proceed northwest across relatively flat terrain toward the southwest corner of the Point MacKenzie Agricultural Project. The segment would continue west of the agricultural area, traversing along the eastern boundary of Susitna Flats State Game Refuge. The terminal reserve area is proposed along the south side of Mac West.

2.3.1.2 Mac East

The Mac East Segment would begin in the terminal reserve area and would proceed north along the side of a ridge along the east side of the Point MacKenzie Agricultural Project. Near Mile Post 4.7, the segment would cross a ravine and then curve to the northeast along the top of another ridge. North of Mile Post 6, the segment would follow the alignment of Port MacKenzie Road, offset 200 feet or more to the west. The segment would continue along undulating terrain before reaching its junction with the Big Lake Segment or Connector 3 Segment. The terminal reserve area is proposed along the north side of Mac East.⁴

³ The Surface Transportation Board is a bipartisan, decisionally independent adjudicatory body, organizationally housed within the USDOT.

⁴ Based on Port MacKenzie planning and development information and additional field data collected during the summer of 2008, ARRC revised the proposed location for the terminal reserve area for the Mac East Segment. This terminal reserve area is shifted to the west in relation to its previous location. This change occurred after issuance of ARRC’s Preliminary Environmental and Alternatives Report. ARRC also considered relocating the terminal reserve area for the Mac West Segment to this revised location as well, but found that topography and safety considerations made it impractical, so the location presented in the Preliminary Environmental and Alternatives Report was retained.

See Figure 2-3 for a detailed map of the southern segments and terminal reserve areas.

2.3.2 Connector Segments

2.3.2.1 Connector 1

This 4.1-mile-long segment would connect the Mac West Segment to the Willow or Houston segment. From Mac West, this connector segment would continue north along the eastern boundary of the Susitna Flats State Game Refuge on level terrain. The segment would cross a tributary of the Little Susitna River.

2.3.2.2 Connector 2

This 3.7-mile-long segment would connect the Mac West Segment to the Big Lake Segment. At the northwestern end of the Point MacKenzie Agricultural Project, this connector segment would turn due east and travel along the southern boundary of the Point MacKenzie Correctional Farm.

2.3.2.3 Connector 3

This 4.5-mile-long segment would connect the Mac East Segment to the Willow or Houston segment. At the northeastern end of the Point MacKenzie Agricultural Project, this connector segment would shift to the northwest and cross Ayrshire Avenue and Farmers Road. The segment would continue north of My Lake and cross an adjacent ravine. The remaining mile of the segment would be nearly level.

See Figure 2-3 for a detailed map of the connector segments.

2.3.3 Northern Segments

2.3.3.1 Willow

From Connector 1 Segment or Connector 3 Segment, the Willow Segment would continue northwest where it would cross a corner of Susitna Flats State Game Refuge, Little Susitna State Recreation River, and the Little Susitna River (see Figure 2-4). Over the next 7 miles, the segment would continue north through rolling terrain. The segment would cross Fish Creek, the outlet for Red Shirt and Cow Lakes. It would then proceed north, generally following the west-facing slope of a glacial moraine west of Red Shirt Lake. It would continue north through the Nancy Lake State Recreation Area for approximately 0.5 mile. The Willow Segment would cross the outlet for Vera Lake, continue over rolling terrain, and cross Willow Landing Road. The segment would then continue through the Willow Creek State Recreation Area, where it would cross Willow Creek. The segment would curve to the east and cross Parks Highway with a grade separation, before connecting to the existing ARRC main line near Mile Post 188.9.

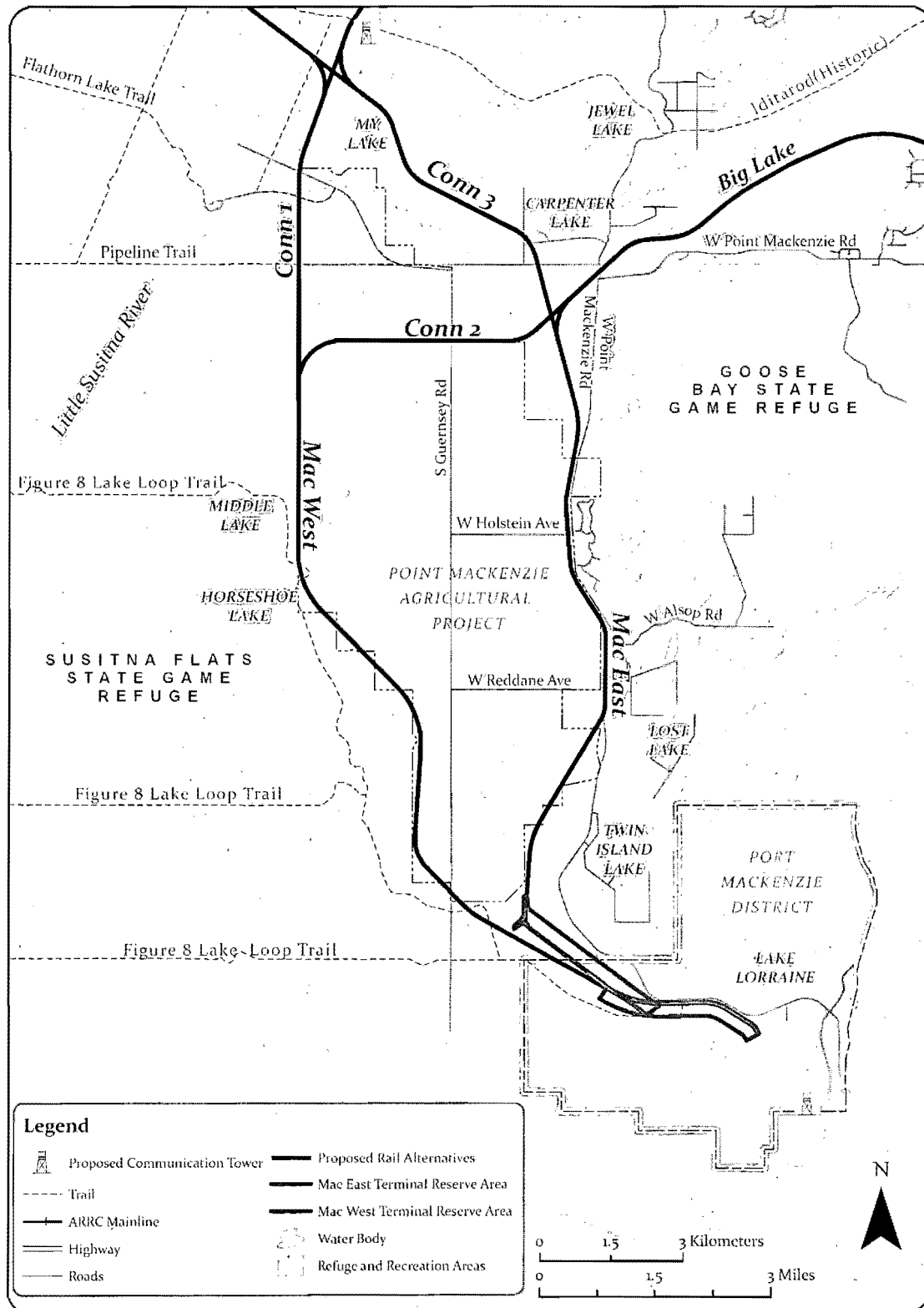


Figure 2-3. Mac East, Mac West, and Connector Segments

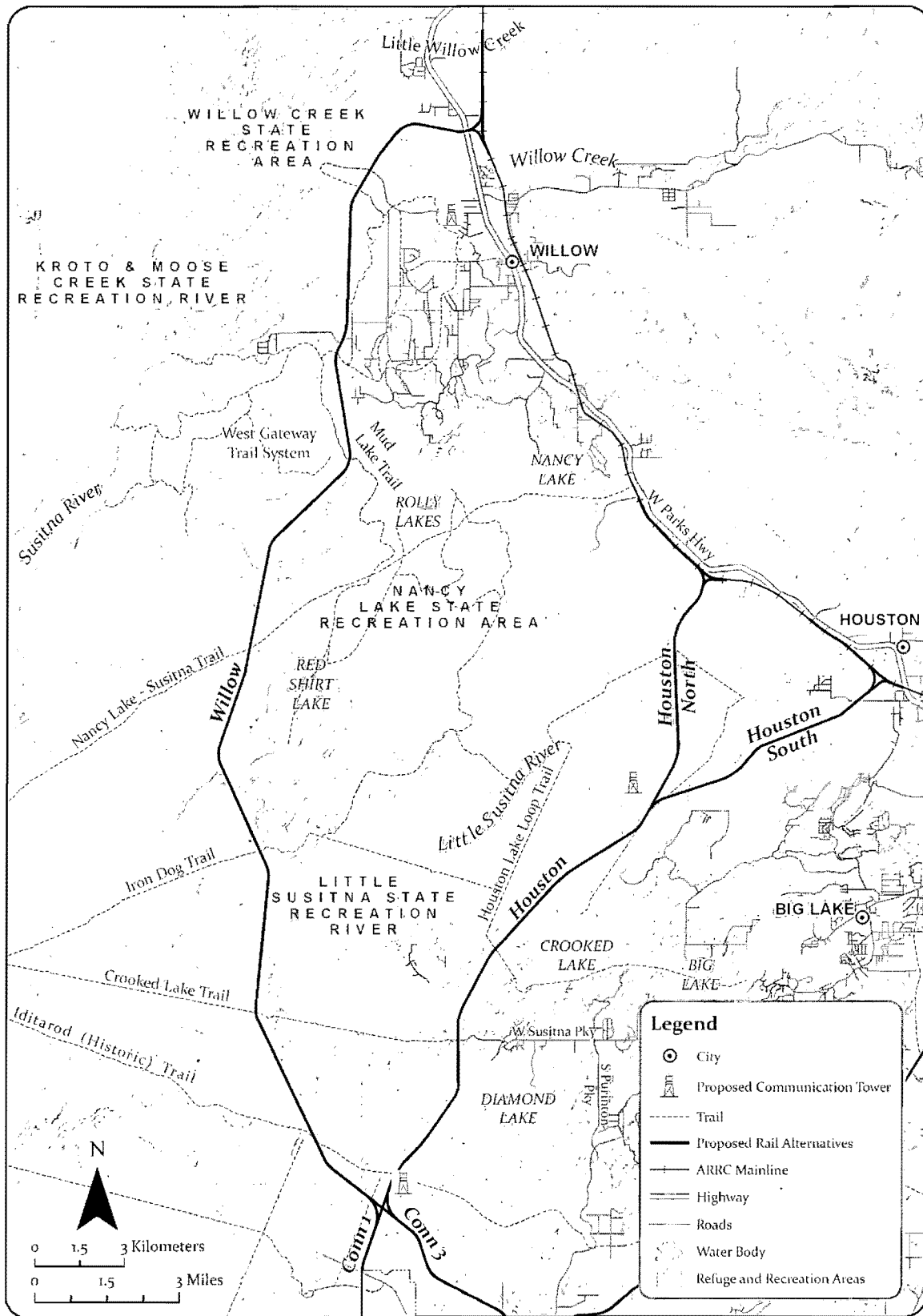


Figure 2-4. Willow and Houston Segments

2.3.3.2 Houston

From Connector 1 Segment or Connector 3 Segment, the Houston Segment would proceed northeast, traveling through slightly undulating terrain with areas of wetland (see Figure 2-4). The segment would pass between Papoose Twins Lakes and Crooked Lake, crossing an area of hilly terrain. The remaining 4 miles of the Houston Segment would be in a gradually rising wetland area to a point near Muleshoe Lake and Little Horseshoe Lake, where it would connect to either the Houston North Segment or the Houston South Segment.

2.3.3.3 Houston North⁵

From the Houston Segment, the Houston North Segment would continue north (see Figure 2-4), crossing over the Castle Mountain Fault. The Houston North Segment would cross Cow Lake Trail, which is part of Houston Lake Loop Trail. It would continue through the Little Susitna State Recreation River, where it would cross the Little Susitna River. The segment would continue north on rolling terrain along the east side of Houston and Little Houston Lakes, descending gradually to lower terrain adjacent to Lake Creek. The Houston North Segment would tie into the existing ARRC main line near Mile Post 178 along the proposed rail line without crossing Parks Highway.

2.3.3.4 Houston South

Also beginning between Muleshoe Lake and Little Horseshoe Lake, this proposed segment would traverse northeast, passing just west of Pear Lake (Figure 2-4). The segment would cross several gravel ridges that parallel the lakes in this area. The segment would tie into the existing main line near Mile Post 174.0 without crossing the Parks Highway.

The proposed track siding for Houston South would include reconfiguration of the main line to construct the new siding. ARRC would construct 1.5 miles of new main line within the existing ROW and would convert 7,000 feet of existing main line to use as a new siding. ARRC would construct an additional 6,800 feet of new siding in the main line ROW to create a 13,800-foot siding.

2.3.3.5 Big Lake

From the Mac East Segment or Connector 2 Segment, the Big Lake Segment would run northeast for approximately 3 miles (See Figure 2-5). It would continue on rolling terrain, crossing over Goose Creek, Fish Creek, Lucile Creek, and tributaries of Lucile Creek and Little Meadow Creek. The segment would cross Burma Road and Big Lake Road, where it would be grade-separated over Big Lake Road. The Big Lake Segment would continue north through a residential area before crossing under Parks Highway with a grade-separated crossing.

The Big Lake Segment would connect with the existing ARRC main line near Mile Post 170.3 along the proposed rail line in a wetland area surrounding a stream that feeds into Long Lake.

⁵ Based on environmental impacts associated with the original proposed connection with the main line as presented in the Preliminary Environmental and Alternatives Report, ARRC shifted the connection point south approximately 1 mile southeast to its present location.

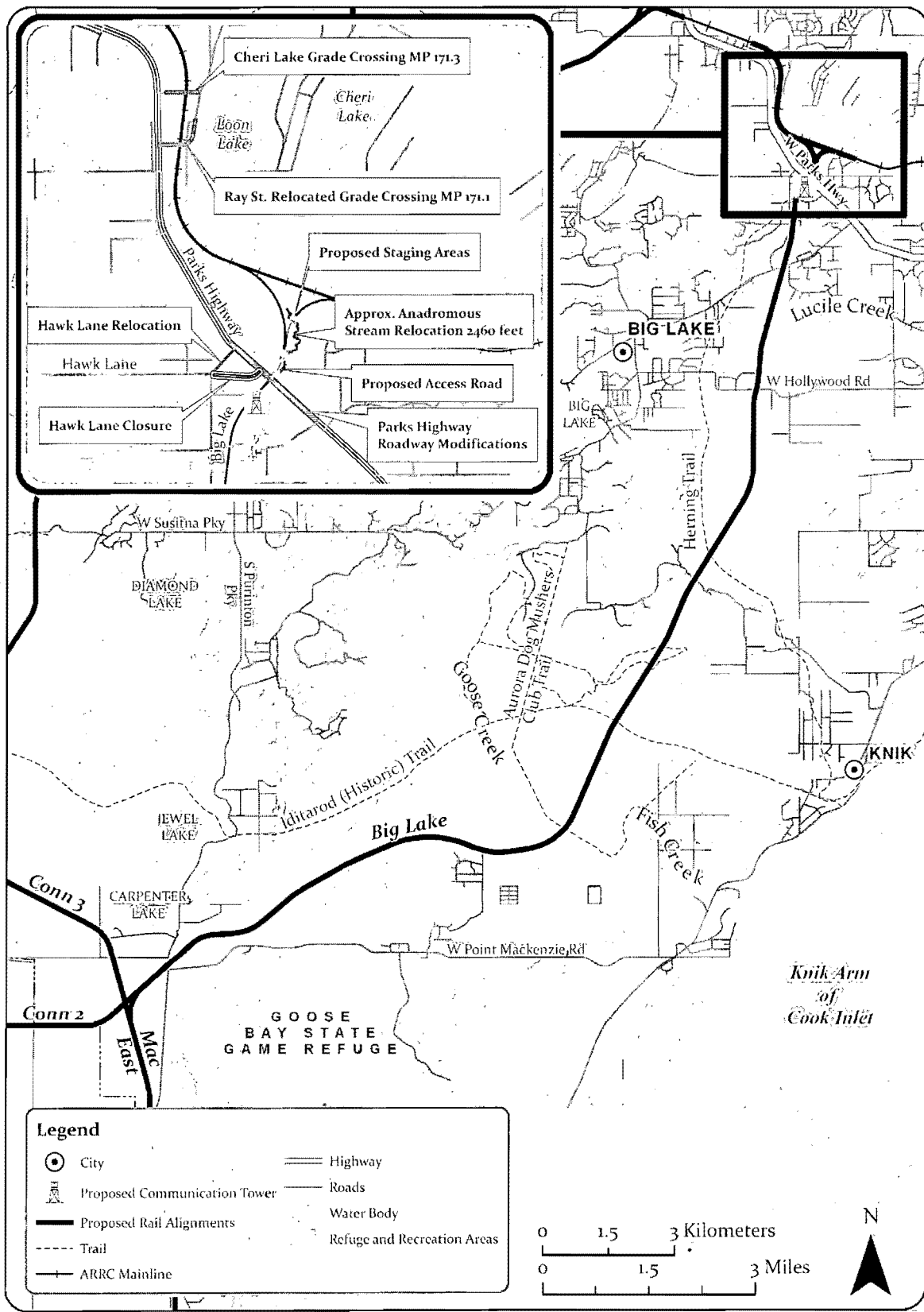


Figure 2-5. Big Lake Segment

1 Additional information ARRC collected during the 2008 summer field season provided the
2 Applicant with better data to consider the tie-in location for the Big Lake Segment. The
3 following ARRC-supplied information supplements the Preliminary Environmental and
4 Alternatives Report (Figure 2-5):

- 5 • Construct an approximately 430-foot bridge on Parks Highway over the proposed rail line
6 and an unnamed anadromous fish stream.
- 7 • Relocate approximately 2,400 feet of unnamed anadromous fish streams adjacent to the
8 proposed rail line.
- 9 • Relocate approximately 1,000 feet of Hawk Lane on the south side of Parks Highway
10 (because of the new Parks Highway bridge).
- 11 • Close approximately 865 feet of Cheri Lake Drive where it crosses the existing main line and
12 intersects with Parks Highway.
- 13 • Extend Ray Street approximately 1,405 feet from Loon Street to Parks Highway, which
14 would include an at-grade crossing of the existing ARRC main line.
- 15 • Acquire eight recreational/residential parcels along Loon Lake because access to the parcels
16 would be permanently blocked due to lack of access from the relocated road crossing (Cheri
17 Lake Drive) and the new siding.
- 18 • Relocate the business on the southwest corner of Parks Highway and Cheri Lake Drive due
19 to the Hawk Lane relocation.

20 The Big Lake Segment also would cross two wetland mitigation bank parcels that are part of the
21 Su-Knik Mitigation Bank. Use of these two mitigation bank parcels for the proposed rail line
22 could require concurrence from the entities that created the mitigation bank or ARRC ROW
23 acquisition through eminent domain.

24 **2.3.4 No-Action Alternative**

25 Under the No-Action Alternative, ARRC would not construct an extension of the existing rail
26 line to transport commercial freight.

27 **2.4 Comparison of Alternatives**

28 DELETED FOR PURPOSES OF REDACTION